



Flathead National Forest
Swan Lake Ranger District

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Beaver Creek



Travel Analysis

2013/2014



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Introduction

Background

Prior to the issuance of the 2005 National Travel Management Rule, the Forest Service followed the Roads Analysis Process described in the Forest Service Manual (FSM) 7712.1 and publication FS 643, *Roads Analysis: Informing Decisions about Managing the National Forest Transportation System*. The Travel Analysis Process revises and updates the Roads Analysis Process, adding motorized trails into the analysis. It is Forest Service policy (FSM 7712) that requires us to produce this report as defined under Forest Service Handbook (FSH) 7709.55, Ch. 20 to inform anticipated travel management decisions by utilizing travel analysis, as applicable.

Purpose

Travel analysis assesses the current forest transportation system and identifies issues and assesses benefits, problems, and risks to inform travel management decisions. The purpose of this report is to explain our comprehensive examination of the road and trail transportation network for the Beaver Creek subunit, located on the Swan Lake Ranger District of the Flathead National Forest. These opportunities may be included in the Beaver Creek project proposed action, which will begin the environmental analysis under the National Environmental Policy Act (NEPA).

Process

Travel analysis is a preliminary and important part of the National Forest Service planning process for NFS roads, trails and lands. The Travel Analysis process, as described in FSH 7709.55, is a six-step process. The steps are designed to be sequential while understanding the process may require feedback and iteration over time as an analysis matures. The amount of time and effort spent on each step differs by project based on specific situations and available information. The analysis process identifies a set of issues and questions to help managers make choices about transportation system management. This report is organized based on those steps, as follows:

Step One: Setting up the Analysis

Step Two: Describing the Situation

Step Three: Identifying the Issues

Step Four: Assessing Benefits, Problems, and Concerns

Step Five: Describing the Opportunities and Setting Priorities

Step Six: Reporting

Products

The product of a travel analysis is a report for decision-makers and the public that documents the information and analyses used to identify opportunities and set priorities for future National Forest transportation systems. This report will include:

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- A list of the key issues.
- A prioritized list of the risks and benefits associated with changing the part of the forest transportation system under analysis.
- A prioritized list of opportunities for addressing those risks and benefits.
- If applicable, a prioritized list of actions or projects that would implement the recommendations identified in Step 5 of the report.
- If applicable, a list of proposed changes to current travel management direction, including proposed additions to or deletions from the forest transportation system.

The report provides the basis for developing proposed actions that include travel management or transportation system changes. Actual project proposals are examined in the NEPA process that provides a project specific, detailed basis for making decisions. Site-specific environmental analysis should build on and incorporate relevant information developed during travel analysis.

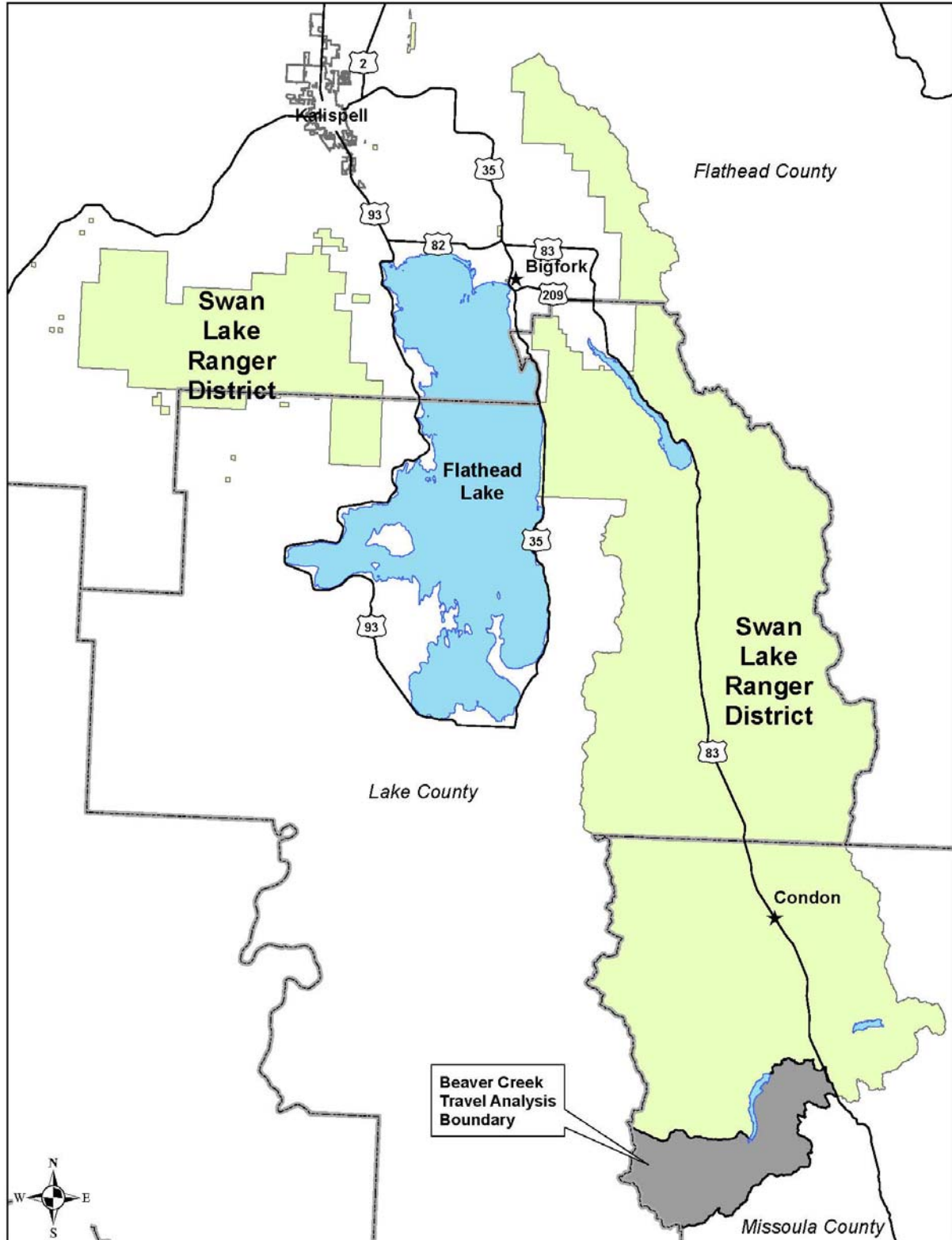
This Report

This report documents the information and analysis procedure used for the Beaver Creek project analysis area. Wherever “analysis area” is referenced in this document, it corresponds to the Beaver Creek travel analysis area boundary shown on the Vicinity Map in Figure 1. This analysis is designed to provide decision-makers with information to develop road and trail systems that are safe and responsive to public needs and desires, are affordable and efficiently managed, have minimal negative ecological effects on the land, and are in balance with available funding for needed management actions. This report is a dynamic document and reflects the conditions at the time of analysis. The document can be updated as the need arises and conditions warrant.

The product of this analysis will not be a decision. Instead, this report provides the analytical framework from which to make recommendations about travel management and describes opportunities and set priorities for National Forest System Roads (NFSR) and National Forest System Trails (NFST) under Forest Service jurisdiction. Some of these opportunities may or may not be carried forward. Although this analysis may include private and other public agency routes, neither priorities nor recommendations will be presented for anything not under Forest Service jurisdiction.

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Figure 1. Vicinity Map



Step 1

Setting up the Analysis

To frame the travel analysis, the Swan Lake District Ranger and Interdisciplinary (ID) Team members set the appropriate scale and scope of analysis, as discussed below.

Scale of the Analysis

The geographical vicinity of the analysis area is shown on the Vicinity Map in Figure 1. Since Forest Plan Amendment # 19 (A19) requires the Flathead National Forest to report and monitor open motorized access, total motorized access, and percentage of CORE area by Bear Management Unit (BMU) subunit, the only logical analysis area for this travel analysis is BMU subunit #31 (Beaver Creek). The analysis area is the same boundary as the Beaver Creek Landscape Restoration Project and has been slightly modified from the subunit boundary to include a small portion of the Buck Holland subunit on the Eastside of the analysis area. Other previously completed forest wide planning for the area includes the Flathead National Forest Plan (1986) and a Forest-wide roads analysis for the Flathead National Forest (2008).

Scope of the Analysis

The scope of the travel analysis will evaluate the transportation system to:

- Identify roads that can be placed in intermittent stored service (ISS), decommissioned or closed, thus decreasing open motorized road and trail densities and total motorized access route densities.
- Identify an appropriate road system necessary to support resources, provide public recreation opportunities, maintain or increase grizzly bear security CORE as required by A19, and provide a proper balance between the benefits of access and the concerns associated with the effects to the environment.
- Determine any road management changes needed to respond to issues, environmental risks or other concerns.
- Determine any trail management changes needed to respond to issues, environmental risks, user conflicts or other concerns.
- Identify potential motorized or non-motorized additions to the forest transportation system.

Thirty percent of the National Forest System Lands within Beaver Creek is within the Flathead National Forest's suitable timber base with 12 percent in Management Areas (MA) 15 and 15C. The majority of the remaining 18 percent is MA 11C. The area has seen the development of a road system consistent with Forest Plan direction for MA-15 lands in which there is a management emphasis for cost-effective timber production with roads. Having this many miles of roads provides a challenging management situation due to A19 requirements.

This travel analysis is to be completed with the Beaver Creek Project Environmental Analysis (EA). It is intended to provide a framework for ongoing transportation system management in the Beaver Creek analysis area, which will provide guidance for potential future project-level decisions. The Beaver Creek project was scoped with the public during March of 2014 and it is anticipated that this travel analysis will be in draft form throughout the NEPA process.

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Interdisciplinary (ID) Team Members

Roads, trails, and access are fundamentally linked to all aspects of forest management; therefore, an interdisciplinary team that included specialists from many fields was formed to conduct this analysis. The Swan Lake ID Team members that completed the travel analysis process and provided input into this report are listed below.

Rich Kehr	District Ranger
Sarah Canepa	ID Team Leader
Mitch Guenther	Civil Engineer/Transportation Planner
Beth Gardner	Fisheries Biologist
Mark Ruby	Wildlife Biologist
Andy Reed	Forester
Justin Kaber	Fire/Fuels Specialist
Joleen Dunham	Recreation
Derek Milner	Soil Scientist
Chantelle Delay	Botanist
Sue Tebay	Writer/Editor

Data Needs and Status of Road and Trail Inventory

Every National Forest in the country has an extensive route system. These routes came into existence for different reasons. Some were built to provide transportation between two places. Some routes were built for timber sales, or to allow for mining. Some were built as part of a campground or a picnic area and others to provide access to trailheads for hiking.

The Flathead National Forest manages for all these routes. We have two tools to help us maintain data about such routes. One tool is geographic information systems (GIS) which is a geospatial data system. The second tool is our infrastructure database (I-web) that contains geo-referenced route infrastructure data. Each of these computer-based tools helps us with slightly different information. I-web stores engineering information about the routes and GIS gives us a picture of the forest and the routes on it.

The spatial road layer for the Beaver Creek analysis area was edited to match the National Agriculture Imagery Program (NAIP) 2009/2011 photos in June of 2012. The NFSR road layer in Natural Resource Manager (NRM) at the data center in Kansas City will be updated with this information. The road layer was originally scanned and digitized from the United States Geological Survey (USGS) quad maps in 1990 at 15-meter resolution. The 1-meter resolution NAIP photos allow much greater accuracy for the route location of each road. Once the routes were edited, the database information was updated if necessary for each road in I-web.

Several maps of the roads and trails within Beaver Creek are presented in Appendix A. Appendix B of this document is a spreadsheet detailing the management status of all system roads and trails within the Beaver Creek analysis area. The spreadsheet and maps were created from the Flathead National Forest GIS data for roads and trails that includes data from I-web. These data are current as of June 2012. No new system roads or trails have been constructed in the analysis area since that time.

On-the-ground verification of system road and trail status and condition has been ongoing through a variety of routine road inspections, and through field reconnaissance and development surveys for current and planned

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vegetation projects, as well as through the field work used to compile this document. During the summers of 2012 and 2013, data collection began on the roads acquired through the Montana Legacy Project and this work is anticipated to continue in 2014. This information, along with the current road condition inspections and current road management map provided the team with the tools from which we began our ID team road-by-road analysis.

Step 2

Describing the Situation

The Beaver Creek analysis area is approximately 34,937 acres and is located in Missoula County, Montana. The analysis area is located on the South end of the Swan Lake Ranger District between the Flathead Indian Reservation to the west, MT Hwy 83 to the east, the Swan River to the north and the Lolo National Forest to the south. The 76,000 acre Mission Mountain Wilderness runs through the west part of the analysis area. The analysis area contains some mixed ownership lands, but the majority of the lands are owned by the U.S. Forest Service. The private ownership is located along the east side of the analysis area and near the south east portion of Lindbergh Lake. In March of 2010, under the Montana Legacy Project and additional 44,820 acres of land in the Swan Valley were donated to the Flathead National Forest. Two-thousand-fifty of these acres lie within the Beaver Creek analysis area. Table 1 below summarizes land ownership within Beaver Creek.

<i>Table 1. Land Ownership</i>	
Ownership	Acres
National Forest System Lands	32,749
Other Private Holdings	1,771

Beaver Creek lies within the headwaters of the Swan river system. The terrain is characterized by a broad valley floor, foothills, and the steep rugged terrain of the Mission Mountains. The lower elevation bottomlands contain extensive wetlands. The area contains medium sized perennial and intermittent streams that flow from the peaks of the Mission Mountains northeast into the Swan River. The streams are relatively stable and cold, due to areas of groundwater influence and high mountain lake runoff. There are seven named lakes within the analysis area many of which are located in the wilderness. The elevation ranges from approximately 4,040 feet at the lowest point along the Swan River to almost 9,369 feet on Lowary Peak in the Mission mountain wilderness.

The principal historic use of the area in the past century has been timber harvest, which began in the late 1950s and was most active during the 1980s in response to a mountain pine beetle outbreak. An extensive network of roads was constructed during this time period to access timber; several of these roads today provide the primary motorized access to the area.

Today the area is popular with Missoula and Flathead valley residents as a place to recreate. Several maintained trails exist in the project area including trails numbers 34, 351 and 490. The trailhead leads into the Mission Mountain Wilderness which draws recreationists to the area. The area receives a fair amount of fishing pressure in the mountain lakes. Other dispersed recreational activities include hunting, snowmobiling, huckleberry picking, scenic driving, backpacking, hiking, and firewood gathering.

Forest Plan Amendment #19

The main factor driving this travel analysis is A19 which was signed by the Flathead National Forest Supervisor on March 1, 1995. A19 ensures compliance with the Endangered Species Act and other applicable laws and regulations by establishing new forest-wide objectives and standards for grizzly bear habitat and timber management. The Flathead National Forest provides 40 percent of the habitat for the largest remaining population of grizzly bears in the lower 48 states, the Flathead Land and Resource Management Plan (LRMP) requires “all management activities and projects to be planned, designed, and implemented in accordance with the Interagency Grizzly Bear Guidelines.”

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The new objectives were based primarily on local research that indicated grizzly bears tend to move away from human activities and that high road densities may reduce bear habitat quality and usefulness. Therefore, the parameters used to measure grizzly bear habitat improvements are open motorized road and trail densities, total motorized access route densities, and percentage of security core in the analysis area. For analysis areas, the Interagency Grizzly Bear (IGBC) Committee delineated all lands within the recovery zone into Bear Management Unit (BMU) subunits. A19 objectives and standards are non-discretionary and supersede any conflicting or inconsistent management direction in the Flathead LRMP.

The current objectives for subunits with greater than 75% NFS lands are as follows: open motorized route density greater than 1.0 mile/square mile must encompass less than 19% of the of the subunit area, total motorized route density greater than 2.0 mile/square mile must encompass less than 19% of the of the subunit area, and 68% of the subunit area is defined as security CORE. CORE is defined as greater than 500 meters from open/gated roads or motorized or high use trails. CORE area must be greater than or equal to 2500 acres in size. Open and total density is calculated in GIS through a moving window analysis and security CORE is calculated through a simple buffering routine.

The Beaver Creek subunit is part of the Swan Valley Grizzly Bear Conservation agreement (SVGBCA) signed in February of 1995. The agreement is between Plum Creek Timber Company, MT Department of State Lands, the Flathead National Forest, and the United States Fish and Wildlife Service and has guidelines/rules for timing of activities and motorized access. Since the MT Legacy Project, additional acreage of Plum Creek lands are now National Forest System lands within the Beaver Creek subunit. The Fiber Supply Agreement (FSA) is an agreement between Plum Creek and the MT Legacy Project partners that provides for the harvest of approximately 92 million board feet of merchantable timber from MT Legacy Project lands over a 10-year period. After the 10-year FSA has ended, the Beaver Creek subunit will retain the current no net increase in OMRD or TMRD, and no net decrease in CORE due to Forest Service actions. Motorized Route Density and CORE habitat standards are shown below in Table 2.

<i>Table 2. Beaver Creek Subunit Motorized Route Density and CORE Habitat Standards</i>			
	% OMRD	% TMRD	% CORE
Standard	<=19	<=19	>= 68
Existing	6	26	66
Proposed	6	19	71

As part of the SVGBCA the Beaver Creek subunit is a red lock gate subunit in which certain roads have more restrictive administrative use levels that are administered by the district ranger. These roads have different locks and access is limited to certain administrative uses. Allowable levels include 6 trips per week, 3 roundtrips per week or one 30 day unlimited use period during the non-denning season. As explained above in the preceding paragraphs A19 provides challenging travel management situations. While the Flathead National Forest is obligated to conserve threatened and endangered species, the Forest is also trying to maintain human livelihoods, cultures, and customs that are tied to multiple use of public land. Map A located in Appendix A shows existing security CORE.

Management Area Direction

Chapter 3 of the Flathead National Forest Land and Resource Management Plan (Forest Plan) provides forest-wide management area direction for road management. The Beaver Creek analysis area contains management

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areas (MA) 1, 2, 5, 11C, 12, 15, 15C, 17, and, 22. Map B in Appendix A shows management areas within the analysis area. Table 3 and the following paragraphs summarize MA direction for Beaver Creek.

Table 3. Management Areas		
MA	Acres	% of Total Analysis Area
1	515	1.5
2	857	2.5
5	81	<1
11C	6,423	18
12	622	2
15	2,669	8
15C	1,479	4
17	65	<1
22	20,026	57
Non - NF Land	2,201	7

MA 1 consists of non-forest lands and timberlands where timber management is uneconomical or currently technologically infeasible due to topographic features. Road construction is allowed to meet adjacent management area objectives. Road closures will be implemented where necessary to meet objectives for adjacent management areas and/or to prevent resource or facility damage. MA 1 is located along sunset ridge south of NFSR # 9570.

MA 2 is located along the southern tip of Lindbergh Lake and surrounding Beaver Lake. This MA consists of unroaded lands suited for dispersed recreation that meet the ROS classification of semiprimitive motorized. Lands are classified as unsuitable for timber management, however, removal of timber salvage, firewood, and other forest products may be allowed from existing open roads when recreation values can be protected or enhanced. Roads will not be constructed for the management of surface resources.

MA 5 is located along Hwy 83 and consists of roaded timberlands in areas of high scenic value. Lands are classified as suitable for timber management, and timber harvest will be scheduled. Roads will be designed and constructed in harmony with the retention VQO (Visual Quality Objective) and will consider the benefits to future recreation uses. The transportation system must be kept in the condition necessary to meet management direction and to protect the investment.

MA 11C is located throughout the analysis area and is an area that provides a secure grizzly bear travel route between the Mission and Swan Mountain Ranges. Desired cover relationship is provided through vegetative manipulation including timber harvest and prescribed burning. Management of other resources must be compatible with the grizzly bear management objectives of the Management Area. The visual landscape may be altered.

MA 12 includes riparian areas consisting of aquatic, riparian, and a portion of terrestrial ecosystems along most perennial streams, lakes, ponds, marshlands, bogs and some important intermittent streams. Riparian areas are to be managed to enhance vegetation and wildlife diversity and maintain or enhance water quality and fisheries. New roads will not be constructed in riparian areas except as needed to cross the area. New roads will generally not be built within ½-mile of lakes. Streams crossings will be individually evaluated to ensure fish passage. Road closures will be implemented as necessary to protect riparian wildlife and fish habitat values.

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MA 15 consists of timberlands where timber management with roads is economical and feasible. The goal is to emphasize cost-efficient production of timber while protecting the productive capacity of the land and timber resource.

MA 15C consists of timberlands where timber management with roads is economical and feasible, and are key white-tailed deer summer range. These areas are located immediately north and east of Lindbergh Lake. The goal is to emphasize cost-efficient production of timber while protecting the productive capacity of the land and timber resource.

MA 17 includes riparian areas along perennial streams with intermittent flow that generally are too narrow in width to manage as separate units. Due to their limited size and width, management must be closely coordinated with management of the adjoining area. Roads will cross riparian areas with as little impact to the stream as reasonable. Installation of bridges and culverts within the riparian zone will be coordinated with the Montana Department of Fish, Wildlife and Parks. Road closures will be implemented as necessary to be compatible with adjacent MA directions and to prevent resource or facility damage.

MA 22 includes the Mission Mountain Wilderness located on the west half of the analysis area. These lands are to be managed in accordance with the Wilderness Act of 1964 to maintain an enduring system of high quality wilderness representative of National Forest ecotypes.

Current Road and Trail System

Existing Road System

In the past, timber harvest and road building on all ownership lands has occurred within the area; and it is anticipated that timber harvest will continue in the future. The current road system continues to serve a wide variety of resources including recreation, timber management, fuels management, wild land fire suppression, hunting, firewood gathering, miscellaneous small product gathering, weed management, and private property access.

The existing road system considered in this analysis is shown below in Table 4. A total of 68.1 miles of system roads exist on National Forest System lands within the Beaver Creek subunit. Fourteen miles of these roads were recently acquired from the Nature Conservancy through the MT Legacy Project. The total National Forest System Road (NFSR) density is 1.25mi/mi² (Note: Road densities calculations are slightly higher due to additional roads considered in the Travel Analysis that lie outside the analysis area). Additionally, there are most likely some unauthorized roads in the analysis area which include user created routes, decommissioned roads, or historic logging system routes that have remained on the ground and receive use. Map C located in Appendix A shows the existing travel route system and a summary spreadsheet of the existing road system is located in Appendix B.

<i>Table 4. Existing National Forest System Roads</i>		
Travel Management	Miles	Road Density (miles per square mile)
Open Year Long	8.9	0.16
Closed Year Long	59.2	--
Total Road Mileage	68.1	1.25

Under the Flathead Forest Plan, 30 percent of the National Forest System Lands within the analysis area are within the suitable timber base. Also, 21% percent of the analysis area is in the Wildland Urban Interface (WUI). Currently, there is a good road network of Forest Service, Private, and County roads within the WUI where a good road system is needed for rapid fire suppression. The WUI is located along the east side of the analysis area along the Swan River valley bottom and Hwy 83.

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Based on recent experience with other projects on the Swan Lake Ranger District, there has been a need for additional temporary roads to allow for cost-effective timber and fuels management. An overview of the existing roads portion of the transportation system in the Beaver Creek analysis area, coupled with the location of suitable timber lands, indicates the potential need for additional temporary or possibly newly constructed specified roads. The actual need for, and location of, any additional temporary or specified roads in the area and the long-term management of such roads (for example, as open, closed, or managed as trails) may need to be examined in more detail through site-specific, project-level environmental analysis.

Road Maintenance Funding

The Flathead NF receives annual roads funding (CMRD) for the operation and maintenance of NFS roads. The forest may also receive roads construction and maintenance funding for capital investment projects. Timber sales and stewardship integrated resource projects also directly perform road maintenance and reconstruction on NFS roads. Other funds may be available for road-related project work including: other appropriations such as CFLRP funding and Legacy Roads and Trails funding for implementing BMP's, providing aquatic organism passage, and replacing bridges; American Recovery and Reinvestment Act; stewardship retained receipts for implementing BMP's and providing aquatic organism passage, Federal Highway Administration; Resource Advisory Committee funding and cooperator deferred maintenance funds. Road appropriations (CMRD) and road-related maintenance and collections from timber/stewardship sales are the primary sources for annual road maintenance.

Of the approximately \$2,696,000 average total road-related funds over the past three years, approximately \$564,000 are annual maintenance-related (i.e. surface grading, roadside brushing, drainage structure cleaning and repair, and sign maintenance). The remaining funds go towards road reconstruction and capital improvement type projects, which also accomplish maintenance simultaneously. The estimated funding needed to maintain roads to standard is approximately \$1,300,000 annually. As such, the Flathead NF currently receives approximately 43 percent of the funds needed to maintain the road system to standard. With limited appropriated dollars, BMPs outside of timber sale areas are implemented on road segments that pose the greatest risk to the safety of users and to environmental resources. Recently, stewardship retained receipt and CFLRP funds have been utilized to implement road BMP's outside of timber sale areas. The use of the travel analysis process aids in the prioritization of road maintenance projects. Summaries of the objective maintenance levels for roads in the Beaver Creek subunit are shown in Table 5. Operating road maintenance levels are also presented in Appendix A on Map D.

Table 5. Road Maintenance Levels	
Objective Maintenance Level	Length (miles)
ML 1	59.2
ML 2	0.7
ML 3	8.2

Trail System

There are 20.82 miles of NFS trails located within the Beaver Creek analysis area. The motorized trail opportunities within the area are limited because most of the trails are located within the Mission Mountain Wilderness, which are managed for non-motorized use. The following paragraphs describe the current trails located in the Beaver Creek subunit. Map C located in Appendix A shows the existing trail system and a summary spreadsheet of the existing trail system is located in Appendix B.

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Jocko Trail #34: The Jocko Trail begins at the northern end of Lindbergh Lake and parallels the ridge east of Lindbergh Lake for approximately two miles to its final destination at Gray Wolf Lake. The wilderness portion of the trail is open to non-motorized uses and the portion outside of the wilderness is open to bicycle use. This trail is popular during the summer months for hikers, backpackers, and fisherman.

Crystal Lake Trail #351: The Crystal Lake Trail provides access to Crystal Lake via the end of NFSR # 9552 from the north or from the end of NFSR #906 from the east. The wilderness portion of the trail is open to non-motorized uses and the portion outside of the wilderness is open to bicycle use. This trail is also popular during the summer months for hikers, backpackers, and fisherman.

The Lindbergh Trail # 490: The Lindbergh Trail provides a route between Lindbergh Lake and Crystal Lake following the Swan River. This trail is open to non-motorized travel and is accessed via the Trail # 351.

Adjacent and Connecting Transportation Systems

The Beaver Creek analysis area is bordered by public and private lands with the exception of the west side that is bordered by the Confederated Salish and Kootenai Tribal Wilderness. The analysis area lies entirely in Missoula County. Public access into the Beaver Creek area is provided primarily by the Beaver Creek Road NFSR # 906, but the area can also be accessed through the Lolo National Forest via the Colt Creek Road (NFSR # 646).

Existing Forest Plan Direction and Administrative Uses

Thirty percent of the NFS Lands within the Beaver Creek subunit are within the Flathead National Forest's suitable timber base with 8 percent of the area classified as MA 15, where cost-effective timber management with roads is the management area emphasis (Flathead National Forest Plan).

The Beaver Creek analysis area has a long history of timber management and the road system has been developed to serve as the primary infrastructure for economical timber management activities. Timber sales and fuel treatments are ongoing within the area. Much of the western part of the analysis area is relatively steep requiring use of cable logging systems while the eastern part in the Swan River valley bottom is tractor ground. The road system and road density that has developed reflects these conditions.

The Swan Lake Ranger District has the majority of the fire protection responsibility within Beaver Creek; however the lower third of the area outside the wilderness is under the protection responsibility of the Swan Unit of the DNRC. Fires within the area are most often either lightning or human-caused. Because much of the area in the Swan River Valley bottom is private lands, a large portion of the area is within the WUI. The area is covered under the Seeley-Swan Fire Plan that defines the WUI area to be within about 1.5 miles of development. An increase in home development has been seen around the area within the past decade.

Wildlife concerns that have influenced road management direction within Beaver Creek have primarily been due to A19, which ensures compliance with the Endangered Species Act by establishing standards for grizzly bear habitat. The analysis area contains about 68.1 miles of road managed as closed year round. All of these road closures have the management intent of reducing overall road maintenance costs, while some have the additional benefit of decreasing open and total motorized route densities, thus increasing the percentage of security CORE.

Step 3

Identifying the Issues

The purpose of this section is to identify the key issues affecting travel management. These key issues were identified from comments received during previous projects and internal discussions. They represent the recurring topics that arise in the management of National Forest Lands. The three central issues pertaining to the National Forest transportation system include: (1) social conflicts, (2) economics and forest management issues, and (3) environmental issues.

Social Conflicts

Recreational and Public Access

Roads play an important part in facilitating recreational experiences for forest visitors. People look to national forest lands to provide many goods and services such as firewood, berries, hiking, and viewing opportunities. Driving for pleasure is an important dispersed activity on national forests and the roads are key facilities for visitor access. Seasonal winter recreation such as snowmobiling, cross-country skiing and dog-sledding also occur on roads within Beaver Creek. The users of this area are as varied as the recreational activities they pursue.

Based on past comments, some individuals would like to see more of the existing road system in Beaver Creek open to motorized uses. Other comments express the opinion that more roads should be closed or obliterated for various reasons, such as to reduce road maintenance costs, to increase wildlife benefits, and to enhance non-motorized recreation opportunities.

Relative to the social issue of allowing more or less motorized access within Beaver Creek; social desires (which are sometimes conflicting) must be balanced with economic and environmental conditions. The combination of wildlife habitat, road stability, and economics of road maintenance, balanced with administrative and recreational opportunity, are the primary factors in deciding which roads to manage as open or closed. The existing road system within Beaver Creek contains only 9 miles of open road. The 59 miles of closed year-round roads within Beaver Creek are managed primarily to serve administrative uses such as timber management and providing access for wildfire suppression.

National Forest System trails provide for a portion of the recreational use within the area. All trails are closed to motorized use. The trails within the wilderness only allow access by horse or hiking. There is an increasing demand for both more non-motorized and motorized trail opportunities on the Swan Lake Ranger District and Beaver Creek.

Public access also includes access for hunting, firewood gathering, berry picking and other similar uses. The area, and its road and trail system are also used by commercial outfitters for hunting deer, elk, black bear and mountain lion, day horse and mountain bike rides as well as day and overnight dog-sled adventures during the winter.

Snowmobiling is also a popular recreational activity making use of the road system in Beaver Creek. Portions of Beaver Creek are open to cross-country travel by snowmobiles over sufficient snow cover from December 1st through March 31st, while other areas do not allow snowmobiling. While conflict exists between snowmobile users and non-motorized interests on other parts of the Flathead National Forest there has been little conflict between these interest groups in Beaver Creek.

Economics and Forest Management Issues

Access for Resource Management

National Forest System Roads allow more efficient and cost-effective access for forest management activities: such as thinning, inventories, planting and fuels management; and resource commodities: such as timber harvest, commercial mushroom and berry picking, and other special products. Indirect economic benefits to communities result from recreational forest use such as hunting/fishing, campgrounds, and tourism.

An adequate road system helps to manage the suitable timber base so treatments such as harvest, thinning, planting, and insect and disease control can take place. The existence of an adequate transportation system plays an important role in determining if a silvicultural treatment is feasible. The road system provides access for people and equipment needed to complete various timber stand treatments.

New road construction must consider other resource management objectives. Many times, the road system that is optimal for logging efficiency conflicts with other resource management objectives so road spacing, density and location are adjusted to benefit or mitigate the effects on other resources. Planning for past projects found the need for some additional temporary roads to provide economical access to specific treatment areas. It is likely that other areas within Beaver Creek will require additional temporary or system road construction in the future. The site-specific need for such roads would be left to project-specific environmental analysis.

Wildland Fire Suppression/Protection

Twenty-one percent of the analysis area is within the WUI, so road access is an important consideration in providing for quick fire response. They also allow access for vegetation management to reduce fuels. Successful fire risk reduction requires continual management through pre-commercial thinning, treatment of harvest activity debris, and natural deadfall, and frequent underburning (maintenance burning) with prescribed fire. Road access is necessary for economical fuels treatment. Active forest management, in the WUI and along areas identified as Primary Lines of Defense (PLOD), is increasingly a Forest priority as weather trends continue with warm spring temperatures and hotter, dryer summer seasons.

Annual and Deferred Maintenance Costs

An extensive road system is needed within Beaver Creek to manage the area to be consistent with Forest Plan objectives; however, the maintenance cost of this many miles of road is an issue. When roads are used for active timber haul, the activities pay for the road maintenance through timber sale receipts or required maintenance. However, when the roads are not being used for timber sales, maintenance costs fall to the allocated road budget. Present levels of road maintenance funding are not enough to bring every road up to BMP standards. For this reason, most of the road system within the area has been managed as closed when not in use. Many of these closed roads are also in intermittent stored service (ISS) or a self-maintaining condition. Closed roads cost much less to maintain than open roads. This is because blading, brushing and surfacing material replacement are not needed if the road is closed to public use. The closed road system has minor costs to maintain, however. Those costs are primarily the maintenance of drainage structures sufficient to insure that the road systems do not significantly contribute to erosion or sedimentation and costs associated with maintaining gates and berms.

Travel analysis is a tool used to identify potential changes to the transportation system. Maintaining optimal management access while reducing the road network enables more efficient management of road maintenance funds. Travel analysis also helps prioritize where road maintenance dollars are spent. First priority is given to safety of the users on open road systems and preventing or reducing resource damage across the transportation system.

Environmental Issues

Wildlife Habitat Effectiveness and Security

The primary wildlife related issue is the effect of the road and motorized trail systems on grizzly bear security. A19 describes objectives and guidelines to be used for grizzly bear management; the Beaver Creek Grizzly Bear Subunit is currently not in compliance with these objectives. In addition, in the Beaver Creek area, habitat security for a diverse group of wildlife species including Canada lynx, elk, deer, large carnivore species, old growth dependent species, and species associated with snags and down woody material is a concern. This is due, in part, to the high levels of past management and human activity in the area, which have contributed to fragmentation of blocks of habitat and an overall decrease in habitat effectiveness.

Watershed

Roads can affect water quality by contributing sediment to the streams at road crossings, through improperly functioning culverts or bridges, improper drainage, and/or the loss of riparian habitat when roads are located in riparian corridors. Road cuts can intercept and capture both subsurface and surface runoff, which can affect groundwater and annual recharge of streams. By serving as subsidiary channels routing water to streams, roads can contribute to peak flow increases, which can cause accelerated erosion in small streams creating increase sedimentation and decreased water quality for aquatic habitats.

Constructing and improving drainage structures on forest roads is an ongoing effort to reduce road-related stream sediment delivery. This is often completed through timber sales and fuel projects. The Streamside Management Zone Regulations became a State law in March of 1991. Within these rules include specific management practices on roads used for any timber sale. Before this period, building roads at a minimal cost was often the goal, which did not adequately consider the water resource. Although BMPs are proven practices that reduce the effects of roads to the watershed, it is not a static condition. Maintaining BMP standards for roads requires ongoing maintenance. Ecological processes, traffic and other factors can degrade features such as ditches, culverts, and surface water deflectors. Continual monitoring and maintenance on open roads reduces risks of sediment delivery to important water resources. Maintenance level 1 roads that are closed for more than one year and not subject to annual maintenance should be considered for placement in ISS to reduce risks that a road template may have in the absence of regular maintenance. Treatments can include armoring culvert catch basins or restoring stream channels, scarifying and seeding road surfaces, or constructing waterbars to intercept surface water. WEPP surveys, culvert inventories, and soil water road condition index (SWRCI) surveys were completed during the summer of 2012 for the Beaver Creek project area. The WEPP results are located in Appendix E. The WEPP survey locations and the SWRCI results are presented on Map E. The SWRCI and culvert inventory data are located in the project file.

Invasive Species

Non-native invasive plant species, also called noxious weeds, invasive plants, or invasive species, are plant species that are not native to a particular place and are disrupting the natural processes of that place (displacing native plants or animal species, degrading natural communities, changing hydrology, changing microclimatic features, increasing soil erosion, etc.). Invasive species on NFS lands in the analysis area are largely associated with roads, trails, utility corridors, and adjacent private land. The most common vector of spread is human activity involving the motorized use of roads and trails.

The largest issue preventing control of invasive species is the lack of access to infestations on restricted roads. As a result, weed control costs more, as crews must travel on foot or by OHV resulting in less treatment over a longer period of time. With a limited budget, the Forest Weed Coordinator prioritizes infestations based on their location and severity. Priorities for treatment are infestations in or near natural areas such as wilderness, Recreation Areas or Research Natural Areas. The size of the infestation defines priorities since small infestations are easier to control and possible to eradicate within a reasonable amount of time. Larger infestations are already out of control, which makes them more difficult to control and practically impossible to

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eradicate. Other areas of high importance are recreation areas such as campsites and trailheads. These sites lead to natural areas and allow visitors to bring their weed seeds to the forest. Roads can allow access into many of these places and once an infestation is removed from the landscape, the access for weed treatment is no longer necessary. When access is restricted before treatment is effective, then treatment occurs elsewhere, and the inaccessible natural areas decline in species diversity and ecological health. Unfortunately with high treatment targets and limited funding, the most efficient areas to treat are along accessible travel ways, such as roads and motorized trails. Areas of greater importance drop to the bottom of the priority list since they are not easily accessible.

Methods of treatment include chemical, biological control, and mechanical and manual treatments like mowing and hand pulling. The most common method on the forest is the use of herbicides followed by biological control for selected species (e.g. tansy ragwort, spotted knapweed). The use of biological control requires large and dense infestations and can impact an infestation within a decade. In remote areas with dense knapweed or tansy ragwort sites, this is the preferred method of control. Other invasive species on the forest are only being controlled by herbicide, which can take many years to impact the infestation due to the seed source in the soil.

Native Vegetation and Rare Plants

Roads and trails negatively affect native vegetation by physical removal of vegetation, compaction of the soil, dusting, changes to microclimate via light, moisture and temperature, and providing a corridor for invasive species, which can dramatically alter vegetation. Removing vegetation and compacting/disturbing the soil allows invasive species to invade an area. These infestations move into the adjacent understory and alter the chemical and physical composition of the soils. Weeds use up resources that native vegetation have adapted to using, such as light, space, water, and nutrients. This competition further impacts native vegetation, which reduces species diversity for wildlife habitat and also affects the regeneration of trees. Removal of vegetation also affects the filtration of water into the groundwater system. The less vegetation there is on the ground intercepting rain, the more runoff there will be into streams and rivers. Some native plants can survive on compacted soils but species diversity is reduced by compaction and introduction of non-native surface material. Dusting does not seem like it can impact vegetation significantly, but fine particles clog leaf pores and prevent respiration and transpiration processes. These processes are mandatory for photosynthesis and the survival of the plant. Dust that blocks these processes will make roadside vegetation sick and unable to compete for resources against invasive species. Changes to microclimate are created by edge effects. Edge effects occur from a removal of vegetation from an area. The adjacent vegetation is then affected by an increased amount of light, increased temperature, and decreased moisture or humidity. Sudden changes to microclimate negatively impact native vegetation since the vegetation has balanced with its environment to use the resources that are available. Impacts such as sunburn due to increase light and temperature, and loss of turgor pressure due to increased evapotranspiration and reduced humidity can reduce vegetation's ability to compete against invasive species or provide forage for wildlife.

Rare plants are included in native vegetation since they are native species. While the forest surveys for rare plant species prior to ground disturbance, there is the possibility of an unknown rare plant population being affected by road activities. Roads also provide access to rare plant sites, which allows researchers to access these sites easily, but they provide a corridor for invasive species and provide a risk of unmanaged recreation in these sensitive areas.

Reduced speeds, large-particle road surface, an aggressive weed treatment plan and narrow corridors can reduce the impacts to surrounding vegetation. The revegetation of reclaimed sites by either grass seed or shrub planting will go farther to heal the landscape than simply blocking access to a road. Covering the ground with a seed mix and encouraging native revegetation will reduce the risk of invasive species completely taking over the disturbed area.

Step 4

Assessing Benefits, Problems, and Risks

The purpose of this step is to examine the major uses and effects of the travel route system (at the chosen scale and intensity identified in Step 1) to generate the information against which the existing and future travel route system can be compared. The main element of this step is to assess the various benefits, problems, and risks of the current travel route system and whether the objectives of Forest Service policy and forest plans are being met.

Benefits are the existing and potential uses and socioeconomic gains provided by travel routes and related access. Problems are conditions for certain environmental, social, and economic attributes that managers deem to be unacceptable. Concerns are exposure to the chance of injury or loss in environmental, social, and economic attributes if the travel route system remains unchanged.

The desired condition for the transportation system in this analysis area is one where NFS travel routes meet or exceed the following criteria:

- Provide for safe access for forest users
- Responsive to public needs
- Allows for economical and efficient management
- Meet current and future resource management objectives
- Are environmentally sound and constructed to minimize adverse ecological impacts

Roads are long-term investments that impact the landscape; therefore, it is important that the transportation system meet these criteria for future use. Determining the appropriate transportation systems needed for sustainable public and agency access to achieve the desired conditions in the applicable land management plan; to promote ecosystem health; and to address public safety and efficiency of operations in an environmentally sensitive manner within current and anticipated funding levels is directed in the FSM 7710 Travel Planning.

Methodology

The analysis looks at four benefit criteria and three concern criteria.

The four benefit criteria are:

- Vegetation Management Benefits
- Recreation and Public Access Benefits
- Wildfire Suppression/Protection Benefits
- Private/Administrative Access Benefits

The three concern criteria are:

- Watershed/Aquatic Concerns
- Wildlife Concerns
- Annual Maintenance Cost Concerns

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The resource specialists made a determination for each route segment in the travel route matrix (Appendix C) as to whether the road provides a high, moderate, or low benefit; or poses a high, moderate, or low concern. While the criteria defined below are not a ridged rule set, it is designed to aid the specialists in rating each road segment. Specialists have to use their best professional judgment when determining ratings for their resource.

Travel Route-Related Benefits Criteria

Vegetation Management Benefits

Roads were rated as having high, moderate, or low benefits based on the following criteria. MT Legacy roads were rated based on the Forest Service needs of a road segment in the future, not considering the Fiber Supply Agreement in place until December 31, 2021.

High: Road use time frame of less than 20 years.
Collector system roads providing access to a series of existing road systems.
Collector system roads that could provide access to newly constructed road systems in the future.
Roads that provide access to National Forest Lands with a high probability of vegetative treatment.
Any roads within the suitable timber base that are the sole access to National Forest Land.

Moderate: Road use time frame of 20 to 30 years.
A road that access areas that have previously been treated and have a moderate need for future treatment or an alternate method of treatment is available (i.e. walk in or ATV supported pre-commercial thinning).

Low: Road use time frame of greater than 30 years.
Low standard roads designed for outdated logging systems (i.e. jammer or steep tractor units).
Roads that access stands where opportunity for future treatments are minimal.

Recreation and Public Access Benefits

Roads were rated as having high, moderate, or low benefits based on the following criteria.

High: Provides access to a specific destination.
Provides opportunities for hunting, fishing and gathering of forest products (firewood, berries, rock).
Leads to a trailhead or other recreation facility.
Provides scenic and wildlife viewing opportunities.
Road restricted to motorized travel but used as a trail route for hiking, biking, stock, or snowmobiling.
Provides winter recreation access and/or use.

Moderate: No specific destination.
Provides opportunities for hunting, fishing, and gathering of forest products, especially if maintained in a passable condition.
Provides winter recreation use.
Has historic recreational use.

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- Low:** Road is impassable, short, and a dead-end.
Provides no winter recreation opportunities.
Provides no scenic opportunities and has no specific destination.
Better access is provided to the area via a different route.
Restricted to all motorized vehicles yearlong.

Wildland Fire Suppression/Protection Benefits

- High:** Any open road providing direct access to personal private property, or any road within 1 mile of that property. Roads accessing lookouts, historical structures, or designated water sources.
Any road with a segment length of more than 1 mile in the WUI and along areas identified as Primary Lines of Defense (PLOD).
Any open or closed roads that are critical to effectively fight initial attack fires by fire suppression vehicles up to 33,000 GVW.
- Moderate:** Any restricted road providing access from open roads to the ridge tops so that IA (Initial Attack) fire fighters can spot fires and, if burning conditions make it possible, move safely downhill or side-hill to access fires.
Restricted roads capable of being used by fire suppression vehicles up to 33,000 GVW.

- Low:** All other roads.

Private/Administrative Access Benefits

- High:** Provides primary access to private holdings.
Provides access to administrative sites such as gravel/rip-rap sources with a high potential for use.
Cost share road.
- Moderate:** Provides access to administrative sites such as gravel/rip-rap sources with a low potential for use.
Provides access near or through private holdings, but is not primary access.
- Low:** Provides no access to private holdings or administrative sites.

Travel Route-Related Concerns Criteria

Watershed/Aquatic Concerns

Watershed and aquatic resources are the resources at greatest risk from route-related impacts. In a given watershed basin, aquatic health depends on watershed health. Each route was given a rating of high, moderate, or low, based on the criteria listed. (Most sites identified as high concern were field verified.)

- High:** Barriers to fish migration.
Failed stream channel culverts.
Presence of log/earth structures (1950s era).
Extended segment located adjacent to a stream.
Multiple stream crossings in upper watershed.
Major stream crossings with known or likely undersized culverts.

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Stream crossings on landslide prone land types.

Road would likely affect spawning reach.

SWRCI Rating of Impaired.

WEPP model indicates sediment loading of > 100 lbs. /yr.

Culvert inventory indicates critical situation culverts.

Moderate:

Multiple stream crossings in middle or lower watershed.

Steep slopes between road and stream with one or more stream crossings.

Located on steep landslide prone land types.

Located near/above fish bearing stream.

SWRCI Rating of At Risk.

WEPP model indicates sediment loading of 20-100 lbs. /yr.

Culvert inventory indicates high risk culverts.

Low:

One or no stream crossings.

Short road segments.

Gentle terrain.

Lower watershed.

Located near/above non-fish bearing stream.

SWRCI Rating of Functional.

WEPP model indicates sediment loading of < 20 lbs. /yr.

Culvert inventory indicates low risk culverts.

Wildlife Concerns

The impact of motorized travel routes on wildlife is mostly negative. Road construction temporarily or permanently destroys wildlife habitat and fragments the habitat that remains. Displacement, harm, or death to species increases on or near motorized routes. Predators and scavengers are killed while they feed on road-killed wildlife, as are other species attracted to roads because of warmth or roadside vegetation, or because roads facilitate winter travel. Road-avoidance behavior is characteristic of large mammals such as elk, grizzly bears, and wolves. Motorized access also substantially increases snag and downed log habitat loss due to actions such as firewood cutting. This often results in a decrease in the habitat quality of important habitats such as old growth habitat or riparian habitat.

The road and trail effects ratings on wildlife in the Beaver Creek area are based on the following criteria: The importance in meeting A19 objectives for grizzly bear; whether the road fragments important secure areas for grizzly bear, Canada lynx, etc.; whether motorized use limits desired elk security; whether the road provides motorized access through old growth habitat or important riparian habitat; whether a road crosses an important wildlife travel corridor; and speeds traveled on the road. Each travel route was given a rating of high, moderate, or low, based on these criteria. Following is a description of the ratings:

High:

A travel route or route section is likely to cause harm to wildlife species. Harmful impacts may include the following: The travel route does not comply with long-term A19 objectives; the

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route fragments habitat security for wildlife species such as grizzly bear; motorized traffic appreciably limits desired elk security; motorized traffic crosses important wildlife travel corridors; the road passes through or adjacent to a large amount of old growth habitat; the road passes through or adjacent to a large amount of important riparian habitat; and the travel route experiences heavy motorized traffic traveling at high speeds.

Moderate: A travel route or route section that may cause harm to wildlife species. Impacts may include the following: The travel route does not comply with long-term A19 objectives; the route may decrease habitat security by fragmenting some habitats; motorized traffic limits desired elk security area somewhat; motorized traffic crosses less important wildlife travel corridors; the road passes through or adjacent to a moderate amount of old growth habitat; the road passes through or adjacent to a moderate amount of riparian habitat or a large amount of less important riparian habitat; and the travel route is a motorized route section with moderate traffic traveling at moderate speeds (25 to 35 mph).

Low: A travel route or route section is unlikely to cause harm to wildlife species. Such a rating may include the following: The route does not significantly affect A19 compliance; the travel route does not significantly fragment habitat that is important for wildlife security; motorized traffic does not limit desired elk security; motorized traffic does not cross important wildlife travel corridors; the road does not pass through or adjacent to old growth or riparian habitat; and the travel route is a motorized route section with light traffic traveling at slow speeds (less than 25 mph).

Annual Maintenance Cost Concerns

Annual maintenance costs were included in the criteria for the maintenance ratings. These costs were included to reflect the Forest's financial commitment to maintain the transportation system and to identify the link between maintenance and resource protection. If basic annual road maintenance (e.g., drainage maintenance) is not performed, roads have an increased potential for loss of investment and environmental damage. Annual maintenance costs for each road segment were compiled from I-web. Each road was given a rating of high, moderate, or low, based on the criteria listed.

High: Annual Maintenance costs greater than \$2,500.00 per mile.

Roads with: Asphalt surface
Located on the lower third of the slope.
Highly erodible soils.
Slope greater than 45% (steep) or slope between 0-15% (flat).
More than 3 stream crossings (live or intermittent) per mile.

Moderate: Annual Maintenance costs of \$1,000.00 to \$2,500.00 per mile.

Roads with: Aggregate surface.
Located on the middle 1/3 of slope.
Moderately erodible soils.
Slope of 25% to 45%.
1-3 stream crossings per mile.

Low: Annual maintenance costs less than \$1,000.00 per mile.

Roads with: Native surface.
Located on the upper 1/3 of slope.

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Stable well-draining soils.

Slope of 15% to 25%.

No more than one stream crossings per mile.

Bermed roads or roads placed in ISS.

Native Vegetation and Rare Plants

Roads affect native vegetation along with watershed/aquatic resources and wildlife.

High: Roads and trails leading to or nearby known rare plant populations or pristine suitable habitat can provide opportunities for unmanaged recreation and invasive species infestation.

Roads through dense canopy cover and sensitive habitat types create strong edge effects.

Infested roads which are inaccessible to treatment.

Moderate: Roads and trails nearby suitable habitat.

Uninfested roads which are inaccessible to treatment.

Low: Roads and trails not near known rare plant populations or suitable habitat.

Roads that are accessible for weed treatment.

Travel Route Management Categories

After performing a route-by-route rating of the benefit and concern based on the established criteria, the following travel route management categories were developed to display the information and present opportunities that can be considered for management of National Forest System Roads. Mileages were derived from the travel route matrix presented in Appendix C.

The specialists' ratings from the four benefit categories were grouped to result in a single high, moderate, or low benefit value. The ratings from the three concern categories were grouped to result in a single high, moderate, or low concern value. The highest value assigned was the default rating for the road or road segment. For example, the overall concern assessment on a road/segment of road will be high if any of the three concern categories are assessed as high. The overall benefit assessment on a road/segment of road will be high if any of the four benefit categories are assessed as high. If the highest value in any category is moderate, the value then defaults to moderate etc.

Transportation System Management Options

The following categories were identified based on benefit and concern. Within each category, there are different possible management options.

Categories: **H/L: High Benefit and Low Concern (*Ideal Situation*)**

H/M: High Benefit and Moderate Concern

H/H: High Benefit and High Concern (*Priority for Capital Improvement*)

M/L: Moderate Benefit and Low Concern

Options:

- These travel routes form part of the transportation system for the Forest.
- Invest maintenance dollars here to maintain low resource concern or reduce high resource concern.
- High priority to identify high-concern reduction needs.

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- High priority for capital improvement funding such as PFSR designation, maintenance and/or reconstruction, relocation, funding, etc.

Categories: **L/H: Low Benefit and High Concern** (*Highest Priority for Decommissioning/ISS Dollars*)

L/M: Low Benefit and Moderate Concern

L/L: Low Benefit and Low Concern

M/H: Moderate Benefit and High Concern

Options:

- High priority to identify high-concern reduction needs and confirm use benefits.
- Potential for reducing maintenance level.
- High potential for putting into intermittent stored service, decommissioning, or, for roads, converting to trails where there is recreation demand.

Category: **M/M: Moderate Benefit and Moderate Concern**

Options:

- Moderate priority for expending maintenance funds.
- Moderate potential for decommissioning or converting roads to trails.

Individual Route Identification of Need

The team continued with the assessment and identified the routes that are needed or not needed as part of the long-term transportation system. The team individually reviewed all routes under Federal jurisdiction. Any opportunities that identify miles of road to be decommissioned would need to be carried forward through the NEPA process to allow public input, if a decision isn't already in place.

Included in Appendix D is the individual road description and identification of need which provides a short description of the existing condition of each road reviewed and the result of the ID teams' determination of whether the road is needed as part of the long term road system. The last column in the table describes the benefit/concern ranking as taken from the travel route matrix in Appendix C.

Step 5

Describing Opportunities and Setting Priorities

Opportunities for Addressing Concerns

Travel route management opportunities vary from keeping the current objectives; to improving the current transportation system with reconstruction or maintenance work; to changing access management objectives for forest resources protection; adding routes to the transportation system; placing routes in intermittent stored service; or decommissioning routes.

This analysis has identified the following opportunities for consideration for further action. Refer to the Road Description and Identification of Need located in Appendix D for further information and individual road recommendations.

1) National Forest System Roads

- The following sections of roads were identified as not needed for long term management of NFS lands and are being recommended for decommissioning: Beaver Sidehill 9656 (M.P. 1.550-2.800), West Beaver Lake 9658C (M.P. 0-0.270), Divide Trail 10740 (M.P. 0-0.230), Beaver Section 11 90132 (M.P. 0.185-0.400), Beaver Sun 90190 (M.P. 0-0.350), Beaver Lake 1 90255 (M.P. 0-0.050), Beaver Lake 4 90258 (M.P. 0-0.100), Beaver Lake 5 90259 (M.P. 0-0.150), Sunset 60 91160 (M.P. 0.382-0.866), Upper Up 7 91162 (M.P. 0-0.716), and Pierce Creek 2 91221 (M.P. 0-0.238). This includes approximately 4.053 miles of road. Roads 9656 and 91162 shall be considered for partial or full re-contour. Some of these roads are already naturally re-vegetated and would be passively decommissioned while others would require active decommissioning. These roads are presented in Appendix A on Map F.
- The following sections of roads have been identified to be placed into intermittent stored service (ISS): Sunset Ridge 9570 (M.P. 5.335 – 6.050), Sunset Beaver 9658 (M.P. 2.942-3.820), West Beaver Creek 10577 (M.P. 0.501-0.913), Beaver Potholes 10589 (M.P. 0-1.450), Salish Beaver 10590 (M.P. 0-900), Lindex 37 10737 (M.P. 0.65-1.120), Lindex 39 10739 (M.P. 0.483-0.800), Cygnet Loop 10742 (M.P. 0.440-1.050), Cygnet Spur 10744 (M.P. 0-0.300), Cygnet 10745 (M.P. 0-0.250), Beaver Trail 4 11641 (M.P. 0-0.500), Wes Beaver North A 11644 (M.P. 0-0.463), Beaver Pierce 11645 (M.P. 0-0.556), B – L Spur 11646 (M.P. 0-0.250), Lindex 11647 (M.P. 0-0.740), Beaver 11 90131 (M.P. 0-0.450), Up Beaver 4 91203 (M.P. 0-1.558) and Up Beaver 5 91204 (M.P. 0-0.550). This includes approximately 11.369 miles of road. These roads will have stream aligned culverts removed and will be in a self-maintaining condition. Road entrances will be bermed and will be impassable. These roads will not count in A19 total road density or security CORE calculations. Placing these roads in ISS will help meet the A19 total road density standard for the Beaver Subunit. These roads are presented in Appendix A on Map F.
- The following roads/road locations have been identified as needed for long-term management of NFS lands, but found to be at risk to water/aquatic resources: Beaver Creek 906 (M.P. 4.240-5.140), Beaver Thirty One 9654 (MP 0-3.3), Beaver Sidehill 9656 (M.P. 0-1.550), Sunset Beaver 9658 (M.P. 0-0.1.150), Knob Pond 10592 (0-0.840) Beaver Lindbergh 10735 (M.P. 0-1.050), Up Beaver 3 91202 (MP 0-1.03), and Beaver Lake 3 90257 (M.P. 0-0.800). This includes approximately 10.625 miles of road. These roads should be prioritized for BMP reconstruction/maintenance or stabilization work as identified in the Road Description and Identification of Need located in Appendix D. These roads are presented in Appendix A on Map F.

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2) New System Road Construction

- One location has been identified as having a need for new system road. By connecting roads 90191 and 91160 with a small existing template road 91160 (MP 0.382 – 0.866) can be decommissioned. Total construction miles are estimated at .15 miles. This road is shown in Appendix A on Map F.

Step 6

Reporting

NEPA Analysis Needs

This travel analysis is not a decision document. It will be used as guidance for the Beaver Creek EA. This travel analysis does not need any NEPA analysis, as it exists solely to provide information and identify potential opportunities for the planning area. Any decisions concerning individual roads or trails will be made through the NEPA process. The team needs to ensure all road-related decisions made through NEPA are documented in the Road Management Objectives (RMO) and all I-web and GIS databases are subsequently updated.

Peer Review

The completed travel analysis will be distributed for internal review with Forest Service personnel. It will be part of the administrative record for any NEPA proposals/decisions in the Beaver Creek planning subunit.

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Glossary

- **Access Rights.** A privilege or right of a person or entity to pass over or use another person's or entity's travel way. (36 CFR 212.1, FSM 5460.5 – Rights of Way Acquisition, FSM 7700 – Transportation System.)
- **Annual Maintenance.** Work performed to maintain serviceability or repair failures during the year in which they occur. Includes preventive and/or cyclic maintenance performed in the year in which it is scheduled to occur. Unscheduled or catastrophic failures of components or assets may need to be repaired as a part of annual maintenance. (Financial Health – Common Definitions for Maintenance and Construction Terms, July 22, 1998.)
- **Area.** A discrete, specifically delineated space that is smaller, and in most cases much smaller, than a Ranger District. (36 CFR 212.1.)
- **Arterial Road.** A forest road that provides service to large land areas and usually connects with other arterial roads or public highways. (FSH 7709.54 - Forest Transportation Terminology Handbook, no longer in print.)
- **Best Management Practices (BMPs).** The set of practices in the Forest Plan which, when applied during implementation of a project, ensures that water related beneficial uses are protected and that State water quality standards are met. BMPs can take several forms. State regulations or memoranda of understanding between the Forest Service and the States define some. Others are defined by the Forest interdisciplinary planning team for application Forest-wide. Both of these kinds of BMPs are included in the Forest Plan as Forest-wide standards. The third kind is identified by the interdisciplinary team for application to specific management areas; these are included as Management Area standards in the appropriate management areas. A fourth kind, project-level BMPs are based on site-specific evaluation, and represent the most effective and practicable means of accomplishing the water quality and other goals of the specific area involved in the project. These project-level BMPs are outlined in the Soil and Water Conservation Practices Handbook (FSM 2509.22) and are required.
- **Capital Improvement.** The construction, installation, or assembly of a new fixed asset; or the significant alteration, expansion, or extension of an existing fixed asset to accommodate a change of purpose. (Financial Health – Common Definitions for Maintenance and Construction Terms, July 22, 1998.)
- **Closure.** A route or area closed to all types of traffic, including foot traffic. This option is seldom used except in emergencies or special situations such as protection of an eagle-nesting site. (Access and Travel Management, Northern Region Guide, October 1997.)
- **Collector Road.** A forest road that serves smaller land areas than an arterial road. Usually connects forest arterial roads to local forest roads or terminal. (FSH 7709.54 – Forest Transportation Terminology Handbook, no longer in print.)
- **Condition Class.** A process has been developed to categorize the current condition with respect to each of the five historic Fire Regime Groups. Current condition is defined in terms of departure from the historic fire regime, as determined by the numbers of missed fire return intervals – with respect to the historic fire return interval – and the current structure and composition of the system resulting from alterations to the disturbance regime. The relative risk of fire-caused losses of key components that define the system increases for the each respectively higher numbered condition class with little or no risk at the Class 1 level. (Protecting People and Sustaining Resources in Fire-Adapted Ecosystems: A Cohesive Strategy.)
 - **Condition Class 1** – Fire regimes are within historical range and the risk of losing key ecosystem components is low. Vegetation attributes (species composition and structure) are intact and functioning within historical range.
 - **Condition Class 2** – Fire regimes have been moderately altered from their historical range. The risk of losing key ecosystem components is moderate. Fire frequencies have departed from historical frequencies by one or more return intervals (either increased or decreased). This results in moderate changes to one or more of the following: fire size, intensity and severity, and landscape patterns. Vegetation attributes have been moderately altered from historical range.
 - **Condition Class 3** – Current conditions are a function of the degree of departure from historical fire regimes resulting in alterations of key ecosystem components such as species composition, structural stage, stand age, and canopy closure. One or more of the following activities may have caused this departure: fire suppression, timber harvesting, grazing, introduction and establishment of exotic plant species, insects or disease (introduced or native), or other past management activities.
- **Critical Need.** A requirement that addresses a serious threat to public health or safety, a natural resource, or the ability to carry out the mission of the organization. (Financial Health – Common Definitions for Maintenance and Construction Terms, July 22, 1998.)
- **Critical Vehicle.** The vehicle, normally the largest (by weight, size, or unique configuration), whose limited use on the road is necessary to complete the planned activity. (FSH 7709.56, Sec 4.1 – Road Pre-construction Handbook.)
- **Culvert.** A conduit or passageway under a road, trail, or other obstruction. A culvert differs from a bridge in that it is usually constructed entirely below the elevation of the traveled way. (EM 7720-100R, EM 7720-100LL, Sec 102.)
- **Decommission.** Demolition, dismantling, removal, obliteration and/or disposal of a deteriorated or otherwise unneeded asset or component, including necessary cleanup work. This action eliminates the deferred maintenance needs for the fixed asset. Portions of an asset or component may remain if they do not cause problems nor require maintenance. (Financial Health – Common Definitions for Maintenance and Construction Terms, July 22, 1998.)
- **Deferred Maintenance.** Maintenance that was not performed when it should have been or when it was scheduled and therefore, was put off or delayed for a future period. When allowed to accumulate without limits or consideration of useful life, deferred maintenance leads to deterioration of performance, increased costs to repair, and decrease in asset value. Deferred maintenance needs may be categorized as critical or noncritical at any point in time. Continued deferral of noncritical maintenance will normally result in an increase in critical deferred maintenance. Code compliance (e.g. life safety, ADA, OSHA, environmental, etc.), Forest Plan Direction, Best Management Practices, Biological Evaluations, other regulatory or Executive Order compliance requirements, or applicable standards not met on schedule are considered deferred maintenance. (Financial Health – Common Definitions for Maintenance and Construction Terms, July 22, 1998.)

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- **Design Speed.** The speed determined for design and correlation of the physical features of a route that influence vehicle operation. The maximum safe speed that the design vehicle can maintain over a specified segment of a route when conditions are favorable so that the design features of the road, rather than operational limitations of the vehicle, govern. The design speed is the safe speed for the design situation only. (FSH 7709.56, Sec 4.25 – Road Pre-construction Handbook.)
- **Designated road, trail, or area.** A National Forest System Road, a National Forest System trail, or an area on National Forest System lands that is designated for motor vehicle use pursuant to CFR 212.51 on a motor vehicle use map. (36 CFR 212.1.)
- **Design Vehicle.** The vehicle frequently using the road that determines the minimum standard for a particular design element. No single vehicle controls the standards for all the design elements for a road. Determine the maximum and minimum standards from the type and configuration of the vehicles using the road. Analyze each design element to determine which vehicle governs the standard for that element. (FSH 7709.56, Sec 4.1 – Road Pre-construction Handbook.)
- **Emergency Need.** An urgent maintenance need that may result in injury, illness, or loss of life, natural resource, or property and must be satisfied immediately. Emergency needs generally require a declaration of emergency or disaster, or a finding by a line officer that an emergency exists. (Financial Health – Common Definitions for Maintenance and Construction Terms, July 22, 1998.)
- **Fire Cycle.** The numbers of years between burning that is expected of a certain forest type.
- **Forest road or trail.** A road or trail wholly within, partly within, or adjacent to and serving the National Forest System that the Forest Service determines is necessary for the protection, administration, and utilization of the National Forest System and the use and development of its resources. (36 CFR 212.1.)
- **Forest Highway.** A forest road under the jurisdiction of, and maintained by, a public authority and open to public travel. (USC: Title 23, Section 101(a)).
- **Forest Transportation Atlas.** A display of the system of roads, trails and airfields of an administrative unit. (36 CFR 212.1.)
- **Forest Transportation Facility.** A forest road or trail or an airfield that is displayed in a forest transportation atlas, including bridges, culverts, parking lots, marine access facilities, safety devices, and other improvements appurtenant to the forest transportation system. (36 CFR 212.1.)
- **Forest Transportation System.** The system of National Forest System roads, National Forest System trails, and airfields on National Forest System lands. (36 CFR 212.1.)
- **Forest Transportation System Management.** The planning, inventory, analysis, classification, record keeping, scheduling, construction, reconstruction, maintenance, decommissioning, and other operations undertaken to achieve environmentally sound, safe, cost-effective, access for use, protection, administration, and management of National Forest System lands. (FSM 7705 – Transportation System.)
- **Forest Travel Planning Process.** Provides strategic direction for land managers by using goals and objectives, standards, management area directions, special area designations, designation of suitable land use, and to monitor and evaluate strategy.
- **Functional Class.** The way a road services land and resource management needs and the character of service it provides. (FSH 7709.54, Forest Transportation Terminology Handbook, no longer in print.)
- **Health and Safety Need.** A requirement that addresses a threat to human safety and health (e.g. violations of National Fire Protection Association 101 Life Safety Code or appropriate Health Code) that requires immediate interim abatement and/or long-term permanent abatement. (Financial Health – Common Definitions for Maintenance and Construction Terms, July 22, 1998.)
- **Hydrologic Unit Code (HUC).** Watersheds delineated by the US Geological Survey as fourth order drainages and assigned Hydrologic Unit Codes (or HUC numbers) based on a standardized system. In Montana, there are several HUCs in each sub-major basin and two or more sub-major basins in each water basin.
- **I-web/Infra Travel Routes Database.** Infra is the data management tool that is a computer-based application allowing forest service personnel to enter, manage, and report accurate information and associated financial data on the inventory of their constructed features. These features include buildings, dams, bridges, water systems, roads, trails, developed recreation sites, range improvements, administrative sites, heritage sites, general forest areas, and wilderness.
- **Intermittent Stored Service.** Closed to traffic. The road is in a condition that. THERE IS LITTLE RESOURCE RISK IF maintenance IS NOT PERFORMED (self-maintaining). (FSH 5409.17-94-2).
- **Inventoried Roadless Areas.** Areas identified in a set of inventoried roadless area maps, contained in *Forest Service Roadless Area Conservation, Draft Environmental Impact Statement, Volume 2*, dated May 2000, which are held at the National headquarters office of the Forest Service, or any update of those maps. (FSM 1920 – Land and Resource Management Planning.)
- **Jurisdiction.** The legal right to control or regulate use of a transportation facility. Jurisdiction requires authority, but not necessarily ownership. The authority to construct or maintain a road may be derived from fee title, an easement, or some other similar method. (FSM 7705 – Transportation System.)
- **Land type.** An inventory map unit with relatively uniform potential for a defined set of land uses. Properties of soils, landform, natural vegetation, and bedrock are common components of land type delineation used to evaluate potentials and limitations for land use.
- **Local Road.** A forest road that connects terminal facilities with forest collector, forest arterial, or public highways. Usually forest local roads are single purpose transportation facilities. (FSH 7709.54 – Forest Transportation Terminology Handbook, no longer in print)
- **Maintenance.** 1. The upkeep of the entire forest development transportation facility including surface and shoulders, parking and side areas, structures, and such traffic-control devices as are necessary for its safe and efficient utilization. (36 CFR 212.2(I)). 2. The act of keeping fixed assets in acceptable condition. It includes preventive maintenance; normal repairs; replacement of parts and structural components; and other activities needed to preserve a fixed asset so that it continues to provide acceptable service and achieves its expected life. Maintenance excludes activities aimed at expanding the capacity of an asset or otherwise upgrading it to serve needs different from, or significantly greater, than those originally intended. Maintenance includes work needed to meet laws, regulations, codes, and other legal direction as long as the original intent or purpose of the fixed asset is not changed. (Financial Health – Common Definitions for Maintenance and Construction Terms, July 22, 1998.)
- **Maintenance Level.** Defines the level of service provided by, and maintenance required for, a specific road, consistent with road management objectives and maintenance criteria. (FSH 7709.58, Sec 12.3 – Transportation System Maintenance Handbook.)

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- **Maintenance Level 1:** Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period must exceed 1 year. Basic custodial maintenance is performed to keep damage to adjacent resource at an acceptable level and to perpetuate the road to facilitate future management activities. Emphasis is normally given to maintaining drainage facilities and runoff patterns. Planned road deterioration may occur at this level. Appropriate traffic management strategies are “prohibit” and “eliminate”. Roads receiving Level 1 maintenance may be of any type, class, or construction standard, and may be managed at any other maintenance level during the time they are open for traffic. However, while being maintained at level 1, they are closed to vehicular traffic, but may be open and suitable for non-motorized uses.
- **Maintenance Level 2:** Assigned to roads open for use by high clearance vehicles. Passenger car traffic is not a consideration. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Log haul may occur at this level. Appropriate traffic management strategies are either (1) discourage or prohibit passenger cars or (2) accept or discourage high clearance vehicles.
- **Maintenance Level 3:** Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities. Roads in this maintenance level are typically low speed, single lane with turnouts and spot surfacing. Some roads may be fully surfaced with either native or processed material. Appropriate traffic management strategies are either “encourage” or “accept.” “Discourage” or “prohibit” strategies may be employed for certain classes of vehicles or users.
- **Maintenance Level 4:** Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds. Most roads are double lane and aggregate surfaced. However, some roads may be single lane. Some roads may be paved and/or dust abated. The most appropriate traffic management strategy is “encourage.” However, the “prohibit” strategy may apply to specific classes of vehicles or users at certain times.
- **Maintenance Level 5:** Assigned to roads that provide a high degree of user comfort and convenience. Normally, roads are double-lane, paved facilities. Some may be aggregate surfaced and dust abated. The appropriate traffic management strategy is “encourage.”
- **Major Culvert.** A culvert that provides an opening of more than 35 square feet (3.3 m²) in a single or multiple installation. A major culvert may consist of a single round pipe, pipe arch, open or closed-bottom box, bottomless arch, or multiple installation of these structures placed adjacent or contiguous as a unit. Certain major culverts are classified as bridges when they provide an opening of more than 20 feet (6.1 m), measured parallel to the roadway; such culverts may be included in the bridge inventory. See “Federal Highway Administration Coding Guide for Bridge Inventory and Appraisal,” items 49 and 112 (sec. 8.08) for culverts being classified as bridges. (FSH 7709.56b, Sec 05 – Transportation Structures Handbook.)
- **Minor Culvert.** Any culvert not classified as a major culvert. (FSH 7709.56b, Sec 05 – Transportation Structures Handbook.)
- **Mission Need.** A requirement that addresses a threat or risk to carrying out the mission of the organization. Needs related to administration and providing services (transportation, recreation, grazing, etc.). Needs not covered by health and safety or natural resource protection. (Financial Health – Common Definitions for Maintenance and Construction Terms, July 22, 1998.)
- **Motor vehicle.** Any vehicle which is self-propelled, other than:
 - 1) A vehicle operated on rails; and
 - 2) Any wheelchair or mobility device, including one that is battery-powered, that is designed solely for use by a mobility-impaired person for locomotion, and that is suitable for use in an indoor pedestrian area. (36 CFR 212.1.)
- **Motor vehicle use map.** A map reflecting designated road, trails, and arias on an administrative unit or a Ranger District of the National Forest System. (36 CFR 212.1.)
- **National Forest System road.** A forest road other than a road which has been authorized by a legally documented right-of-way held by a State, county, or other local public road authority. (36 CFR 212.1.)
- **National Forest System trail.** A forest trail other than a trail which has been authorized by a legally documented right-of-way held by a State, county, or other local public road authority. (36 CFR 212.1.)
- **New Construction.** The erection, construction, installation, or assembly of a new fixed asset. (Financial Health – Common Definitions for Maintenance and Construction Terms, July 22, 1998.)
- **New Road Construction.** Activity that results in the addition of forest classified or temporary road miles. (36 CFR 212.1, FSM 7705 – Transportation System.)
- **Noncritical Need.** A requirement that addresses potential risk to public or employee safety or health, compliance with codes, standards, regulations etc., or needs that address potential adverse consequences to natural resources or mission accomplishment. (Financial Health – Common Definitions for Maintenance and Construction Terms, July 22, 1998.)
- **Objective Maintenance Level.** The maintenance level to be assigned at a future date considering future road management objectives, traffic needs, budget constraints, and environmental concerns. The objective maintenance level may be the same as, or higher or lower than, the operational maintenance level. (FSH 7709.58, Sec12.3 – Transportation System Maintenance Handbook.)
 - **1** – Basic Custodial Care (Restricted to motorized use)
 - **2** – High Clearance Vehicles
 - **3** – Suitable For Passenger Cars
 - **4** – Moderate Degree of User Comfort
 - **5** – High Degree of User Comfort
 - **C** – Convert Use
 - **D** – Decommission
- **Off-highway vehicle.** Any motor vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice marsh, swampland, or other natural terrain. (36 CFR 212.1.)
- **Old Growth Timber.** A distinct successional stage in the development of a timber stand that has special significance for wildlife, generally characterized by: (1) large diameter trees (often exceeding 20” dbh) with a relatively dense, often multiplayer canopy, (2) the presence of large, standing, dead or dying trees, (3) down and dead trees, (4) stand decadence associated with the presence of various fungi and heart rots, (5) an average age often in excess of 200 years and (6) a basal area ranging from 150 to 400 square feet per acre.

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- **Designated Effective Old Growth (deff)** - Stands that meet the forest plan definition of old growth and are within designated old growth management areas.
- **Designated Replacement Old Growth (drep)** – Stands that have a potential to meet old growth criteria in the future and are within designated old growth management areas.
- **Un-designated Effective Old Growth (ueff)** – Stands that meet the forest plan definition of old growth and are not within designated old growth management areas.
- **Un-designated Replacement Old Growth (urep)**– Stands that have the potential to meet old growth criteria in the future and are not within designated old growth management areas.
- **Open for Public Travel**. The road section is available and passable by four-wheeled standard passenger cars and open to the general public for use without restrictive gates, prohibitive signs, or regulation other than restrictions based on size, weight or class of registration, except during scheduled periods, extreme weather or emergency conditions. (23 CFR 460.2(c)).
- **Operational Maintenance Level**. The maintenance level currently assigned to a road considering today's needs, road condition, budget constraints, and environmental concerns. It defines the level to which the road is currently being maintained. (FSH 7709.58, Sec 12.3 – Transportation System Maintenance Handbook.)
- **Other System**. Additional network(s) of travel ways serving a common need or purpose managed by an entity with the authority to finance, build, operate, and maintain the routes. (U.S.C. 101 23 CFR 660, FSM 7740.5 – Federal Lands Highway Programs.)
- **Over-snow vehicle**. A motor vehicle that is designed for use over snow and that runs on a track or tracks and/or a ski or skis, while in use over snow. (36 CFR 212.1.)
- **Primary Maintainer**. The agency or party having primary (largest share) financial responsibility for maintenance. (FSH 7709.58, Chapter 13 – Transportation System Maintenance Handbook.)
- **Private Road**. A road under private ownership authorized by easement to a private party or a road that provides access pursuant to a reserved or private right. (FS-643, Roads Analysis; Informing Decisions About Managing the National Forest Transportation System, August 1999.)
- **Public Authority**. A federal, state, county, town or township, Indian tribe, municipal or other local government or instrumentality thereof, with authority to finance, build, operate or maintain toll or toll-free highway facilities. (23 CFR 460.2(b))
- **Public Forest Service Road**. A designated public road under Forest Service jurisdiction that meets the definition of 23 U.S.C. Section 101.
- **Public Road**. Any road or street under the jurisdiction of, and maintained by, a public authority and open to public travel. (23 U.S.C. 101(a), 23 CFR 460.2(a), FSM 7705 – Transportation System.)
- **Recreation Opportunity Spectrum (ROS)**. A system for planning and managing recreation resources that recognizes recreation activity opportunities, recreation settings, and recreation experiences along a spectrum or continuum. ROS classes are:
 - **Primitive (PRIM)** – Area is characterized by essentially unmodified natural environment of fairly large size. Interaction between users is very low and evidence of other area users is minimal. The area is managed to be essentially free from evidence of man-induced restrictions and controls. Motorized use within the area is not permitted.
 - **Semi-Primitive Non-Motorized (SPNM)** – Area is characterized by a predominantly natural or natural-appearing environment of moderate-to-large size. Interaction between users is low but there is often evidence of other users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is not permitted.
 - **Semi-Primitive Motorized (SPM)** – Area is characterized by a predominantly natural or natural-appearing environment of moderate-to-large size. Concentration of users is low, but there is often evidence of other area users. The area is managed in such a way that minimum on-site controls and restrictions may be present, but are subtle. Motorized use is permitted.
 - **Roaded Modified (RM)** – Area is characterized by substantially modified environment. Roads, landings, slash, and debris may be strongly dominant within the area but may be subordinate from a distance. Evidence of other users on roads. Vegetation alteration evident. Motorized use permitted.
 - **Roaded Natural (RN)** – Area is characterized by predominantly natural appearing environment with moderate evidence of the sights and sounds of man. Such evidence usually harmonizes with the natural environment. Interaction between users may be low to moderate, but with evidence of other users prevalent. Resource modification and utilization practices are evident, but harmonize with the natural environment. Conventional motorized use is provided for the construction standards and design of facilities.
 - **Rural** – Area is characterized by substantially modified natural environment. Resource modification and utilization practices are primarily to enhance specific recreation activities and to maintain vegetative cover and soil. Sights and sounds of man are readily evident and the interaction between users is often moderate to high. A considerable number of facilities are designed for use by a large number of people. Facilities are often provided for special activities. Moderate densities are provided far away from developed sites. Facilities for intensified motorized use and parking are available.
- **Recreation Types**. The different recreation types identified as follows:
 - **Developed Recreation** – The type of recreation that occurs where modifications (improvements) enhance recreation opportunities and accommodate intensive recreation activities in a defined area.
 - **Dispersed Recreation** – The type of recreation use related to, and in conjunction with, roads and trails that require few, if any, improvements and may occur over a wide area. Activities tend to be day-use oriented and include hunting, fishing, berry-picking, off-road vehicle use, hiking, horseback riding, picnicing, camping, viewing scenery, snowmobiling, and many others.
- **Resource Protection Need**. A requirement that addresses a threat or risk of damage, obstruction, or negative impact to a natural resource. (Financial Health – Common Definitions for Maintenance and Construction Terms, July 22, 1998.)
- **Restriction**. A restriction precludes use of the route or area during a specified time period by type of vehicle (such as log truck) or type of traffic (such as motorized or public). (Access and Travel Management, Northern Region Guide, October 1997.) Roads may be restricted to motorized traffic by gates, earth barriers, culvert removal, vegetative growth, etc.
- **Riparian Areas**. Areas with distinctive resource values and characteristics that are comprised of an aquatic ecosystem and adjacent upland areas that have direct relationships with the aquatic system. This includes floodplains, wetlands, and all areas within a

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horizontal distance of approximately 100 feet from the normal high water line of a stream channel or from the shoreline of a standing body of water.

- **Road.** A motor vehicle travel way over 50 inches wide, unless designated and managed as a trail. (36 CFR 212.1.)
- **Road Construction or reconstruction.** Supervising, inspecting, actual building, and incurrence of all costs incidental to the construction or reconstruction of a road. (36 CFR 212.1.)
- **Road Decommissioning.** Activities that result in the stabilization and restoration of unneeded roads to a more natural state. (36 CFR 212.1, FSM 7705 – Transportation System.)
- **Road Density.** The miles of road per square mile of land.
- **Road/Stream Density.** The density of road/stream crossings in a watershed.
- **Road Improvement.** Activity that results in an increase of an existing road's traffic service level, expands its capacity, or changes its original design function. (FSM 7705 – Transportation System.)
- **Road Maintenance.** The ongoing upkeep of a road necessary to retain or restore the road to the approved road management objective. (FSM 7705 – Transportation System.)
- **Road Management Objectives (RMO).** Defines the intended purpose of an individual road based on management area direction and access management objectives. Road management objectives contain design criteria, operation criteria, and maintenance criteria. (FSH 7709.55, Sec 33 – Transportation Planning Handbook.)
- **Road Realignment.** Activity that results in a new location of an existing road or portions of an existing road and treatment of the old roadway. (FSM 7705 – Transportation System.)
- **Road Reconstruction.** Activity that results in a Road Improvement or Road Realignment of an existing classified road. (FSM 7700 – Transportation System.)
- **Sensitive Species.** A plant or animal species that is susceptible or vulnerable to activity impacts or habitat alterations.
- **Seral.** A biotic community that is developmental; a transitory stage in an ecological succession.
- **Service Life.** The length of time that a facility is expected to provide a specified service. (FSH 7709.56b, Sec 05 – Transportation Structures Handbook)
 1. Long Term Service – Continuous or annual recurrent service.
 2. Intermittent Term Service – A road which is closed to vehicle traffic between periods of use. The closed period must exceed one year.
 3. Intermittent Stored Service – Intermittent service road, closed to traffic. The road is in a condition that there is little resource risk if maintenance is not performed (self-maintaining). (FSH 5409.17-94-2).
 4. Short Term Service – Short term use (including temporary roads).
- **Situation 1 habitat.** *Population and Habitat Conditions:* The area contains grizzly population centers (areas key to the survival of grizzlies where seasonal or year-long grizzly activity under natural, free-ranging conditions is common) and habitat components needed for the survival and recovery of the species or a segment of its population. The probability is very great that major federal activities or programs may affect (have direct or indirect relationships to the conservation and recovery of) the grizzly. *Management Direction:* Grizzly habitat maintenance and improvement and grizzly/human conflict minimization will receive the highest management priority (FSM 2603). Management decisions will favor the needs of the grizzly bear when grizzly habitat and other land use values compete. Land uses which can affect grizzlies and/or their habitat will be made compatible with grizzly needs or such used will be disallowed or eliminated. Grizzly/human conflicts will be resolved in favor of grizzlies unless the bear involved is determined to be a nuisance. Nuisance bears may be controlled through either relocation or removal, but only if such control would result in a more natural, free-ranging grizzly population and all reasonable measures have been taken to protect the bear and/or its habitat (including area closures and/or activity curtailments).
- **State.** Any one of the 50 states, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and American Samoa. (23 CFR 460.2(e))
- **Subject to the Highway Safety Act.** National Forest System roads that is open to use by the public for standard passenger cars. This includes roads with access restricted on a seasonal basis and roads closed during extreme weather conditions or for emergencies, but which are otherwise open for general public use. (FSM 7705 – Transportation System.)
- **Temporary road or trail.** A road or trail necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road or trail and that is not included in a forest transportation atlas. (36 CFR 212.1.)
- **Traffic Service Level.** Describes the significant characteristics and operating conditions of a road. (FSH 7709.56, Ch 4 – Road Pre-construction Handbook, FSM 7705 – Transportation System.)
- **Trail.** A route 50 inches or less in width or a route over 50 inches wide that is identified and managed as a trail. (36 CFR 212.1)
- **Trail Maintenance Class.** Describes the desired management of each trail, based on Forest Plan direction, taking into account user preferences, setting, protection of sensitive resources, and other management activities. The following generalizations apply to all trails. Additional criteria specific to motorized trails, pack and saddle trails, snow trails, and water trails are further defined in FSH 2309.18.
 - **Trail Class 1:** Minimal/undeveloped trails.
 - **Trail Class 2:** Simple/minor development trail.
 - **Trail Class 3:** Developed/improved trail.
 - **Trail Class 4:** Highly developed trail.
 - **Trail Class 5:** Fully developed trail.
- **Transportation Facility Jurisdiction.** The legal right to control or regulate use of a transportation facility derived from fee title, an easement, an agreement, or other similar method. While jurisdiction requires authority, it does not necessarily reflect ownership. (FSM 7705 – Transportation System.)
- **Travel management atlas.** An atlas that consists of a forest transportation atlas and a motor vehicle use map or maps. (36 CFR 212.1.)
- **Traveled Way.** The portion of the roadway used for the movement of vehicles, exclusive of turnouts, shoulders, and auxiliary lanes. (EM 7720-100LL, Sect. 102.)
- **Unauthorized road or trail.** A road or trail that is not a forest road or trail or a temporary road or trail and that is not included in a

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forest transportation atlas. (36 CFR 212.1.)

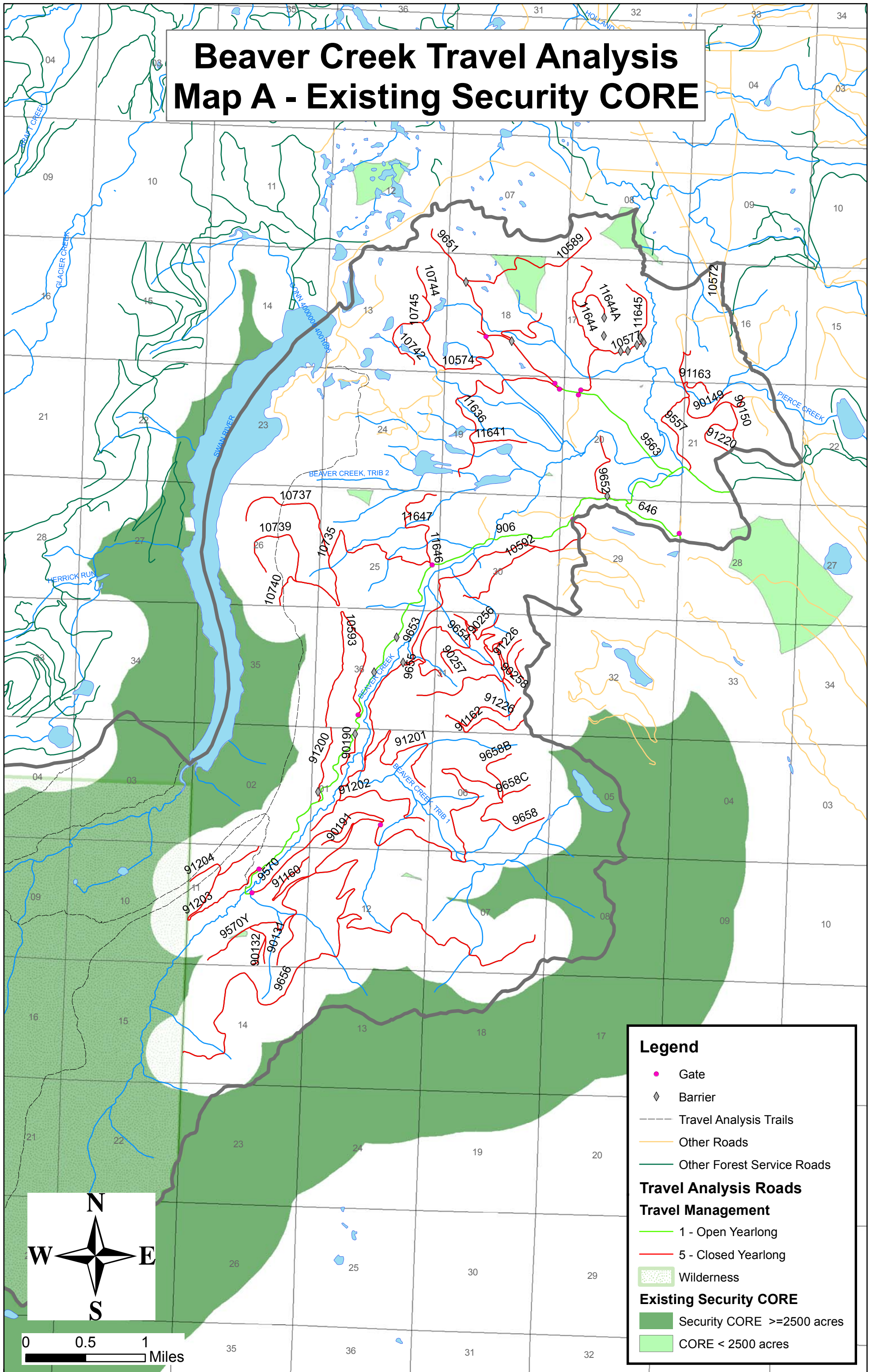
- **Undetermined Roads.** Roads on National Forest System lands that are not managed as part of the forest transportation system, such as unplanned roads, abandoned travel ways, and off-road vehicle tracks that have not been designated and managed as a trail; and those roads that were once under permit or other authorization and were not decommissioned upon the termination of the authorization. (Infra data dictionary.)
- **Unroaded Areas.** Any area without the presence of a classified road that is of a size and configuration sufficient to protect the inherent characteristics associated with its roadless condition. Unroaded areas are distinct from and do not overlap with inventoried roadless areas. (FSM 1920 – Land and Resource Management Planning.)
- **Watershed** - The land area that drains water to a stream, river, lake, or ocean.
- **Wetlands.** Those areas that are inundated by surface or ground water with a frequency sufficient, under normal circumstances, to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands include marshes, bogs, sloughs, potholes, river overflows, mud flats, wet meadows, seeps, and springs.
 - **Lotic Wetlands.** Wetlands that are associated with rivers, streams, and drainage ways. Such wetlands contain a defined channel and floodplain. The channel is an open conduit, which periodically, or continuously, carries flowing water, and dissolved and suspended material. A beaver pond, seeps, springs, and wet meadows on the floodplain of, or associated with, a river or stream is part of the lotic wetland.
 - **Lentic Wetlands.** Wetlands that are associated with still water systems. These wetlands occur in basins and lack a defined channel and floodplain. Included are permanent (e.g., perennial) or intermittent bodies of water such as lakes, reservoirs, potholes, marshes, ponds, and stock ponds. Other examples include fens, bogs, wet meadows, and seeps not associated with a defined channel. (Classification and Management of Montana's Riparian and Wetland Sites, May 1995.)

Appendix A

Travel Analysis Maps

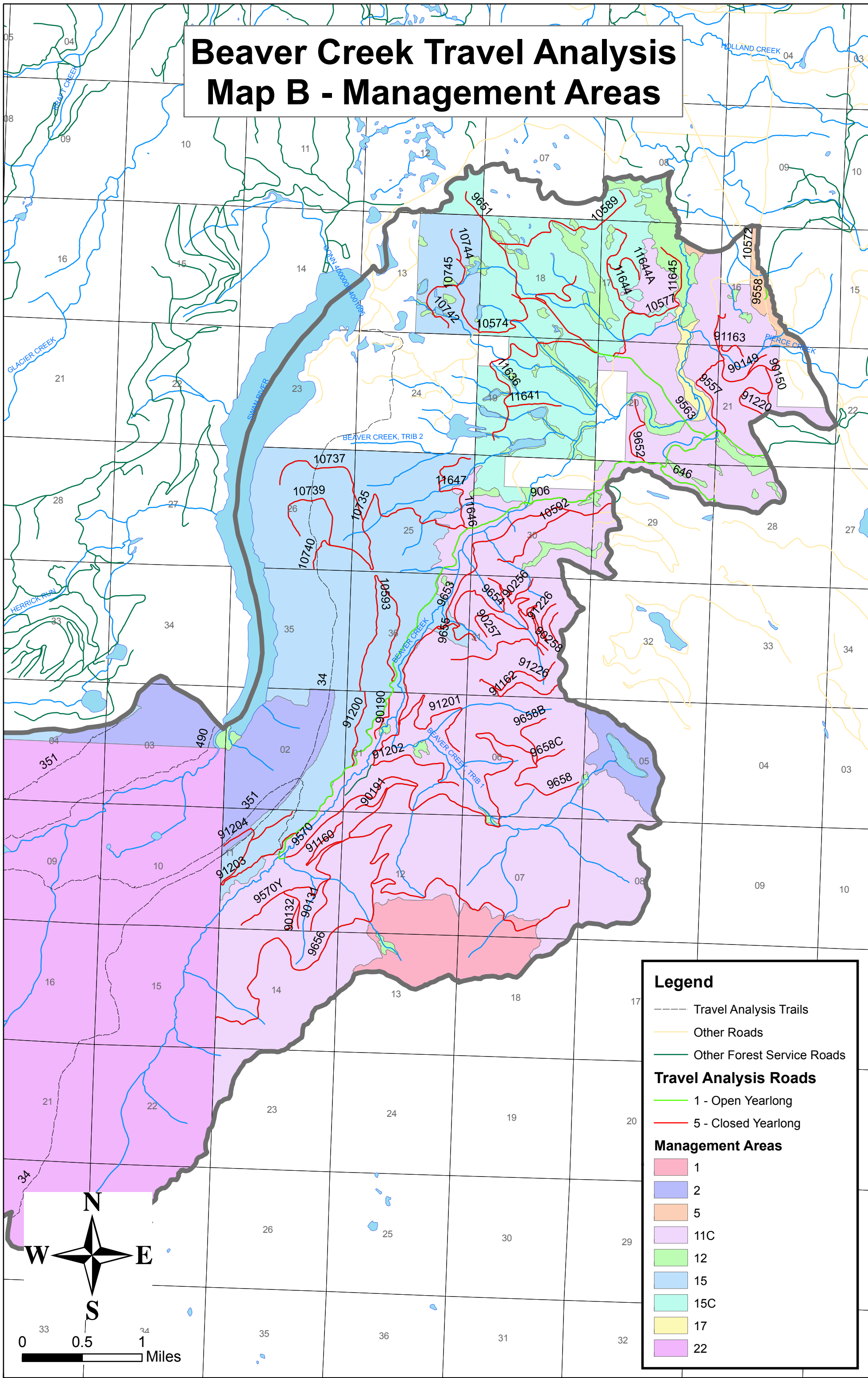
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Map A - Existing Security CORE



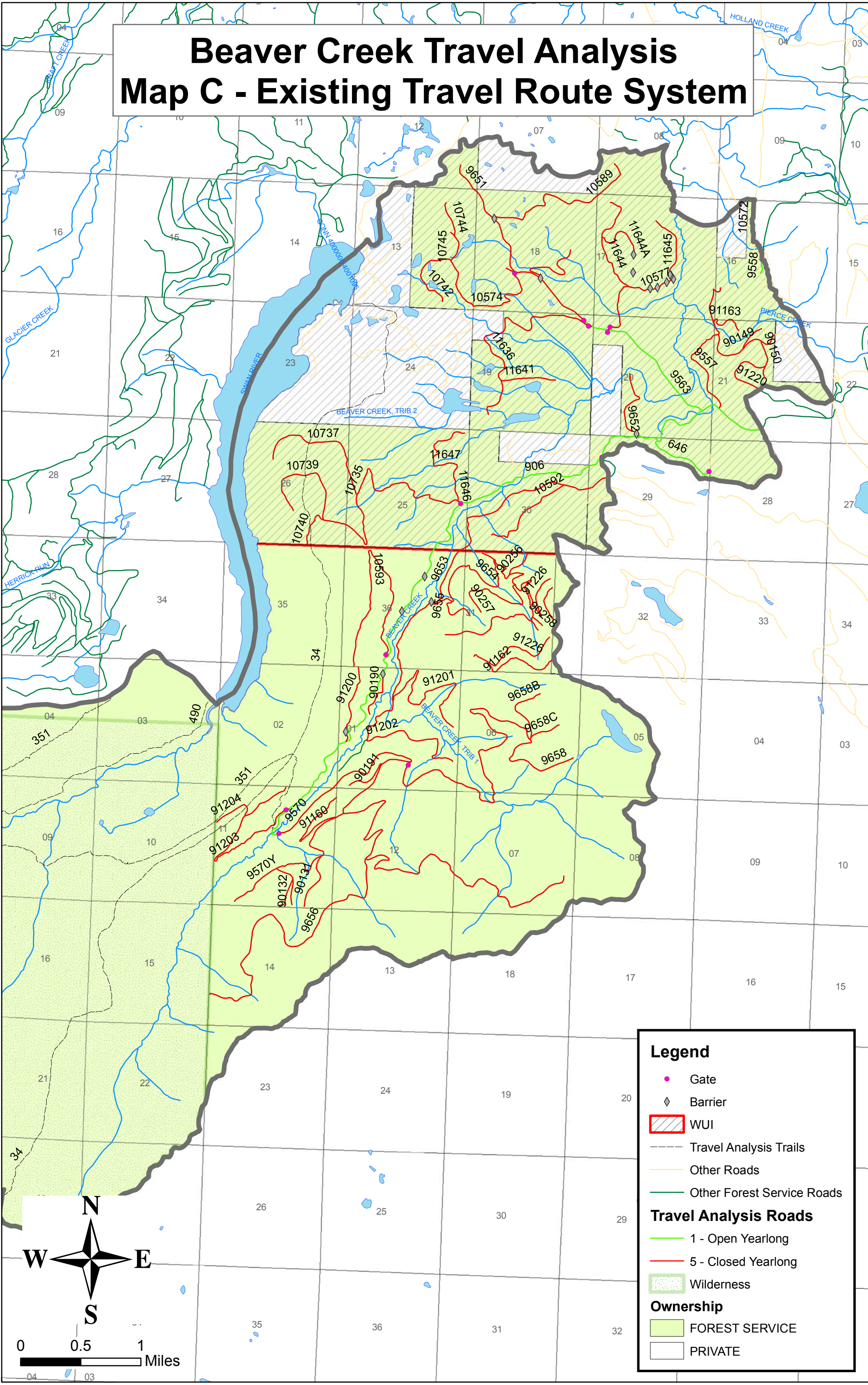
Beaver Creek Travel Analysis

Map B - Management Areas



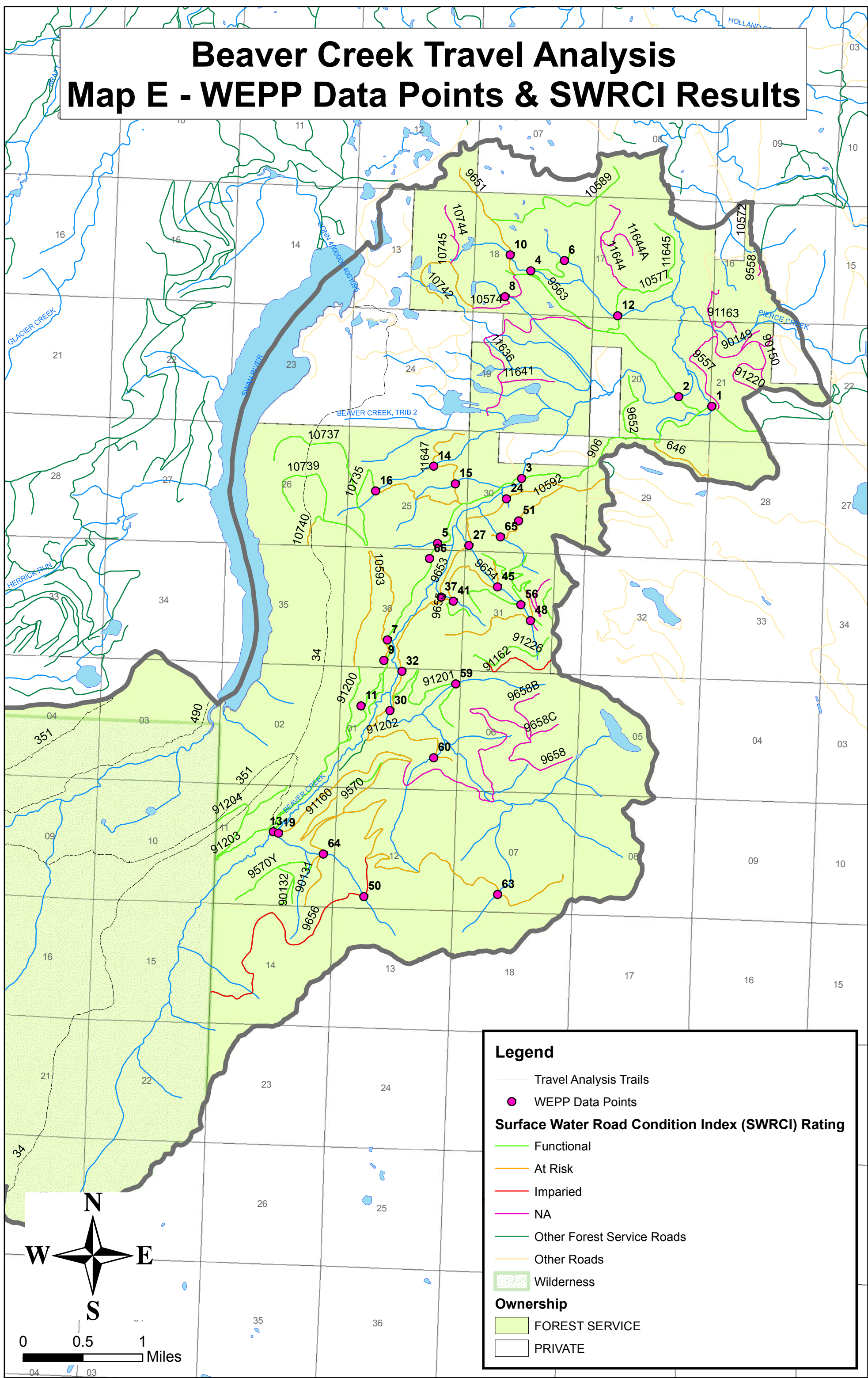
Beaver Creek Travel Analysis

Map C - Existing Travel Route System



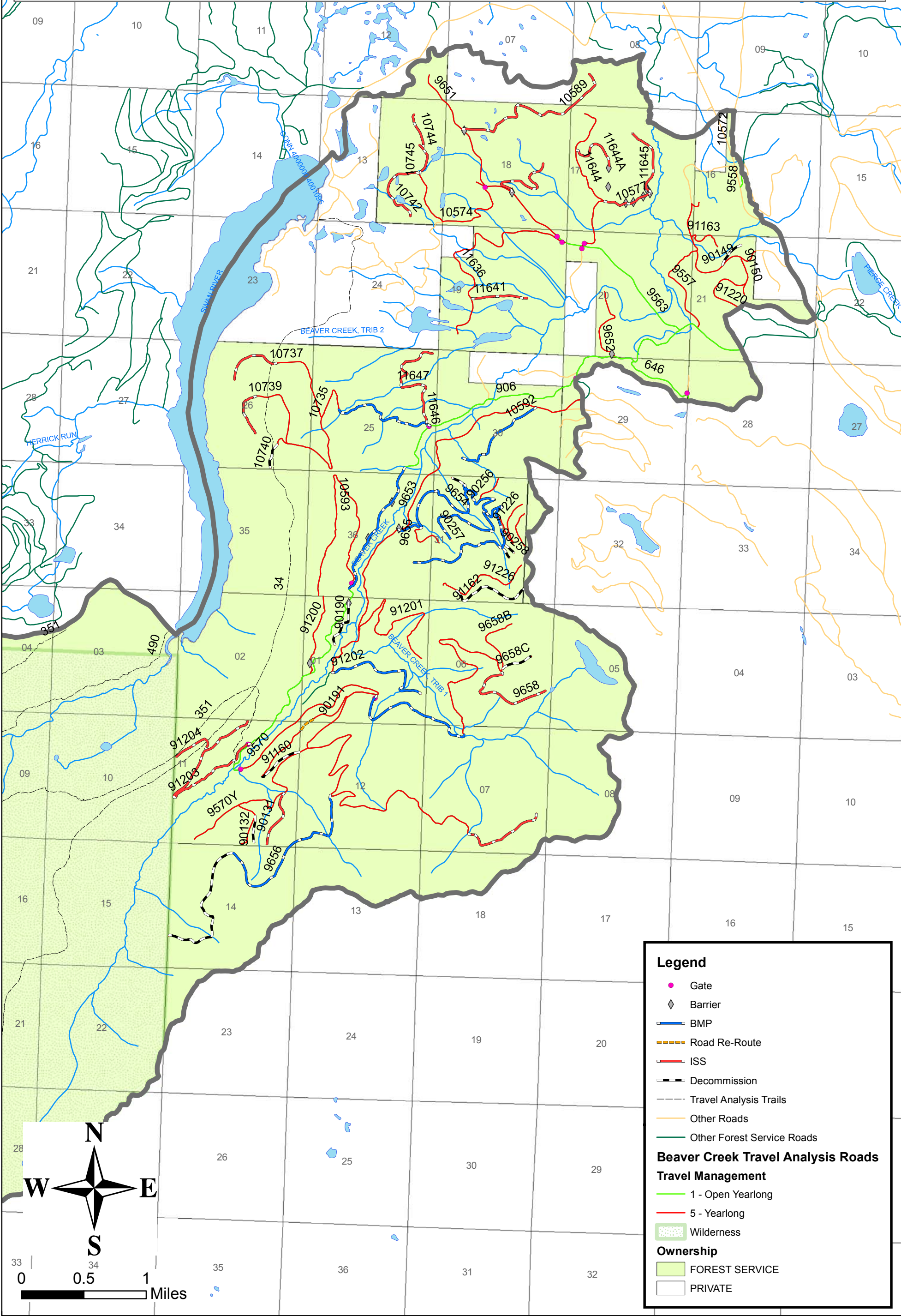
Beaver Creek Travel Analysis

Map E - WEPP Data Points & SWRCI Results



Beaver Creek Travel Analysis

Map F- Transportation System Recommendations



Appendix B

Summary of Existing Road and Trail Transportation Network

Existing Road System																			
					Mode of Travel		Design Criteria												
					1.1. - Highway Vehicles		Functional Class	Service Life	Road Template	Template Slope	Objective Maintenance Level	Travel Way Width (feet)	Surfacing	Design Speed	Design Traffic	Travel Management	Year Constructed	Resource	RMO
NFSR Road No.	Name	Begin Milepost	End Milepost	Length	Designation	Dates													
646	COLT CREEK	0.000	0.600	0.600	OPEN	YEARLONG	L	C	H	I	2	12	NAT	10	LOGT	1	1965	TIMBER	2009
906	BEAVER CREEK	0.660	7.470	6.810	OPEN	YEARLONG	C	C	D	F	3	14	NAT	15	LOGT	1	1956	GENERAL	2009
9557	PIERCE CREEK	0.000	1.350	1.350	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1978	TIMBER	2009
9563	SALISH TRAPPER	0.000	1.320	1.320	OPEN	YEARLONG	C	C	D	F	3	14	NAT	15	LOGT	1	1969	GENERAL	2009
9563	SALISH TRAPPER	1.320	1.330	0.010	CLOSED	YEARLONG	C	I	D	F	1	14	NAT	15	LOGT	5	1969	GENERAL	2009
9563	SALISH TRAPPER	1.330	2.150	0.820	CLOSED	YEARLONG	C	I	D	F	1	14	NAT	15	LOGT	5	1969	TIMBER	2009
9570	SUNSET RIDGE	0.000	0.059	0.059	OPEN	YEARLONG	L	I	D	F	2	14	NAT	10	LOGT	1	1962	TIMBER	2009
9570	SUNSET RIDGE	0.059	0.300	0.241	CLOSED	YEARLONG	L	I	D	F	1	14	NAT	10	LOGT	5	1962	TIMBER	2009
9570	SUNSET RIDGE	0.300	1.540	1.240	CLOSED	YEARLONG	L	I	H	F	1	14	NAT	10	LOGT	5	1962	TIMBER	2009
9570	SUNSET RIDGE	1.540	4.350	2.810	CLOSED	YEARLONG	L	I	D	F	1	14	NAT	10	LOGT	5	1962/1976	TIMBER	2009
9570	SUNSET RIDGE	4.350	5.390	1.040	CLOSED	YEARLONG	L	I	H	F	1	14	NAT	10	LOGT	5	1976/1986	TIMBER	2009
9570	SUNSET RIDGE	5.390	5.770	0.380	CLOSED	YEARLONG	L	I	H	F	1	14	NAT	10	LOGT	5	1986	TIMBER	2009
9570	SUNSET RIDGE	5.770	6.020	0.250	CLOSED	YEARLONG	L	I	H	F	1	14	NAT	10	LOGT	5	1986	TIMBER	2009
9570	SUNSET RIDGE	6.020	6.050	0.030	CLOSED	YEARLONG	L	I	H	F	1	14	NAT	10	LOGT	5	1986	TIMBER	2009
9651	CYGNET LAKE EAST	0.000	1.060	1.060	CLOSED	YEARLONG	L	I	D	F	1	12	NAT	10	LOGT	5	1978/1986	TIMBER	2009
9652	BEAVER CREEK OVERLOOK	0.000	0.660	0.660	CLOSED	YEARLONG	L	I	D	F	1	12	NAT	10	LOGT	5	1978	TIMBER	2009
9653	EAST SIDE BEAVER	0.000	0.031	0.031	CLOSED	YEARLONG	L	I	D	F	1	14	NAT	10	LOWBOY	5	1980	TIMBER	2009
9653	EAST SIDE BEAVER	0.031	0.218	0.187	CLOSED	YEARLONG	L	I	D	F	1	14	NAT	10	LOWBOY	5	1980	TIMBER	2009
9653	EAST SIDE BEAVER	0.218	1.140	0.922	CLOSED	YEARLONG	L	I	D	F	1	14	NAT	10	LOWBOY	5	1980	TIMBER	2009
9653	EAST SIDE BEAVER	1.140	3.900	2.760	CLOSED	YEARLONG	L	I	D	F	1	14	NAT	10	LOWBOY	5	1980	TIMBER	2009
9654	BEAVER THIRTY ONE	0.000	3.300	3.300	CLOSED	YEARLONG	L	I	H	O	1	14	NAT	10	LOGT	5	1960/1986	TIMBER	2009
9655	BEAVER CREEK STUB	0.000	0.330	0.330	CLOSED	YEARLONG	L	I	D	F	1	12	NAT	10	LOGT	5	1960	TIMBER	2009
9656	BEAVER SIDEHILL	0.000	2.800	2.800	CLOSED	YEARLONG	L	I	D	I	1	14	NAT	10	LOGT	5	1980/1986	TIMBER	2009
9658	SUNSET BEAVER	0.000	0.190	0.190	CLOSED	YEARLONG	L	I	H	F	1	14	NAT	10	LOWBOY	5	1980	TIMBER	2009
9658	SUNSET BEAVER	0.190	0.960	0.770	CLOSED	YEARLONG	L	I	H	F	1	14	NAT	10	LOWBOY	5	1980	TIMBER	2009
9658	SUNSET BEAVER	0.960	1.070	0.110	CLOSED	YEARLONG	L	I	D	F	1	14	NAT	10	LOWBOY	5	1980	TIMBER	2009
9658	SUNSET BEAVER	1.070	1.150	0.080	CLOSED	YEARLONG	L	I	D	F	1	14	NAT	10	LOWBOY	5	1987	TIMBER	2009
9658	SUNSET BEAVER	1.150	3.820	2.670	CLOSED	YEARLONG	L	I	H	F	1	14	NAT	10	LOWBOY	5	1987	TIMBER	2009
10572	BIG PINE	0.000	0.560	0.560	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1970	TIMBER	2009
10574	CYGNET LAKE	0.000	0.700	0.700	CLOSED	YEARLONG	L	I	D	F	1	12	NAT	5	LOGT	5	1970	TIMBER	2009
10574	CYGNET LAKE	0.700	0.710	0.010	CLOSED	YEARLONG	L	I	D	F	1	12	NAT	5	LOGT	5	1970	TIMBER	2009
10577	WEST BEAVER CREEK	0.000	0.913	0.913	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1970	TIMBER	2009
10589	BEAVER POTHOLE	0.000	1.350	1.350	CLOSED	YEARLONG	L	I	D	F	1	12	NAT	5	LOGT	5	1986	TIMBER	2009
10589	BEAVER POTHOLE	1.350	1.450	0.100	CLOSED	YEARLONG	L	I	E	F	1	12	NAT	5	LOGT	5	1986	TIMBER	2009
10590	SALISH BEAVER	0.000	0.900	0.900	CLOSED	YEARLONG	L	I	P	F	1	12	NAT	5	LOGT	5	1970	TIMBER	2009
10592	KNOB POND	0.000	0.840	0.840	CLOSED	YEARLONG	L	I	D	F	1	14	NAT	10	LOGT	5	1986	TIMBER	2009
10593	BEAVER FACE	0.000	2.050	2.050	CLOSED	YEARLONG	L	I	D	F	1	12	NAT	10	LOGT	5	1986	TIMBER	2009
10735	BEAVER LINDBERGH	0.000	0.300	0.300	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1985	TIMBER	2009
10735	BEAVER LINDBERGH	0.300	1.050	0.750	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1985	TIMBER	2009
10735	BEAVER LINDBERGH	1.050	2.400	1.350	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1985	TIMBER	2009

Existing Road System																			
					Mode of Travel		Design Criteria												
					1.1. - Highway Vehicles		Functional Class	Service Life	Road Template	Template Slope	Objective Maintenance Level	Travel Way Width (feet)	Surfacing	Design Speed	Design Traffic	Travel Management	Year Constructed	Resource	RMO
NFSR Road No.	Name	Begin Milepost	End Milepost	Length	Designation	Dates													
10735	BEAVER LINDBERGH	2.400	2.650	0.250	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1985	TIMBER	2009
10737	LINDEX 37	0.000	0.100	0.100	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1995	TIMBER	2009
10737	LINDEX 37	0.100	0.650	0.550	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1995	TIMBER	2009
10737	LINDEX 37	0.650	1.120	0.470	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1995	TIMBER	2009
10739	LINDEX 39	0.000	0.280	0.280	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1995	TIMBER	2009
10739	LINDEX 39	0.280	0.650	0.370	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1995	TIMBER	2009
10739	LINDEX 39	0.650	0.800	0.150	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1995	TIMBER	2009
10740	DIVIDE TRAIL	0.000	0.230	0.230	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1992	TIMBER	2009
10742	CYGNET LOOP	0.000	1.050	1.050	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2009
10744	CYGNET SPUR	0.000	0.300	0.300	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2009
10745	CYGNET	0.000	0.250	0.250	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2009
11636	BEAVER TRAIL	0.000	1.900	1.900	CLOSED	YEARLONG	L	I	B	F	1	12	NAT	5	LOGT	5	1985	TIMBER	2009
11641	BEAVER TRAIL 4	0.000	0.500	0.500	CLOSED	YEARLONG	L	ISS	H	F	1	12	NAT	5	LOGT	5	1989	TIMBER	2009
11644	WEST BEAVER NORTH	0.000	0.900	0.900	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1980	TIMBER	2009
11645	BEAVER PIERCE	0.000	0.556	0.556	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1980	TIMBER	2009
11646	B - L SPUR	0.000	0.050	0.050	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1992	TIMBER	2009
11646	B - L SPUR	0.050	0.250	0.200	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1992	TIMBER	2009
11647	LINDEX	0.000	0.740	0.740	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	5	LOGT	5	1992	TIMBER	2009
90131	BEAVER 11	0.000	0.450	0.450	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1989	TIMBER	2010
90132	BEAVER SECTION 11	0.000	0.400	0.400	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1989	TIMBER	2010
90149	PIERCE CREEK CONNECTOR	0.000	0.728	0.728	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1980	TIMBER	2010
90150	PIERCE CREEK SPUR	0.000	0.300	0.300	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
90190	BEAVER SUN	0.000	0.350	0.350	CLOSED	YEARLONG	L	I	H	I	1	12	NAT	10	LOGT	5	1987	TIMBER	2010
90191	LOWER BEAVER SUN	0.000	0.300	0.300	CLOSED	YEARLONG	L	I	H	I	1	10	NAT	10	LOGT	5	1987	TIMBER	2010
90255	BEAVER LAKE 1	0.000	0.050	0.050	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
90256	BEAVER LAKE 2	0.000	0.250	0.250	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
90257	BEAVER LAKE 3	0.000	0.800	0.800	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
90258	BEAVER LAKE 4	0.000	0.100	0.100	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
90259	BEAVER LAKE 5	0.000	0.150	0.150	CLOSED	YEARLONG	L	I	H	I	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
91160	SUNSET 60	0.000	0.866	0.866	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	2000	TIMBER	2010
91162	UPPER UP 7	0.000	0.716	0.716	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
91163	BEAVER SURPRISE	0.000	0.350	0.350	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	2000	TIMBER	2010
91200	UP BEAVER 1	0.000	0.681	0.681	CLOSED	YEARLONG	L	I	H	O	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
91201	UP BEAVER 2	0.000	1.370	1.370	CLOSED	YEARLONG	L	I	H	O	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
91202	UP BEAVER 3	0.000	1.030	1.030	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
91203	UP BEAVER 4	0.000	1.558	1.558	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1985	TIMBER	2010
91204	UP BEAVER 5	0.000	0.550	0.550	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1985	TIMBER	2010
91205	UP BEAVER 6	0.000	0.268	0.268	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1989	TIMBER	2010
91220	PIERCE CREEK 1	0.690	1.254	0.564	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
91221	PIERCE CREEK 2	0.000	0.238	0.238	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2010

Existing Road System																			
					Mode of Travel		Design Criteria												
					1.1. - Highway Vehicles		Functional Class	Service Life	Road Template	Template Slope	Objective Maintenance Level	Travel Way Width (feet)	Surfacing	Design Speed	Design Traffic	Travel Management	Year Constructed	Resource	RMO
NFSR Road No.	Name	Begin Milepost	End Milepost	Length	Designation	Dates													
91226	UP BEAVER 7	0.000	0.600	0.600	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
91226	UP BEAVER 7	1.000	1.300	0.300	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
91226	UP BEAVER 7	1.500	2.338	0.838	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1990	TIMBER	2010
11644A	WEST BEAVER NORTH A	0.000	0.463	0.463	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1980	TIMBER	2009
9557Z	BEAVER NO COST	0.000	0.020	0.020	CLOSED	YEARLONG	L	ISS	B	F	1	12	NAT	10	LOGT	5	1980	TIMBER	2009
9570Y	SUNSET RIDGE Y	0.000	1.570	1.570	CLOSED	YEARLONG	L	I	H	F	1	12	NAT	10	LOGT	5	1989	TIMBER	2010
9658B	BEAVER LODGEPOLE	0.000	0.580	0.580	CLOSED	YEARLONG	L	I	H	I	1	12	NAT	10	LOGT	5	1997	TIMBER	2009
9658C	WEST BEAVER LAKE	0.000	0.270	0.270	CLOSED	YEARLONG	L	I	H	I	1	12	NAT	10	LOGT	5	1987	TIMBER	2009

Existing Trail System																	
					Mode of Travel												
					1.2.2. Motorized OHV<=50"				2.3. Mechanized				2. Non-Motorized				
					1.2..2.1.1 ATV		1.2.2.1.2 Motorcycle		2.3.1 Bicycle		2.3.2 Carts & Wagons		2.2 Pack & Saddle		2.1 Hiker/Pedestrian		
NFSR Trail No.	Name	Begin Milepost	End Milepost	Length (miles)	Designation	Dates	Designation	Dates	Designation	Dates	Designation	Dates	Designation	Dates	Designation	Dates	Location
34	JOCKO	0.000	5.586	5.586	CLOSED	YEARLONG	CLOSED	YEARLONG	OPEN	YEARLONG	OPEN	YEARLONG	OPEN	YEARLONG	OPEN	YEARLONG	Trail begins on the North end of Lindberg Lake on private land and traverses the ridge top on the East side of Lindberg Lake.
34	JOCKO	5.586	9.723	4.137	CLOSED	YEARLONG	CLOSED	YEARLONG	CLOSED	YEARLONG	CLOSED	YEARLONG	OPEN	YEARLONG	OPEN	YEARLONG	Provides access to Gray Wolf Lake. Small portion between MP 9.723 and 10.844 located on Lolo National Forest.
34	JOCKO	10.844	12.869	2.025	CLOSED	YEARLONG	CLOSED	YEARLONG	CLOSED	YEARLONG	CLOSED	YEARLONG	OPEN	YEARLONG	OPEN	YEARLONG	Provides access to Gray Wolf Lake. Small portion between MP 9.723 and 10.844 located on Lolo National Forest.
351	CRYSTAL LAKE	0.371	2.315	1.944	CLOSED	YEARLONG	CLOSED	YEARLONG	CLOSED	YEARLONG	CLOSED	YEARLONG	CLOSED	YEARLONG	OPEN	YEARLONG	Provides access to Crystal Lake from Crystal Lake Trailhead via NFSR #9552.
351	CRYSTAL LAKE	2.315	4.942	2.627	CLOSED	YEARLONG	CLOSED	YEARLONG	CLOSED	YEARLONG	CLOSED	YEARLONG	OPEN	YEARLONG	OPEN	YEARLONG	Provides access to Crystal Lake from the End of NFSR #906.
351	CRYSTAL LAKE	4.492	6.700	1.758	CLOSED	YEARLONG	CLOSED	YEARLONG	OPEN	YEARLONG	OPEN	YEARLONG	OPEN	YEARLONG	OPEN	YEARLONG	Provides access to Crystal Lake from the End of NFSR #906. Also Connects to Trails # 34.
490	LINDBERG	0.000	2.738	2.738	CLOSED	YEARLONG	CLOSED	YEARLONG	CLOSED	YEARLONG	CLOSED	YEARLONG	OPEN	YEARLONG	OPEN	YEARLONG	Trail runs along the Swan River between Crystal Lake and Lindberg Lake.

Appendix C

Travel Route Matrix

TRAVEL ROUTE MATRIX - BEAVER CREEK EXISTING SYSTEM ROADS

NFSR ROAD NO.	NAME	BMP	EMP	SEGMENT LENGTH	BENEFIT							CONCERN				RATING	CONCLUSION
					OBJECTIVE MAINTENANCE LEVEL	OPERATING MAINTENANCE LEVEL	TRAVEL MANAGEMENT	VEGETATION MANAGEMENT	RECREATION AND PUBLIC ACCESS	WILDLAND FIRE SUPPRESSION/PROTECTION	PRIVATE/ADMINISTRATIVE ACCESS	SOIL/WATER/FISH	WILDLIFE	ANNUAL MAINTENANCE COSTS	RARE PLANTS		
646	COLT CREEK	0.000	0.600	0.600	2	2	1	H	H	H	H	M	L	L	L	H/M	NEEDED
906	BEAVER CREEK	0.660	7.470	6.810	3	3	1	H	H	H	H	H	L	H	M	H/H	NEEDED
9557	PIERCE CREEK	0.000	1.350	1.350	1	1	5	H	M	H	M	L	L	L	L	H/L	NEEDED
9563	SALISH TRAPPER	0.000	1.320	1.320	3	3	1	H	H	H	L	L	L	L	L	H/L	NEEDED
9563	SALISH TRAPPER	1.320	1.330	0.010	1	1	5	H	M	H	L	L	L	L	L	H/L	NEEDED
9563	SALISH TRAPPER	1.330	2.150	0.820	1	1	5	H	M	H	H	L	L	H	L	H/H	NEEDED
9570	SUNSET RIDGE	0.000	0.059	0.059	2	2	1	H	H	H	L	M	H	M	L	H/H	NEEDED
9570	SUNSET RIDGE	0.059	0.300	0.241	1	1	5	H	M	H	L	M	H	M	L	H/H	NEEDED
9570	SUNSET RIDGE	0.300	1.540	1.240	1	1	5	H	M	H	L	M	H	M	L	H/H	NEEDED
9570	SUNSET RIDGE	1.540	4.350	2.810	1	1	5	H	M	H	L	M	H	M	L	H/H	NEEDED
9570	SUNSET RIDGE	4.350	5.390	1.040	1	1	5	H	L	H	L	M	L	M	L	H/M	NEEDED
9570	SUNSET RIDGE	5.390	5.770	0.380	1	1	5	H	L	H	L	M	L	M	L	H/M	NEEDED
9570	SUNSET RIDGE	5.770	6.020	0.250	1	1	5	H	L	H	L	M	L	M	L	H/M	NEEDED
9570	SUNSET RIDGE	6.020	6.050	0.030	1	1	5	H	L	H	L	M	L	H	L	H/H	NEEDED
9651	CYGNET LAKE EAST	0.000	1.060	1.060	1	1	5	H	M	H	M	M	H	L	H	H/H	NEEDED
9652	BEAVER CREEK OVERLOOK	0.000	0.660	0.660	1	1	5	H	M	M	M	L	H	L	L	H/H	NEEDED
9653	EAST SIDE BEAVER	0.000	0.031	0.031	1	1	5	H	M	H	L	M	L	L	L	H/M	NEEDED
9653	EAST SIDE BEAVER	0.031	0.218	0.187	1	1	5	H	M	H	H	M	L	L	L	H/M	NEEDED
9653	EAST SIDE BEAVER	0.218	1.140	0.922	1	1	5	H	M	H	H	M	L	L	L	H/M	NEEDED
9653	EAST SIDE BEAVER	1.140	3.900	2.760	1	1	5	H	L	H	H	M	L	L	L	H/M	NEEDED
9654	BEAVER THIRTY ONE	0.000	3.300	3.300	1	1	5	H	L	H	H	M	L	L	L	H/M	NEEDED
9655	BEAVER CREEK STUB	0.000	0.330	0.330	1	1	5	H	L	M	L	L	H	L	L	H/H	NEEDED
9656	BEAVER SIDEHILL	0.000	1.550	1.550	1	1	5	H	M	H	L	H	H	L	L	H/H	NEEDED
9656	BEAVER SIDEHILL	1.550	2.800	1.250	1	1	5	H	M	H	L	H	H	L	L	H/H	NOT NEEDED
9658	SUNSET BEAVER	0.000	0.190	0.190	1	1	5	H	M	H	L	L	H	L	L	H/H	NEEDED
9658	SUNSET BEAVER	0.190	0.960	0.770	1	1	5	H	M	H	L	H	L	M	L	H/H	NEEDED
9658	SUNSET BEAVER	0.960	1.070	0.110	1	1	5	H	M	H	L	L	L	M	L	H/M	NEEDED
9658	SUNSET BEAVER	1.070	1.150	0.080	1	1	5	H	M	H	L	L	L	M	L	H/M	NEEDED
9658	SUNSET BEAVER	1.150	3.820	2.670	1	1	5	H	M	H	L	H	L	H	L	H/H	NEEDED
10572	BIG PINE	0.000	0.560	0.560	1	1	5	M	M	L	M	L	L	L	L	M/L	NEEDED
10574	CYGNET LAKE	0.000	0.700	0.700	1	1	5	H	M	H	H	L	L	L	L	H/L	NEEDED

NFSR ROAD NO.	NAME	BMP	EMP	SEGMENT LENGTH	BENEFIT								CONCERN				RATING	CONCLUSION
					OBJECTIVE MAINTENANCE LEVEL	OPERATING MAINTENANCE LEVEL	TRAVEL MANAGEMENT	VEGETATION MANAGEMENT	RECREATION AND PUBLIC ACCESS	WILDLAND FIRE SUPPRESSION/PROTECTION	PRIVATE/ADMINISTRATIVE ACCESS	SOIL/WATER/FISH	WILDLIFE	ANNUAL MAINTENANCE COSTS	RARE PLANTS			
10574	CYGNET LAKE	0.700	0.710	0.010	1	1	5	H	M	H	H	L	L	L	L	H/L	NEEDED	
10577	WEST BEAVER CREEK	0.000	0.913	0.913	1	1	5	H	M	H	L	L	L	L	L	H/L	NEEDED	
10589	BEAVER POTHOLE	0.000	1.350	1.350	1	1	5	H	L	H	M	L	M	L	M	H/M	NEEDED	
10589	BEAVER POTHOLE	1.350	1.450	0.100	1	1	5	H	L	H	M	L	M	L	M	H/M	NEEDED	
10590	SALISH BEAVER	0.000	0.900	0.900	1	1	5	H	L	H	L	L	M	L	L	H/M	NEEDED	
10592	KNOB POND	0.000	0.840	0.840	1	1	5	H	L	H	L	M	L	L	L	H/M	NEEDED	
10593	BEAVER FACE	0.000	2.050	2.050	1	1	5	H	M	H	L	M	H	L	L	H/H	NEEDED	
10735	BEAVER LINDBERGH	0.000	0.300	0.300	1	1	5	H	M	H	L	M	L	L	L	H/M	NEEDED	
10735	BEAVER LINDBERGH	0.300	1.050	0.750	1	1	5	H	M	H	L	H	L	L	L	H/H	NEEDED	
10735	BEAVER LINDBERGH	1.050	2.400	1.350	1	1	5	H	M	H	L	M	L	L	L	H/M	NEEDED	
10735	BEAVER LINDBERGH	2.400	2.650	0.250	1	1	5	H	M	H	M	M	L	L	L	H/M	NEEDED	
10737	LINDEX 37	0.000	0.100	0.100	1	1	5	H	M	H	L	L	L	L	L	H/L	NEEDED	
10737	LINDEX 37	0.100	0.650	0.550	1	1	5	H	M	H	L	L	L	L	L	H/L	NEEDED	
10737	LINDEX 37	0.650	1.120	0.470	1	1	5	H	M	H	L	L	L	L	L	H/L	NEEDED	
10739	LINDEX 39	0.000	0.280	0.280	1	1	5	H	M	H	L	L	L	L	L	H/L	NEEDED	
10739	LINDEX 39	0.280	0.650	0.370	1	1	5	H	M	H	L	L	L	L	L	H/L	NEEDED	
10739	LINDEX 39	0.650	0.800	0.150	1	1	5	H	M	H	L	L	L	L	L	H/L	NEEDED	
10740	DIVIDE TRAIL	0.000	0.230	0.230	1	1	5	L	L	M	L	M	H	L	L	M/H	NOT NEEDED	
10742	CYGNET LOOP	0.000	1.050	1.050	1	1	5	M	M	H	M	L	L	L	M	H/M	NEEDED	
10744	CYGNET SPUR	0.000	0.300	0.300	1	1	5	M	L	H	L	M	M	L	L	H/M	NEEDED	
10745	CYGNET	0.000	0.250	0.250	1	1	5	M	M	H	L	L	M	L	M	H/M	NEEDED	
11636	BEAVER TRAIL	0.000	1.900	1.900	1	1	5	H	M	H	M	M	L	L	L	H/M	NEEDED	
11641	BEAVER TRAIL 4	0.000	0.500	0.500	1	1	5	M	M	H	L	L	L	L	L	H/L	NEEDED	
11644	WEST BEAVER NORTH	0.000	0.900	0.900	1	1	5	H	M	H	L	L	L	L	L	H/L	NEEDED	
11645	BEAVER PIERCE	0.000	0.556	0.556	1	1	5	M	L	H	L	L	L	L	L	H/L	NEEDED	
11646	B - L SPUR	0.000	0.050	0.050	1	1	5	M	M	H	M	M	L	M	L	H/M	NEEDED	
11646	B - L SPUR	0.050	0.250	0.200	1	1	5	M	M	H	M	M	L	L	L	H/M	NEEDED	
11647	LINDEX	0.000	0.740	0.740	1	1	5	M	M	H	M	M	L	L	L	H/M	NEEDED	
90131	BEAVER 11	0.000	0.450	0.450	1	1	5	M	L	H	L	M	H	L	L	H/H	NEEDED	
90132	BEAVER SECTION 11	0.000	0.185	0.185	1	1	5	H	L	M	L	L	H	L	L	H/H	NEEDED	
90132	BEAVER SECTION 11	0.185	0.400	0.215	1	1	5	M	L	L	L	L	H	L	L	M/H	NOT NEEDED	
90149	PIERCE CREEK CONNECTOR	0.000	0.728	0.728	1	1	5	M	M	H	M	L	L	L	L	H/L	NEEDED	
90150	PIERCE CREEK SPUR	0.000	0.300	0.300	1	1	5	M	L	H	L	L	L	L	L	H/L	NEEDED	

NFSR ROAD NO.	NAME	BMP	EMP	SEGMENT LENGTH	BENEFIT								CONCERN				RATING	CONCLUSION
					OBJECTIVE MAINTENANCE LEVEL	OPERATING MAINTENANCE LEVEL	TRAVEL MANAGMENT	VEGETATION MANAGEMENT	RECREATION AND PUBLIC ACCESS	WILDLAND FIRE SUPPRESSION/PROTECTION	PRIVATE/ADMINISTRATIVE ACCESS	SOIL/WATER/FISH	WILDLIFE	ANNUAL MAINTENANCE COSTS	RARE PLANTS			
90190	BEAVER SUN	0.000	0.350	0.350	1	1	5	L	L	L	L	L	H	L	L	L/H	NOT NEEDED	
90191	LOWER BEAVER SUN	0.000	0.300	0.300	1	1	5	H	L	L	L	M	H	L	L	H/H	NEEDED	
90255	BEAVER LAKE 1	0.000	0.050	0.050	1	1	5	L	L	L	L	L	M	L	L	L/M	NOT NEEDED	
90256	BEAVER LAKE 2	0.000	0.250	0.250	1	1	5	M	L	M	L	L	M	L	L	M/M	NEEDED	
90257	BEAVER LAKE 3	0.000	0.800	0.800	1	1	5	H	L	M	L	H	M	L	L	H/H	NEEDED	
90258	BEAVER LAKE 4	0.000	0.100	0.100	1	1	5	L	L	L	L	L	H	L	L	L/H	NOT NEEDED	
90259	BEAVER LAKE 5	0.000	0.150	0.150	1	1	5	L	L	L	L	L	H	L	L	L/H	NOT NEEDED	
91160	SUNSET 60	0.000	0.382	0.382	1	1	5	M	M	M	L	M	M	L	L	M/M	NOT NEEDED	
91160	SUNSET 60	0.382	0.866	0.484	1	1	5	M	M	H	L	M	M	L	L	H/M	NEEDED	
91162	UPPER UP 7	0.000	0.716	0.716	1	1	5	H	L	M	M	H	H	L	L	H/H	NOT NEEDED	
91163	BEAVER SURPRISE	0.000	0.350	0.350	1	1	5	H	L	M	L	L	L	L	H	H/H	NEEDED	
91200	UP BEAVER 1	0.000	0.681	0.681	1	1	5	M	M	H	L	L	L	L	L	H/L	NEEDED	
91201	UP BEAVER 2	0.000	1.370	1.370	1	1	5	H	L	H	L	L	L	L	L	H/L	NEEDED	
91202	UP BEAVER 3	0.000	1.030	1.030	1	1	5	H	L	H	L	M	H	L	L	H/H	NEEDED	
91203	UP BEAVER 4	0.000	1.558	1.558	1	1	5	H	M	H	L	L	M	L	L	H/M	NEEDED	
91204	UP BEAVER 5	0.000	0.550	0.550	1	1	5	M	M	M	L	L	H	L	L	M/H	NOT NEEDED	
91205	UP BEAVER 6	0.000	0.268	0.268	1	1	5	H	L	L	L	L	H	L	L	H/H	NEEDED	
91220	PIERCE CREEK 1	0.690	1.254	0.564	1	1	5	H	M	H	L	L	L	L	L	H/L	NEEDED	
91221	PIERCE CREEK 2	0.000	0.238	0.238	1	1	5	L	L	L	L	L	M	L	L	L/M	NOT NEEDED	
91226	UP BEAVER 7	0.000	0.600	0.600	1	1	5	H	M	H	H	L	M	L	L	H/M	NEEDED	
91226	UP BEAVER 7	1.000	1.300	0.300	1	1	5	H	M	H	H	L	M	L	L	H/M	NEEDED	
91226	UP BEAVER 7	1.500	2.338	0.838	1	1	5	H	M	H	H	L	M	L	L	H/M	NEEDED	
11644A	WEST BEAVER NORTH A	0.000	0.463	0.463	1	1	5	L	L	H	L	L	L	L	L	H/L	NEEDED	
9557Z	BEAVER NO COST	0.000	0.020	0.020	1	1	5	H	L	L	L	L	L	L	L	H/L	NEEDED	
9570Y	SUNSET RIDGE Y	0.000	1.570	1.570	1	1	5	H	M	M	L	M	H	L	L	H/H	NEEDED	
9658B	BEAVER LODGEPOLE	0.000	0.580	0.580	1	1	5	H	L	M	L	L	H	L	L	H/H	NEEDED	
9658C	WEST BEAVER LAKE	0.000	0.270	0.270	1	1	5	M	L	M	L	L	M	L	L	M/M	NOT NEEDED	

Appendix D

Road Description and Identification and Need

NFSR ROAD NO.	ROAD DESCRIPTION AND IDENTIFICATION OF NEED EXISTING SYSTEM ROADS	RATING (BENEFIT/RISK)
646	NFSR - Provides access out to Hwy 83 via Lolo National Forest by Lake Alva. NEEDED - Rutting and rilling noted during surveys.	H/M
906	NFSR - Main collector road providing access to Beaver Creek and trails into the Mission mountain wilderness. NEEDED - Artificially dammed wetland/road through fill needs addressed at MP 1.141. WEPP Total = 496 lb/yr (7 different sites). WEPP Sites #5 (MP 4.242), #7 (MP 5.213), #9 (MP 5.417) should be prioritized for BMP's.	H/H
9557	NFSR - Access to MA 11C. NEEDED - Newly installed AOP in Pierce Creek. Placed in ISS with an LTF dated 9/12/2008.	H/L
9563	NFSR - Main collector road providing access to the northern extent of the Beaver Subunit. MP 0-.322 had BMP work completed in 2010 as part of the Beaver Creek TMDL Project. NEEDED - WEPP Total = 2 lb/yr. Prioritize for BMPs.	H/L
9570	NFSR - Access to MA 11C. NEEDED - WEPP Total = 19 lb/yr. Minor ditch scour present on small sections of road. MP 0-3.879 had BMP work completed in 2010 as part of the Beaver Creek TMDL Project.	H/H H/M
9651	NFSR - Access to MA 15 & MA 15C. NEEDED - May be desirable to install fish barrier at WEPP #10. WEPP Total = 1 lb/yr.	H/H
9652	NFSR - Access to MA 11C. NEEDED	H/H
9653	NFSR - Access to MA 11C. NEEDED - WEPP Total = 38 lb/yr. Some minor ditch and fill slope erosion noted.	H/M
9654	NFSR - Access to MA 11C & 15. NEEDED - First culvert is high risk. WEPP Total = 143 lb/yr (3 sites). Prioritize for BMPs at stream crossings.	H/M
9655	NFSR - Access to MA 11C & 15. NEEDED	H/H
9656	NFSR - Access to MA 11C. Road ends near wilderness boundary. NEEDED (MP 0-1.55) - WEPP Total = 38 lb/yr. Prioritize for BMP's. MP 0-1.132 had BMP work completed in 2010 as part of the Beaver Creek TMDL Project. NOT NEEDED (MP 1.55 - 2.8) - Recommend partial to full recontour decommissioning to increase grizzly bear security CORE. Numerous culverts that are not shown on map.	H/H M/H
9658	NFSR - Access to MA 11C. NEEDED - Place MP 2.942 - 3.82 in ISS. Undesirable fish barrier located at MP 1.13.	H/H H/M
10572	NFSR - Access to MA 5 near Hwy 83. NEEDED	M/L

NFSR ROAD NO.	ROAD DESCRIPTION AND IDENTIFICATION OF NEED EXISTING SYSTEM ROADS	RATING (BENEFIT/RISK)
10574	NFSR - Access to MA 15 & MA 15C. NEEDED - WEPP Total = 3 lb/yr.	H/L
10577	NFSR - Access to 15C. NEEDED - Placed in ISS with an LTF dated 9/12/2008. All stream aligned culverts have been removed. MP .210 may be good location for fish barrier. Construct Berm at MP .501 to meet A19 standards.	H/L
10589	NFSR - Access to 15C. NEEDED - Place MP 0 - 1.450 in ISS.	H/M
10590	NFSR - Access to 15C. NEEDED - Place MP 0 - .900 in ISS. WEPP Total = 2 lb/yr.	H/M
10592	NFSR - Access to MA 11C. NEEDED - WEPP site #51 (MP .500) has badly skewed and rusted pipe. WEPP Total = 10 lb/yr. Prioritize for BMPs at MP .500.	H/M
10593	NFSR - Access to MA 15. NEEDED	H/H
10735	NFSR - Access to MA 15. NEEDED - WEPP Total = 70 lb/yr. Prioritize for BMPs between MP 0-1.050.	H/M H/H
10737	NFSR - Access to MA & 15. NEEDED - Place MP .65 - 1.120 in ISS.	H/L
10739	NFSR - Access to MA & 15. NEEDED - Place MP .483 - .800 in ISS.	H/L
10740	NFSR - Access to MA & 15. NEEDED - Prioritize for decommissioning MP 0-.230.	M/H
10742	NFSR - Access to MA 15. NEEDED - Place MP .44 - 1.05 in ISS. Culvert removed and is sitting nearby.	H/M
10744	NFSR - Access to MA 15. NEEDED - Place MP 0 - .3 in ISS.	H/M
10745	NFSR - Access to MA 15. NEEDED - Place MP 0 - .250 in ISS. Culvert removed.	H/M
11636	NFSR - Access to MA 15C. NEEDED - Existing easment where road crosses private land (Lot1, Sec. 19, T19N, R16W).	H/M
11641	NFSR - Access to MA 15C. NEEDED - Place MP 0 - .500 in ISS.	H/L
11644	NFSR - Access to MA 15 C. NEEDED - Placed in ISS with an LTF dated 9/12/2008.	H/L
11645	NFSR - Passes through MA 12. NEEDED - Placed in ISS with an LTF dated 9/12/2008.	H/L
11646	NFSR - Located in MA 11C and MA 15. NEEDED - Place MP 0-.250 in ISS. WEPP Total = 15 lb/yr.	H/M
11647	NFSR - Located in MA 11C and MA 15. NEEDED - Place MP 0-.740 in ISS.	H/M
90131	NFSR - Located in MA 11C. NEEDED - Place MP 0-.450 in ISS.	H/H

NFSR ROAD NO.	ROAD DESCRIPTION AND IDENTIFICATION OF NEED EXISTING SYSTEM ROADS	RATING (BENEFIT/RISK)
90132	NFSR - Located in MA 11C. NEEDED - Prioritize for decommissioning (Passive) MP .185-.400.	H/H M/H
90149	NFSR - Located in MA 11C. NEEDED	H/L
90150	NFSR - Located in MA 11C. NEEDED	H/L
90190	NFSR - Located in MA 11C. NEEDED - Prioritize for decommissioning MP 0-.350.	L/H
90191	NFSR - Located in MA 11C. NEEDED - Connect with 91160 by utilizing .150 mi existing template.	H/H
90255	NFSR - Located in MA 11C. NEEDED - Prioritize for decommissioning MP 0-.050.	L/M
90256	NFSR - Located in MA 11C. NEEDED	M/M
90257	NFSR - Located in MA 11C. NEEDED - WEPP Total = 126 lb/yr. WEPP Sites #56 (MP .143) should be prioritized for BMP's.	H/H
90258	NFSR - Located in MA 11C. NEEDED - Prioritize for decommissioning MP 0-.100.	L/H
90259	NFSR - Located in MA 11C. NEEDED - Prioritize for decommissioning MP 0-.150.	L/H
91160	NFSR - Located in MA 11C. NEEDED (0-.382) NOT NEEDED - Connect with 90191 by utilizing .15 mi existing template. Prioritize for decommissioning MP .382-.484.	M/M H/M
91162	NFSR - Access to MA 11C. NOT NEEDED (MP 1.55 - 2.800) - Recommend partial to full recontour decommissioning MP 0-.716. Road has prevelant cut/fill slumps, ruts, and eroding ditches.	H/H
91163	NFSR - Access to MA 11C. NEEDED	H/H
91200	NFSR - Access to MA 15. NEEDED	H/L
91201	NFSR - Access to MA 11C. NEEDED - WEPP Total = 2 lb/yr.	H/L
91202	NFSR - Access to MA 11C. NEEDED - Prioritize for BMPs. Eroding ditches and diversion potential noted at stream crossing.	H/H
91203	NFSR - Access to MA 15. NEEDED - Place MP 0-1.558 in ISS.	H/M
91204	NFSR - Accesses a small portion of MA 15 and then extends into MA2. NEEDED - Prioritize for decommissioning MP 0-.550.	M/H
91205	NFSR - Access to MA 11C. NEEDED	H/H

NFSR ROAD NO.	ROAD DESCRIPTION AND IDENTIFICATION OF NEED EXISTING SYSTEM ROADS	RATING (BENEFIT/RISK)
91220	NFSR - Access to MA 11C. NEEDED	H/L
91221	NFSR - Access to MA 11C. NEEDED - Prioritize for decommissioning MP 0-.238.	L/M
91226	NFSR - Access to MA 11C. NEEDED	H/M
11644A	NFSR - Access to 15C. NEEDED - Placed in ISS with an LTF dated 9/12/2008.	H/L
9557Z	NFSR - Access to MA 11C. NEEDED	H/L
9570Y	NFSR - Access to MA 11C. NEEDED - MP .73-1.570 already in ISS. WEPP Total = 9 lb/yr. MP 0-.730 had BMP work completed in 2010 as part of the Bever Creek TMDL Project.	H/H
9658B	NFSR - Access to MA 11C. NEEDED	H/H
9658C	NFSR - Access to MA 11C. NEEDED - Prioritize for decommissioning MP 0-.270.	M/M

Road should be prioritized for placement in ISS.

Road should be prioritized for decommissioning.

Appendix E

WEPP Data Points

Run Number	Site Number	Road Design	Surface/ Traffic	Road Gradient (%)	Road Length (ft)	Road Width (ft)	Fill Gradient (%)	Fill Length (ft)	Buffer Gradient (%)	Buffer Length (ft)	Rock Content (%)	Average Annual Rain Runoff (in)	Average Annual Snow Runoff (in)	Average Annual Sediment Leaving Road (lb)	Average Annual Sediment Leaving Buffer (lb)
1	1	Outsloped, unrutted	graveled high	2	400	40	5	10	2	45	20	0	0	547	0
2	1	Outsloped, unrutted	graveled high	5	215	40	5	10	2	45	20	0	0	398	0
3	3	Insloped, vegetated or rockd ditch	graveled high	4	75	15	34	12	5	15	20	0.1	0	38	8
4	3	Insloped, vegetated or rockd ditch	graveled high	1	85	15	34	17	5	17	20	0	0	29	7
5	24	Insloped, vegetated or rockd ditch	graveled low	1	170	12	60	15	25	75	20	0	0	29	6
6	24	Insloped, vegetated or rockd ditch	graveled low	5	255	10	55	5	25	75	20	0	0	39	13
7	2	Outsloped, unrutted	graveled low	5	20	15	45	8	30	48	20	0	0	4	1
8	2	Outsloped, unrutted	graveled low	7	30	15	35	10	20	27	20	0	0	6	1
9	4	Insloped, vegetated or rockd ditch	native low	7	75	16	1	1	5	18	20	0	0	18	2
10	6	Insloped, vegetated or rockd ditch	native low	1	10	17	1	1	1	300	20	0	0	1	0
11	8	Insloped, vegetated or rockd ditch	native low	2	30	16	12	9	3	6	20	0.1	0	4	1
12	8	Insloped, vegetated or rockd ditch	native low	2	65	16	12	6	3	8	20	0.1	0	10	2
13	10	Insloped, vegetated or rockd ditch	native low	2	60	17	8	3	6	16	20	0	0	9	1
14	10	Insloped, vegetated or rockd ditch	native low	2	51	17	8	4	6	18	20	0	0	8	0
15	12	Insloped, vegetated or rockd ditch	native low	5	40	12	8	9	2	21	20	0	0	6	0
16	12	Insloped, vegetated or rockd ditch	native low	5	51	12	8	12	2	30	20	0	0	8	0
1	51	Outsloped, unrutted	native low	2	48	18	25	18	18	30	20	0	0	12	1
2	51	Outsloped, unrutted	native low	5	75	18	15	22	12	250	20	0	0	25	0
3	51	Outsloped, unrutted	native low	4	84	18	42	15	1	1	20	0.2	0.1	27	9
4	27	Insloped, vegetated or rockd ditch	graveled low	3	510	10	13	10	1	100	20	0	0	56	8
5	27	Outsloped, rutted	graveled low	1	500	10	13	10	1	100	20	0	0	30	5
6	37	Outsloped, unrutted	graveled low	1	54	11	34	15	4	24	20	0	0	8	0
7	37	Outsloped, unrutted	graveled low	1	30	11	34	9	6	40	20	0	0	5	0
8	41	Insloped, vegetated or rockd ditch	graveled low	3	42	11	11	15	2	13	20	0	0	6	1
9	41	Insloped, vegetated or rockd ditch	graveled low	3	324	11	41	12	2	13	20	0.2	0.1	65	40
10	45	Insloped, vegetated or rockd ditch	graveled low	1	24	10	24	15	1	1	20	0.2	0	3	1
11	45	Insloped, vegetated or rockd ditch	graveled low	6	115	10	54	12	1	1	20	0.5	0.1	31	27
12	56	Insloped, vegetated or rockd ditch	native low	7	108	13	50	25	1	1	20	0.5	0.3	75	57
13	56	Insloped, vegetated or rockd ditch	native low	2	150	13	50	25	1	1	20	0.6	0.5	92	69
14	48	Insloped, vegetated or rockd ditch	native low	1	100	15	64	30	1	1	20	0.4	0.2	67	50
15	48	Insloped, vegetated or rockd ditch	native low	1	60	15	64	30	1	1	20	0.3	0.1	32	24
16	32	Outsloped, unrutted	native low	1	15	12	50	15	3	12	20	0	0	3	0
17	32	Outsloped, unrutted	native low	3	30	12	3	12	10	5	20	0	0	6	0
18	59	Outsloped, unrutted	native low	1	100	15	54	21	1	30	20	0	0	21	0
19	59	Outsloped, unrutted	native low	6	15	15	46	15	4	2	20	0.2	0.1	5	2
20	5	Insloped, vegetated or rockd ditch	graveled high	3	150	15	25	10	1	1	20	0.5	0.1	100	79
21	5	Insloped, vegetated or rockd ditch	graveled high	5	80	15	25	10	1	1	20	0.4	0.1	68	46
22	7	Outsloped, rutted	graveled high	1	36	20	31	18	1	1	20	0.2	0	27	14
23	7	Outsloped, rutted	graveled high	11	100	20	31	18	1	1	20	0.4	0.1	290	188
24	9	Outsloped, unrutted	graveled high	5	120	20	45	8	1	6	20	0.1	0	152	30
25	9	Outsloped, unrutted	graveled high	6	120	20	45	8	1	6	20	0.1	0	171	36
26	14	Insloped, vegetated or rockd ditch	graveled low	3	42	20	1	1	3	65	20	0	0	11	0
27	14	Insloped, vegetated or rockd ditch	graveled low	4	35	20	1	2	4	46	20	0	0	10	0
28	15	Insloped, vegetated or rockd ditch	native low	22	30	38	1	1	1	1	20	0.6	0.9	39	15
29	15	Insloped, vegetated or rockd ditch	native low	25	29	32	1	1	1	1	20	0.6	0.9	36	13
30	16	Insloped, vegetated or rockd ditch	native low	18	60	30	1	1	1	1	20	1	1.9	72	41
31	16	Insloped, vegetated or rockd ditch	native low	20	49	30	1	1	1	1	20	0.8	1.6	57	29
1	11	Outsloped, unrutted	graveled low	2	45	30	48	12	30	300	20	0	0	18	6

Run Number	Site Number	Road Design	Surface/ Traffic	Road Gradient (%)	Road Length (ft)	Road Width (ft)	Fill Gradient (%)	Fill Length (ft)	Buffer Gradient (%)	Buffer Length (ft)	Rock Content (%)	Average Annual Rain Runoff (in)	Average Annual Snow Runoff (in)	Average Annual Sediment Leaving Road (lb)	Average Annual Sediment Leaving Buffer (lb)
2	11	Outsloped, unrutted	graveled low	7	85	30	48	12	30	300	20	0	0	58	16
3	30	Outsloped, unrutted	native low	1	25	18	90	8	1	1	20	0.2	0.3	7	2
4	30	Outsloped, unrutted	native low	2	36	18	90	8	1	1	20	0.3	0.3	10	4
5	60	Insloped, vegetated or rockd ditch	native low	2	75	24	6	17	1	100	20	0	0	23	0
6	60	Insloped, vegetated or rockd ditch	native low	5	78	24	14	15	1	200	20	0	0	35	0
7	13	Outsloped, unrutted	graveled low	3	90	20	90	12	1	1	20	0.2	0.1	26	14
8	13	Outsloped, unrutted	graveled low	4	80	20	90	12	1	1	20	0.3	0.1	26	14
9	19	Outsloped, unrutted	native low	1	45	15	110	8	100	8	20	0.1	0.1	11	3
10	64	Outsloped, unrutted	native low	6	120	15	67	12	60	35	20	0.1	0	40	9
11	64	Insloped, vegetated or rockd ditch	native low	1	45	15	45	3	3	45	20	0	0	8	0
12	50	Outsloped, unrutted	native low	3	120	15	100	20	80	30	20	0.1	0.1	32	14
13	50	Outsloped, unrutted	native low	2	210	15	100	20	70	30	20	0.1	0	50	24
14	63	Insloped, vegetated or rockd ditch	native low	2	150	12	50	4	20	15	20	0.3	0.7	47	19