

Lightning Creek Restoration Project

Road Access and Recreation Report

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Regulatory Framework

A variety of agency policies and regulations guide the management of transportation and recreation for the Idaho Panhandle National Forest and the Lightning Creek drainage. Forest Service manuals and handbooks provide agency-specific direction for transportation (FSM 7700) and recreation (FSM 2300).

The Idaho Panhandle National Forests Forest Plan provides management area (MA) direction for the Lightning Creek drainage, with guidance for road and recreation management. The Lightning Creek drainage is comprised of MAs 2, 3, 4, 9, 10, 11 (see Figure 1). No activities are proposed in MAs 4 and 11. The following management area direction is related to roads and recreation in the remaining management areas:

Management Areas 2 and 3

- provide opportunities for dispersed recreation, consistent with grizzly bear and other wildlife habitat requirements
- manage recreation for roaded-modified and roaded-natural ROS classes (recreation opportunity spectrum; see text box), and manage trails to avoid areas of critical grizzly bear habitat.
- road use will be based on needs identified in project level planning. Additional restrictions and seasonal vehicle closures [will be established] as needed to assure grizzly bear habitat.
- utilize the lowest standard road meeting transportation objectives compatible with resource protection requirements and area management goals.

Management Area 9 - Relevant standards include managing recreation for roaded natural or semi-primitive recreation, and closing existing local roads to vehicles over 40 inches wide.

Management Area 10

- provide a semi-primitive recreation experience
- manage existing roads to provide access for and dispersal of recreation users
- provide a variety of trail uses in areas designated semi-primitive, except for the direct access to and from the area around Lake Darling, Gem Lake and Moose Lake, which are closed to motorized vehicles.
- no road construction within the MA except in those few cases where primitive roads may be built to improve the semi-primitive recreation experience.
- roads at the boundaries of these areas will be managed, maintained, and modified to meet overall transportation objectives.

Recreation Opportunity Spectrum Definitions for Access

The recreation opportunity spectrum (ROS) is a system of classifying recreation settings and opportunities on National Forest System lands. The Forest Plan established the ROS classes specific to the Lightning Creek drainage.

Roaded Modified = All forms of access and travel modes may occur, although roads are generally not well suited to highway-type vehicles. OHV use on designated routes or areas is encouraged. Use by high clearance vehicles is common.

Roaded Natural = All forms of access and travel modes may occur. Access to and through the area is typically by passenger vehicle, although motorized use may be restricted to provide for resource protection, user safety, or to provide a diversity of recreation opportunity.

Semi-primitive = Travel on motorized and non-motorized trails and lower service level roads provide access to and through the area. Use by high clearance vehicles is common. Road density is less than one mile per square mile. Off-road snow machine travel on snow may occur.

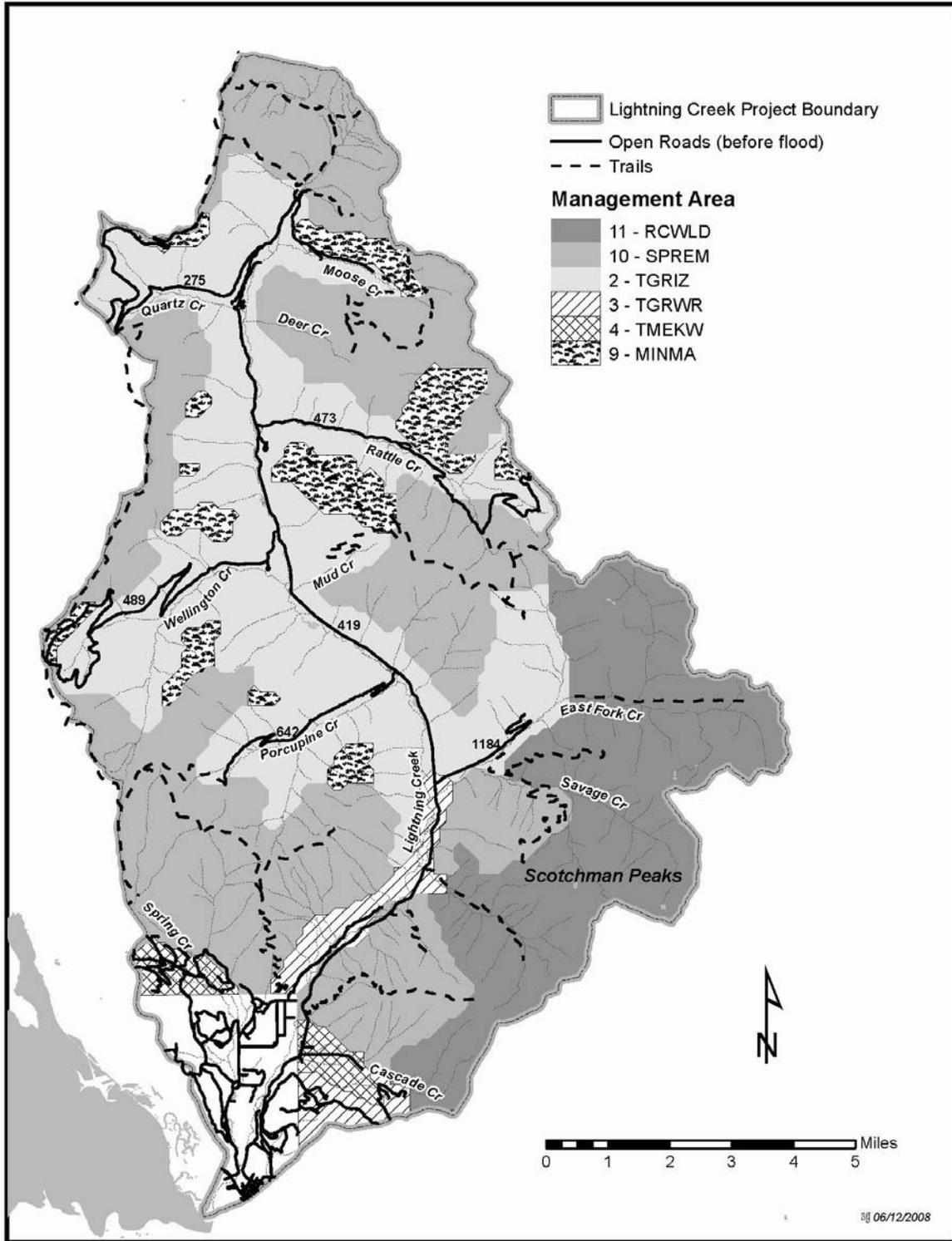


Figure 1. Forest plan management area designations for the Lightning Creek project area

RCWLD = recommended wilderness, SPREM = semiprimitive recreation, TGRIZ = timber and grizzly bear management, TGRWR = timber, grizzly bear and winter range management, TMEKW = timber and elk winter range management, MINMA = minimum management

Methodology for Analysis

Road and trail access and restriction information was derived from the Idaho Panhandle National Forests INFRA database. Data relevant to recreation visits to the Idaho Panhandle National Forests, generated by the National Visitor Use Monitoring Project, conducted in 2003 and published in June 2004 was consulted (NVUM 2004). Information gathered is applicable at the forest level; however, the data was extrapolated for a qualitative discussion of recreation use.

Trail condition inventories are ongoing in the Lightning Creek drainage. The district inventory was used to determine use and quantify what trail work would be needed. The Sandpoint Ranger District recreation staff has a collective 50 years worth of experience and training in trail maintenance, construction and management most of which has been gained on the district. Contact with various trail users has helped mold and maintain the recreation program we have in the Lightning drainage today.

The road access portion of this report focuses on the each alternative's direct effects on access management. The recreation portion of this report will focus on the indirect effects of changed recreational opportunities caused by access changes. The analysis will be a qualitative discussion on the change in recreation opportunities as well as miles of different recreation activities potentially available.

Since data used in this analysis was extrapolated, and derived from past contact information, the discussions of direct, indirect, and cumulative effects for both road access and recreation will be qualitative in nature.

The cumulative effects area for road access and recreation takes in Bonner County, Boundary County and neighboring Kootenai National Forest because these areas have similar recreation opportunities as the Lightning Creek drainage and are likely areas where displaced recreationists would disperse to. Since we don't have specific data on the recreation use in the drainage such as where people come from, how long they stay, and what they do, we will talk qualitatively regarding this subject, speaking more to displacement and the likelihood of a loss of access and recreation opportunities.

Affected Environment

In an attempt to show the dynamic nature of the drainage as it relates to its infrastructure and recreational use, the following sections will address the relationship of past flood events and the resulting effects on the drainage infrastructure, the road and recreation access prior to the 2006 flood event, and the existing access after the 2006 flood. This context is important since the transportation infrastructure of the drainage has continually been compromised from flood events. These events have an effect on the type and variety of recreational pursuits available to forest users.

Lands within the Lightning Creek drainage include a wide range of natural and developed settings and have a long history of nonmotorized and motorized recreational use. There are approximately 195 miles of National Forest System roads in the drainage with varying management levels (open, seasonally restricted, and closed). Motorized use has included passenger vehicle, OHV (both ATV and single-track motorcycle), and winter snowmobile use. There are approximately 71 miles of system summer-use trails within the project area. Some, like the Moose Lake trail system and Scotchman Peak, are very popular. These trails are designated as mixed use including foot travel, mountain bike riding and horseback riding. Lake Darling Trail is also a popular trail

with mixed use including single-track motorcycle. Many other trails in the project area are more primitive and remote providing nonmotorized recreation opportunities.

Porcupine Lake is the only developed campground in the project area. There are many dispersed camping opportunities in the project area and approximately 65 dispersed campsites exist adjacent to roads and streams.

There are portions of four separate inventoried roadless areas within the project area. These include Bee Top, Scotchman, Willard/Lake Estelle and Trestle Peak (see Figure 2). A portion of the Scotchman IRA is also designated proposed wilderness. No roads being considered in the proposed action are located within any of the roadless areas. Lake Darling trail 52 is located in the Willard-Lake Estelle Inventoried Roadless Area.

History of Recreation, Road System and Past Flood Events

The relationship of the Lightning Creek drainage's history of flooding, erosion, and mass wasting to the infrastructure in the drainage is important to understand in order to get an accurate picture of what kinds of things influence the management of the road system. A brief discussion of the history in the drainage, as it relates to the infrastructure is provided below. More detailed information of past flooding can be found in the Engineering specialist report and the project file.

Lightning Creek can be characterized as a geologically young drainage that has not yet reached an erosion and depositional equilibrium. The drainage is very active and prone to flood events, erosion, and mass wasting (landslides) with inherently unstable channel courses that are filled with large amounts of bedload. This condition was likely periodically the norm during the last 80,000 years and has been prevalent since the end of the last glacial period nearly 9,000 years ago.

The earliest recorded events that occurred in Lightning Creek were documented in terms of the interaction of flooding with the town of Clark Fork, the roadway bridge over Lightning Creek near the town, and/or the railroad bridge. These events took place in 1894 and 1913.

Road construction into the drainage occurred in the early to mid 1930s. By 1938 a road extended up Lightning Creek to the mouth of Rattle Creek. By the 1950s, the road system extended past Rattle Creek and into some of the tributary drainages. By 1966, the basic road system as it exists today was in place.

Additional recorded flood events took place in the drainage in 1948, 1964 and 1969, after the road system was in place. The nature, extent of, and specific damage done to the infrastructure from these events is generally unknown except for the fact that the north abutment of the East Fork Bridge was washed away during the 1969 event.

In 1974, a widespread flood event impacted much of the drainage. Lightning Creek road was washed away in the area of the five-mile marker and the recently repaired north abutment of the East Fork Bridge was destroyed. Other damage included washed away road segments, surface erosion, mass failures, and washed-out culverts. The Aquatics Specialist Report has a detailed list of flood events and costs associated for each event.

The next flood event occurred in December 1980. Major damage occurred throughout the Lightning Creek drainage. The scale of damage to the infrastructure during this event was at the time, the greatest to have yet been recorded in the drainage. Many areas of the Lightning Creek road were washed away or eroded to varying degrees by the action of Lightning Creek. The East Fork Bridge over the East Fork of Lightning Creek and the Porcupine Bridge over Lightning Creek were both washed away and completely destroyed, while the Rattle Creek Bridge along with other bridges in the drainage suffered damage. Portions of both the Rattle Creek road and East Fork road were severely eroded or washed away and other roads in the drainage suffered erosion. In addition, massive quantities of slide materials were deposited on the main Lightning Creek road as well as on the East Fork and Rattle Creek roads from both major tributaries and smaller side drainages. Culverts throughout the drainage were destroyed, buried, or washed out. Mass failures also deposited material on and/or destroyed roads throughout the drainage, primarily along portions of the Lightning Creek road, Rattle Creek road, and East Fork road.

The next significant event in the drainage took place in 1986. Damage in some areas was severe although the overall impact throughout the drainage was much less than the 1980 event. The concrete East Fork crossing structure was damaged, and gabions along the flanks of the structure were partially destroyed by impact of the bedload movement in the creek. The west approach to the Porcupine Bridge was partially washed out.

Another significant flood event occurred in 1990-1991. Lightning Creek drainage sustained major damage during this event. The damage again consisted of erosion to varying degrees along portions of the Lightning Creek road and other roads in tributary drainages. Nearly 1,500 feet of the Lightning Creek road was destroyed in the area of mile marker 5. The two approaches to the Porcupine Bridge were eroded. There was a large-scale mass failure in the area of the East Fork crossing and several large road fills were washed out in the Porcupine Creek drainage.

The next significant events occurred in the late fall of 1996 and again in the late winter early spring of 1997. There was isolated damage in the drainage. Nearly 1,800 feet of the Rattle Creek road was damaged during this event.

Recreation in the watershed has been influenced by the development of the road system over the years. As roads brought access to the watershed recreationists used them to explore and recreate in the drainage. Each flood event has typically resulted in changes to public access and recreation patterns, some temporarily until repairs could be made, and others more permanently when funding and resources have been limited.

History of Road Funding in the Forest Service

Most of the Northern Region's road system was designed and constructed assuming that maintenance on a significant portion of the system would be accomplished by commercial operators with appropriated funding from the United States Congress available for the remainder of the system. As commercial activities (i.e. timber sales) have dropped off, maintenance performed by commercial users has also declined. However, public demand for road access continues to increase while appropriated funding available for road maintenance has been diminishing (USDA Forest Service, unpublished report).

The Northern Region receives approximately 10 percent of the funds required to maintain the National Forest System road system. Road maintenance funding on the Idaho Panhandle National Forests for fiscal year 2008 is expected to be approximately \$1.5 million as compared to \$2.1 million in fiscal year 2004. The funding trend for the Idaho Panhandle National Forests

illustrates a 26 percent decline in appropriated funding over the last four years (USDA Forest Service white paper, 2008).

Out of the total budget received, the portion allocated for road operations and maintenance varies from year to year. Anywhere between 40 to 50 percent of funding dollars is available for operations and maintenance of roads. Road maintenance accomplishments reports for the IPNF for the past four years (2004-2008) show that approximately 20 percent of the road system on the Sandpoint Ranger District, approximately 142 miles of system road is maintained annually (USDA Forest Service white paper, 2008). Currently there is a \$730 million dollar backlog of deferred maintenance needs in the Northern Region (USDA Forest Service unpublished report). It is clear that appropriated funding can only maintain a small fraction of the current road system. The results of not maintaining the existing system roads are greater risk to public safety, loss of investment in infrastructure, resource impacts to fisheries, degradation of water quality, and limited public access.

One solution to reduce the amount of deferred maintenance backlog is to look at the National Forest System road system through our Roads Analysis Process (see Appendix A and Hydrology project file). The objective of this process is to provide a road system that is safe, responsive to the public and agency needs, environmentally sound, affordable, and efficient to manage. Without the budget to repair road-related problems, severe erosion and mass failures have had a detrimental impact on the Lightning Creek drainage. In particular, the recreational infrastructure (road access) and associated environment has changed with each subsequent flood event. There is an opportunity to improve road-related problems through road decommissioning and to create a road system in the drainage that is safely accessible by the public and maintainable under forecasted budgets.

Road Access and Recreation Prior to the 2006 Flood

The existing road system in the Lightning Creek drainage prior to the 2006 flood provided access to multiple outdoor recreation opportunities. Lightning Creek Road 419 was the main access road in the drainage and provided a creek side setting for almost its entire length with unlimited recreation opportunities. Places and outdoor settings that most people value were made accessible by the road system. Established trailheads were located on roads designated for all motorized uses. Places that are most valued, such as access to dispersed camping sites along Lightning Creek, and high mountain lakes and trails were largely accessible by the maintained public road system. Diverse environments from mountain lakes to open ridges, forest and meadowlands were available by road access. As each subsequent flood wiped out newly repaired sections of roads and fords, or destroyed completely different sections of road and bridge sections, access was often restricted or limited until repairs could be made. Due to the magnitude of the damage, repairs often took two or three summers to complete.

Day use along the main roads within the project area (Lightning Creek 419, East Fork 1184, Porcupine 642, Auxor 489 and Rattle Creek 473) was very popular. Driving for pleasure was one of the most consistently popular activities in this area with the gathering forest products such as mushrooms, berries, firewood, rocks, and other forest resources being almost as popular. Other activities included mountain bike riding, hunting, fishing, relaxing, OHV use, and horseback riding. This area provided some of the best opportunities on the Sandpoint Ranger District for fully accessible recreation activities. The highest seasons of use were the summer and fall.

The dispersed camping opportunities within the Lightning Creek drainage were ample. All of the roads in the project area have user-developed campsites located just off the roads. Campsites are usually located next to streams or hidden in a grove of trees. Although accessible by road, the overall feeling is one of naturalness and distance from urban and rural development. Dispersed sites, typically used for camping, are underdeveloped sites with none of the typical improvements found in developed campsites, such as toilets, tables, or grills. However, most sites have at least one user created fire ring. Use is high during the peak summer season and again during hunting season when almost every possible campsite is occupied.

Prior to the 2006 flood event, roads in the Lightning Creek drainage provided motorized access to the mouth of all the major tributaries in the area such as Rattle Creek, Porcupine Creek, Mud Creek, East Fork of Lightning Creek, and Wellington Creek. The Lightning Creek road was a major collector class road. Snowmobiling into the north end of the drainage has been popular via Trestle Creek road 275, which is a designated groomed snowmobile route. Grooming is done by a local snowmobile club to access ungroomed areas like Lunch Peak and the Pend Oreille divide. Rattle Creek road 473 and main Lightning road 419 were also designated routes, but grooming on these roads was not done as often as Trestle Creek. A small percentage of very skilled snowmobile users have ridden up Porcupine road 642 to get to Porcupine Lake, and East Fork road 1184 and road 1030 to access the Char Creek and Lightning Mountain areas.

Roads

Of the existing roads within the Lightning drainage, 60.9 miles were drivable, 53.5 miles of road were closed to motorized vehicles and 9.4 miles were restricted (closed to motorized traffic from April 1 through November 15) to provide secure habitat for grizzly bears. Most of these closed roads have been impassable due to the abundance of vegetation growing on the road surface. Although these roads have not been driven by vehicles for many years, they were identified as sources of sediment to streams in the area, and/or at risk of failure.

Main Road - Lightning Creek road 419 was once a smooth, two lane gravel surfaced road, well maintained and in excellent condition. When there was a bridge over the East Fork, Lightning Creek road connected with Trestle Creek Road 275 offering a loop route suitable for most two-wheel-drive vehicles. Access on the Lightning Creek dramatically changed during the 1980 flood. The drivable loop, which included Trestle Creek road 275, was cut off after the 1980 flood washed away the East Fork Bridge. The crossing became a low water ford limited to high clearance vehicles. From Clark Fork, vehicles had to ford East Fork Lightning Creek to gain access to the upper drainage, where they encountered a rough surface roadway that varied from native to gravel to bedrock. Depending on the time of year, fording the East Fork crossing in a pickup truck was possible, and at other times impossible. Most visitors did not attempt to ford the creek in an automobile or with vehicles towing trailers. Visitors towing stock trailers considered Road 275 too rough and steep and preferred Lightning Creek Road 419. However, the East Fork low water ford crossing was often too difficult to do with a stock trailer.

Tributary roads – The tributary roads were all single lane roads. Before budgets cuts in road maintenance and complications from floods, these roads received regular maintenance. In recent years, due to low maintenance, the road surfaces have become rough and many roads have heavy brush along the roadsides. Lack of maintenance is evident. East Fork road 1184, Porcupine road 642, Auxor road 489, Mud Creek road 340, Rattle Creek road 473, Moose Lake road 1022, and Lunch Peak road 1091 each offered their own unique experience to the forest visitor as discussed below.

East Fork Road 1184 provided access to Trails 563, 61, 60, 5, 212, and 134 and to Char Creek Road 1030. Road 1184 provided access to the more remote backcountry and the Char Creek 1030 road system. Once well maintained and paved, the 1184 road was damaged in past flood events and repaired to a single lane, rough surface access route. The 1030 road has been gated for many years and is seasonally closed to motorized use. This road was used for huckleberry picking, hunting and fishing, hiking, and gathering firewood.

Porcupine Lake Road 642 provided access to Porcupine Lake. This is the only mountain lake with road access on the Sandpoint Ranger District. Due to a lack of maintenance funding, Road 642, accessing Porcupine Lake, is a low standard road with a rough surface and pockets of roadside brush. The Porcupine road and bridge have a history of flood damage. As described in the previous section, the bridge and/or approaches to the bridge were damaged during more than one flood event. The 1991 flood washed away the east approach to the Porcupine Bridge, which in turn, changed the access to a low water ford. High-clearance vehicles had to ford Lightning Creek during low water to reach the Porcupine Bridge. The ford was not maintained and the crossing became more difficult after each high water event.

Known for its scenic beauty and motorized access, Porcupine Lake is a popular destination for day trips or overnight camping. Day use includes fishing, looking for mountain goats, and simply enjoying the alpine setting. There are four developed sites at the lake, each with a table and fire ring/grill. A vault toilet is located in the day use area. Porcupine Lake is a non-fee site. Season of use is from early July to later October. This campground is the only developed campground in the project area.

Auxor Basin Road 489 was maintained on an intermittent basis and is rough in spots. It provides access to the middle of Trail 120 as well as Strong Creek Trail 444. Big basins and alpine meadows make this a favorite destination for hunters, horseback riders, motorized users, and photographers.

Mud Creek Road 340 was drivable for approximately one-quarter mile to the gravel pit. The remainder of the road has been closed to motor vehicles. Mud Creek Trail 559 is located at the end of the open road section. This road also provides access to Rattle Ridge Trail 134. Both trail 559 and 134 are nonmotorized trails. The closed portion of the road is overgrown with brush and has the appearance of a trail. Hunters and backpackers seeking a more remote experience use this trail.

Rattle Creek Road 473 provided access to the Rattle Creek rock quarry, Kootenai National Forest, and Troy, Montana. Recreational opportunities were unlimited when the road was paved (over 20 years ago) and well maintained for its entire length. Driving to Troy Montana was one of the most popular activities along with sightseeing, berry picking, hunting, fishing, and camping. Many personal use and landscaping permits were issued for the rock quarry near the Idaho/Montana border. Multiple floods (as described in the previous section) severely eroded or washed out many sections of this road. In most recent years, access along the lower road (next to the creek) was limited to high-clearance vehicles.

Spur roads - These roads are located off the tributary roads. Most of these roads were closed in the 1980s to provide for grizzly bear security. Some of these roads are seasonally (April-November) restricted to motorized use. See Table 1 for a display of road management status in the drainage. Most of these spur roads are heavily brushed in, hard to follow, or washed out.

Figure 3 displays access prior to the flood, while the table below shows the miles of access within the Lightning Creek project area during this same time period.

Table 1. Types of access before the 2006 flood

Road and Trail Management Status	Before Flood (miles)
Open, drivable roads	60.9
Restricted*, drivable roads	9.4
Closed (not drivable or closed w/barrier)	53.5
Motorized single-track trails	2.1
Motorized vehicles <50 in.	0
Restricted*, motorized vehicles <50 in.	0
Nonmotorized trails	71.2

* Restricted = closed April 1 - November 15

Despite changes in access and road conditions after the 1980 flood, the Lightning Creek drainage continued to be a very popular place and visitors seemed to adjust to access limitations and roads in poor condition. When the primary access shifted to Trestle Creek road 275, it was convenient for visitors from Sandpoint and the surrounding area, but considered a major detour for visitors from Clark Fork and Montana. The popular loop route opportunity connecting Road 419 and Road 275 became limited to vehicles with high clearance.

Trails

There are 23 system trails in the project area totaling about 71 miles. Very few of these trails were affected by the flood directly; however, access to some was cut off. All of the trails are non-motorized with the exception of Lake Darling trail 52. Trails vary from primitive trails (low use, narrow, brushed in, sporadic maintenance, no signs) to mainline trails (popular, well maintained, with bridges and signs) which provide access to mountain lakes, ridges, creeks and high mountain meadows and peaks. Trail lengths range from short day hikes of 2 miles or less, to long distance backpacking trips extending 20 miles or more. Hiking is the most popular use followed by horseback riding and mountain bike riding.

The following trails are mainline, nonmotorized and in good condition: Beetop-Roundtop Trail 120, Scotchman Peak Trail 65, Char Falls Trail 30, Upper Lake Darling Trail 52, Moose Lake Trail 237, Blacktail Lake Trail 24, Lake Estelle Trail 36, Moose Mountain Trail 213 and Gem Lake Trail 554.

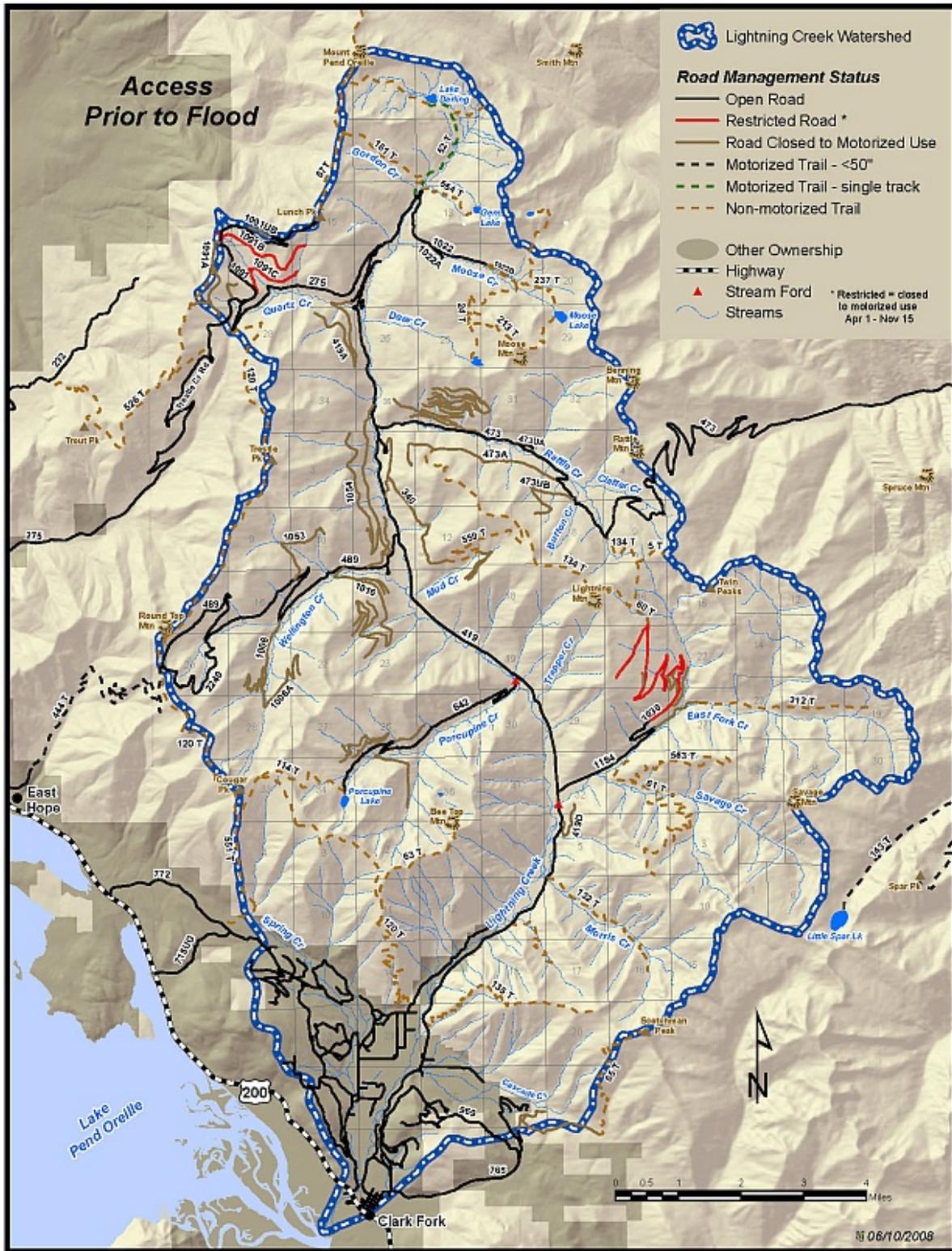


Figure 3. Road and trail access in the drainage before the flood

The following trails are primitive, nonmotorized and in fair condition with intermittent maintenance: Mud Creek Trail 559, Rattle Ridge Trail 134, East Fork Peak Trail 563, Goat Mountain Trail 135, Beetop Ridge Trail 63, Callahan Creek Trail 54. Gordon Creek Trail 161

The following trails are primitive, more remote, and nonmotorized, in poor condition: Savage Trail 61, Thunder Creek Trail 212, Char Creek Trail 60, Regal Mine Trail 556, and Savage Trail 05.

Lake Darling Trail 52 is a motorized (open to vehicles less than 50 inches wide), mainline, trail in good condition. Lake Darling is a popular destination for day trips and overnight camping. Unauthorized use of ATVs on the trail has caused resource damage in the past at the lakeshore and along the trail.

Existing Condition - The 2006 Flood Effects on Access and Recreation

The latest flood event to occur in the drainage took place in November, 2006. There was significant damage done to the Lightning Creek road itself with severe damage to roads in the Rattle Creek and portions of East Fork Lightning Creek drainages.

Damage from this event along Lightning Creek included the main channel of Lightning Creek shifting, eroding into, and destroying nearly 1,700 feet of the Lightning Creek road with the majority of that occurring in one area near the 4.8 mile marker. Many of the culverts along the road were washed out, covered by bedload, or plugged.

At the junction with road 642, the main channel of Lightning Creek shifted, washing away approximately 165 feet of the approach to the Porcupine Bridge. The main channel of Lightning Creek now flows through this area. Erosion below the abutments at the bridge exposed the upper areas of the steel pile foundation.

The Rattle Creek bridge was inundated with bedload and debris and suffered substantial damage to its superstructure and one abutment. The damage to the infrastructure in the Rattle Creek drainage during this latest event was severe, especially in the lower reaches of the drainage. Rattle Creek shifted to the north side of the drainage eroding into several areas of the roadway and destroying a total of approximately 1,130 feet of the Rattle Creek road along with many culverts. The large bottomless arch located at Benning Creek and the culvert at Button Creek were overwhelmed with bedload and debris. Because of this, the Rattle Creek road was severely eroded by water running down the road. A total of approximately 7,435 feet of the Rattle Creek road was eroded to varying degrees. Culverts were also covered, plugged, or washed out.

The East Fork road suffered similar damage. The creek was diverted by debris jams and bedload eroding away significant portions of the road. In other areas, debris flows impacted the road and in one area diverted the creek into the road, destroying the road prism for a distance of 310 feet. Approximately 935 feet of road was destroyed and another 2,300 feet of road severely eroded. Culverts were also covered, plugged, or washed out.

Miles of open drivable and seasonally restricted roads in the drainage have decreased from pre-flood conditions due to Lightning Creek road 419 and all its tributary roads (East Fork 1184, Char 1030, Porcupine Lake 642, Auxor 489, and Rattle 473) not being drivable. See Table 2 for a display of miles.

Recreation use since the flood has once again been changed by the damaged road facilities. Passenger vehicles have been unable to use the drainage since the 2006 flood due to the extensive

flood damage. Those people who accessed the drainage with standard or high-clearance vehicles are no longer able to do so.

Where road 419 washed away at the 4.8 mile marker, an easement across private land was lost, requiring the Forest Service to block public access to the road at that point. Since the flood damage an easement has been obtained by the landowner and a new gate has been installed just above the East Fork creek crossing. Although access into Lightning Creek drainage is still available from Trestle Creek road 275 in the warm and dry seasons, much of the Lightning Creek drainage (31.5 miles) has been restricted by Forest Service special order to nonmotorized and OHV use only due to undrivable conditions by larger four-wheeled vehicles on road 419. Tributary roads also restricted to OHV and nonmotorized travel include East Fork road 1184, Porcupine road 642, and Auxor road 489.

Due to the extent of damage to the road prism, Rattle Creek road has been closed indefinitely to all motorized vehicles except snowmobiles from its junction with road 419 for 3.2 miles east to below the bridge in section 5. Visitors and rock-gathering permittees wanting to access the top section of the Rattle Creek road have had to drive to it from the Keeler Creek road in the Kootenai National Forest in Montana.

Although no formal surveys or quantitative data exist, recreation use since the floods has likely decreased substantially due to lack of access. Recreationists today consist primarily of OHV users, mountainbikers, snowmobilers, hikers, and some stock users.

The existing condition for both roads and recreation in the Lightning Creek drainage is considered temporary in nature. The condition of the drainage due to the 2006 flood damage on the road system does not comply with its Forest Plan management designation and has greatly changed historic use.

Recreation Opportunity Spectrum (ROS)

The ROS designations for the Lightning Creek watershed are described in Chapter 1. Since the flood, the roaded modified and roaded natural settings have changed due to more restricted access.

Environmental Consequences

Direct and Indirect Effects Common to All Alternatives

All alternatives would have direct and indirect effects on the amount, spatial distribution, and quality of different recreation opportunities potentially available. Access into the Rattle Creek drainage from Lightning Creek Road 419 would be permanently eliminated except for cross-country travel on foot. Road 473 would be either closed or decommissioned for 3.2 miles from the junction with Lightning Creek Road 419 to just below the bridge in Section 5. Beyond that point, each alternative proposes variations in management of the remaining portion of road to the Montana border. Explanation for why Rattle road 473 cannot be repaired can be found in Appendix C, Alternatives Considered but Eliminated, and the Engineering Specialist Report.

The closing and decommissioning of road 473 would result in permanent displacement of motorized recreation access and activities in the Rattle Creek drainage. Displaced visitors, who use this road for hunting, hiking, fishing, driving for pleasure, rock gathering or picking huckleberries would need to find other areas in the Lightning Creek drainage or on the Idaho Panhandle National Forests or Kootenai National Forest to meet their recreation needs. These

displaced users could create more competition for dispersed camping sites and berry picking areas along Lightning Creek that already see heavy use, or move to other parts of the Sandpoint Ranger District or Kootenai National Forest.

There would no longer be vehicle access to the Kootenai National Forest from Lightning Creek road 419. Locals who used road 473 to access the rock quarry near the top of the road would now need to access the quarry from the Kootenai National Forest and Keeler Creek road.

The Recreation Opportunity Spectrum (ROS) designation for this area would change from roaded natural to semi-primitive non-motorized. This change in ROS would enhance the recreation experience for visitors who seek out nonmotorized areas without roads or trails.

Direct and Indirect Effects Common to the No Action Alternative and Alternative 3

Access management would not change on Lake Darling trail 52. It would remain open to motorized vehicles less than 50 inches in width. The Lake Darling area, along with the Gordon Creek drainage and Mt. Pend Oreille divide are designated as semiprimitive ROS. With the motorized use of Lake Darling trail, the semiprimitive recreation opportunity setting is compromised.

Direct and Indirect Effects Common to Alternatives 3 and 4

Access on Lightning Creek road 419 during road work (reconstruction, decommissioning, and bridge construction/demolition) is expected to range from limited to closed. Most of the access-limiting work would take place during the first summer of road work when public access would be similar to post-flood conditions (closed at the 3 mile marker) for an extended period of time.

Mud Creek road 340 would be converted to a nonmotorized trail from the gravel pit and would become part of Mud Creek Trail 559 increasing the total length of this trail to almost 6 miles. A small trailhead would be established at the gravel pit, this trailhead would be one of the primary access points for Rattle Ridge Trail 134. A short section of Rattle Ride trail 134 between road 473A (decommissioned) and the intersection of Mud creek trail 559 would be abandoned due to lack of access. It is expected that nonmotorized use would increase on Trail 559 as visitors seek access into the Rattle Creek drainage (trail 559 connects with Rattle Ridge Trail 134).

Alternative 1 – No Action

Direct and Indirect Effects

Alternative 1 would result in no change to the current road system and public access (see Table 2). Roads would not be repaired or decommissioned. There would be no change in the amount of motorized single-track trails and non-motorized trails with this alternative.

Recreationists seeking activities such as hiking, horseback riding, berry picking, and driving for pleasure in the Lightning Creek drainage would continue to be displaced due to lack of access. It is likely these recreationists would go to adjoining drainages, other areas of the Sandpoint Ranger district such as Pack River, or adjoining Kootenai National Forest for their recreational experience.

The recreation opportunity setting would not be compliant with the ROS designations for roaded natural and roaded modified settings in the Forest Plan.

Table 2. Alternative 1 - Road and trail management status compared to pre-flood conditions

Road and Trail Management Status	Pre Flood Conditions (miles)	No Action Existing Condition (miles)	Difference from pre-flood condition (miles)
Open, drivable roads	60.9	22	- 38.9
Seasonally restricted*, drivable roads	9.4	3.4	- 6
Open road closed with this alternative		0	No change
Motorized single-track trails	2.1	2.1	No change
Motorized vehicles <50 in.	0	31.5	+ 31.5
Restricted* road, motorized vehicles <50 in.	0	6	+ 6
Non-motorized trails	71	71	No change

* Seasonally restricted from April 1- November 15

Alternative 3

Direct and Indirect Effects

This alternative was designed to strive for restoring pre-flood access as much as is practical and would result in a direct effect to the road system. Approximately 22.8 miles of flood-damaged roads would be reconstructed with this alternative. Open road access would be reduced from pre-flood conditions mainly due the decommissioning of the Rattle Creek road 473 and the conversion of a portion of Rattle Creek road 473 to nonmotorized trail. See Table 3 for a display of miles.

Reconstruction of flood-damaged sections of Lightning Creek Road 419 would restore the road to pre-flood conditions. Road reconstruction would provide motorized access throughout most of the drainage; restoring access to East Fork Road 1184, Porcupine Lake Porcupine Lake road 642¹, Auxor Basin road 489, and Trestle Creek road 275. Rattle Creek road 473 would be closed from the Lightning Creek end and reconstructed from Button Creek to the Montana border.

There would be heavy truck traffic on the main Lightning Creek road 419 when construction of the bridge over Lightning Creek (accessing Porcupine Lake) begins. During this time, a section of the Lightning Creek road would be closed to public access for safety reasons. This would occur during the summer months and access into the drainage would temporarily revert to using Trestle Creek road only during this time period. This temporary access change is not expected to last more than one season and would likely have an effect on the amount of vehicle use in the drainage.

A low water ford would be maintained at the East Fork Creek crossing limiting access to high-clearance vehicles. Vehicles towing trailers and low-clearance automobiles would still need to detour around to Trestle Creek to access the upper Lightning Creek drainage.

Seasonally restricted drivable roads (open from April 1- November 15) would not change from pre-flood conditions.

¹ Until funding for a bridge over Porcupine Bridge is secured, access on Porcupine Lake road 642 would be limited to vehicles less than 50 inches navigating steep slopes in and out of Lightning Creek.

Table 3. Alternative 3 - Road and trail management status compared to pre-flood conditions

Road and Trail Management Status	Pre Flood Conditions (miles)	Alternative 3 (miles)	Difference from pre-flood condition (miles)
Open, drivable roads	60.9	55.4	- 5.5
Restricted*, drivable roads	9.4	9.4	No change
Open roads closed with this alternative		4.8	- 4.8
Seasonally restricted roads closed with this alternative		0	No change
Motorized single-track trails	2.1	2.1	No change
Motorized vehicles <50 in.	0	5.0 Temporary until Porcupine bridge built	+ 5.0 Temporary until Porcupine bridge built
Restricted* road, motorized vehicles <50 in.	0	0	No change
Non-motorized trails	71	76	+ 5.0

* Seasonally restricted from April 1- November 15

If funding becomes available, the construction of a bridge over Lightning Creek to Porcupine Lake road 642 would restore high-clearance vehicle access to Porcupine Lake due to the condition of the road beyond the bridge. It is expected that day use and camping would return to pre-flood levels on this road and small campground.

Until funding is secured for bridge construction, access would be restricted to OHVs less than 50 inches in width fording the creek during low water flows. During this time, there could be a slight increase in OHV use on the Porcupine Lake road as compared to pre-flood conditions. The modern vault toilet, located at the campground, would be removed and replaced with a primitive pit toilet because there would be no way to pump the vault toilet. The campground would be maintained less frequently.

Day use in the drainage would mostly return to the pre-flood levels of moderate to high use. Driving for pleasure would continue to be one of the most consistently popular activities in the drainage. Other activities that would be restored close to pre-flood conditions would be gathering forest products such as mushrooms, berries, firewood, rocks, and other forest resources, mountain bike riding, hiking, hunting, fishing, snowmobiling, and horseback riding.

Nonmotorized use in the drainage would increase by about 5 miles with this alternative. See Table 3 for a display of miles. This increase could create a change in the amount of trail use in the drainage; especially in the Rattle Creek drainage. See the Recreation section of the project file for a more detailed account of effects by trail.

Alternative 4 – Proposed Action Modified

Direct and Indirect Effects

Open drivable roads in the drainage would decrease from pre-flood conditions due to tributary roads (portion of East Fork 1030, Porcupine Lake 642, Auxor Basin 2240, and Rattle 473) being closed to motorized vehicles larger than 50 inches, decommissioned or converted to nonmotorized trail (Table 4). Options A and B differ only in the way road 2240 is managed, which is why there is a difference in the open road miles in Table 4. Rattle Creek road 473 would

be closed from the Lightning Creek end and accessible only from the Montana border down to Clatter Creek.

Table 4. Alternative 4 - Road and trail management status compared to pre-flood conditions

Road and Trail Management Status	Pre Flood Conditions (miles)	Alternative 4 (miles)		Difference between pre-flood condition (miles)	
		Option A	Option B		
Open, drivable roads	60.9	42.9	42.9	-18	-18
Restricted*, drivable roads	9.4	0	0	-9.4	-9.4
Open roads closed with this alternative		14	16.5	-14	-16.5
Seasonally restricted roads closed with this alternative		9.4	9.4	-9.4	-9.4
Motorized single-track trails	2.1	0	0	-2.1	-2.1
Motorized vehicles <50 in.	0	7.5	5.0	+7.5	+5.0
Restricted* road, motorized vehicles <50 in.	0	0	0	No change	No change
Non-motorized trails	71	89.5	89.5	+18.5	+18.5

* Seasonally restricted from April 1- November 15

Reconstruction of approximately 12.8 miles of flood-damaged sections of Lightning Creek road 419 and construction of a bridge over East Fork Creek would restore vehicle access to road 419 for all types of vehicles from Clark Fork and the surrounding area to pre-1980s access. Seasonal access into the drainage from Clark Fork would likely occur sooner in the spring and later in the fall since there is no longer a low water ford to limit access. It is likely that many recreational users who once used Trestle Creek road 275 to access the drainage would now use Lightning Creek road from Clark Fork. It is expected that more people would pursue recreational opportunities in this drainage as compared to pre-flood conditions.

The once popular Trestle Creek to Lightning Creek day trip would be accessible without fording a creek. Driving for pleasure would once again be the most popular activity in the drainage. Displaced vehicular traffic from once open roads (East Fork road 1184 and Rattle Creek road 473 Porcupine Lake road 642) would likely rely on Lightning Creek road more heavily for recreational pursuits.

Seasonally restricted drivable roads (open from April 1- November 15) would decrease from pre-flood conditions because of road 1030's conversion to nonmotorized trail and the decommissioning of roads 1091B and 1091C.

The East Fork Bridge construction would provide a new access route from Clark Fork for winter activities such as cross-country skiing and snowmobiling. Road 419, which is already a designated groomed snowmobile route, would likely be groomed on a regular basis. Snowmobile use may increase slightly, but not likely substantially, because there are still many other snowmobiling opportunities across the ranger district and northern Idaho. Instead, the primary effect would be a redistribution of use between Trestle Creek road 275 and road 419 from Clark Fork. Users from Montana and the Clark Fork area that used to have to drive to Trestle Creek to access the drainage, may choose to access it from Clark Fork instead.

This alternative would result in loss of recreation opportunities for automobiles and high-clearance vehicles that drive to Porcupine Lake. Access would no longer be available for pickups

or automobiles. Road access has been limited to all but high-clearance vehicles for at least 10 years; prior to that, automobiles could access this road (see Past Flood Events in prior section). With the conversion of this road to a designated OHV trail, along with easy access provided by the East Fork Bridge into Lightning Creek, it is likely that OHV use to Porcupine Lake would increase considerably from existing and pre-flood conditions. Although OHVs have been able to access this area in the past, it was in mixed traffic with larger vehicles, which many OHV riders don't like because of safety issues.

Motorized vehicle access for OHVs less than 50 inches would increase for both Options A and B. The difference between the two is that Option A would provide for more OHV use due to the conversion of Auxor Basin road 2240 to a motorized trail. Although this road is currently used as a trail, Option A would formally designate it as a motorized trail on the district trail system.

Lake Darling trail 52 would change from single-track motorized to nonmotorized. The use on this trail may change slightly from pre-flood use due to the change in access. This change in management would reduce motorized opportunities for users of Lake Darling, but create a nonmotorized, more primitive setting for those that seek such a backcountry experience. In addition, it would be more compatible with the surrounding areas that are already designated as semi-primitive such as Gordon Creek, Mt. Pend Oreille, and Callahan Creek.

Single-track motorized users no longer able to use the Lake Darling trail could potentially be displaced to the newly converted Porcupine Lake motorized trail 642. This trail would allow for a longer motorized experience (5 miles) to a high mountain lake with a campground as compared to a 2.5-mile ride to a high mountain lake without a campground. Porcupine Lake 642 would be the only motorized trail within the drainage.

Nonmotorized trails would increase with this alternative mainly due to the conversion of open and closed roads to nonmotorized trails. Accompanying this is the development of two new trailheads to provide access to these trails (East Fork, Clatter Creek). This newly created nonmotorized trail network, primarily located on the east side of the drainage, is expected to draw more nonmotorized recreational users than pre-flood conditions. The conversion of roads to nonmotorized trails could enhance the unroaded character of the Scotchman Inventoried Roadless Area, which surrounds roads 1184 and 1030. Trail 134 has the potential to become one of the longest nonmotorized trails on the Sandpoint Ranger District with multiple trailheads. With the changed access into the drainage from Clark Fork and the newly created nonmotorized trail system, it is expected that use will increase substantially on these trails. See recreation section of project file for more specific information on effects to individual trails.

Cumulative Effects of All Alternatives

Cumulative effects for recreation and roads are considered as the additive effects displaced forest users would have on other areas of the National Forest. Since the flood, limited access has decreased the amount of use in the drainage, which is likely causing a cumulative effect on other areas, in the form of increased use of roads and trails. These effects are expected to extend outside the project area to forest settings similar to Lightning Creek. Predicting how far from the drainage people would go is difficult, but it is likely that they would choose areas within the north Idaho panhandle, and the west side of the Cabinet Ranger District in the Kootenai National Forest. In all alternatives, people wanting rock from the Rattle Creek quarry would have to access it from the Montana side of the Cabinet Mountains, as they do now. This may have a cumulative effect of increased use of the Keeler Creek road.

Alternative 1 would maintain the current condition and likely have the most cumulative effects on other area roads and trails. Alternative 3, which restores as much pre-flood access as possible, probably has the least cumulative effect on other areas of the forest as users would return to recreating in the Lightning Creek drainage. Although Alternative 4 has less standard motorized vehicle access than Alternative 3, the construction of a bridge at the East Fork of Lightning Creek would provide more convenient access to road 419, and therefore would also likely have less of a cumulative effect on other areas of the Forest, as use of the main Lightning Creek road becomes available to all types of vehicles.

Compliance with the Forest Plan and Other Regulatory Direction

Alternative 1 (no action) would not comply with Forest Service transportation system direction and Forest Plan management area direction for roads and trails, because roads needing to be restored to their road management objective would not be repaired, and recreation opportunities would not be provided as specified in the Forest Plan. Alternatives 1 and 3 would not comply with Forest Plan direction to provide a semi-primitive recreation experience on Lake Darling trail 52. Alternative 4 would comply with all Forest Service and regulatory direction.

Literature Cited

- USDA Forest Service. No date. Managing the Decline of the Northern Region's Road System. Unpublished Report. USDA Forest Service, Region 1, Missoula, MT.
- USDA Forest Service. 1987. Idaho Panhandle National Forests Forest Plan. Idaho Panhandle National Forests, Coeur d'Alene, ID.
- USDA Forest Service. 2008. Notes on road maintenance funding trends – Idaho Panhandle National Forests. White paper available from project file.