



United States
Department of
Agriculture

Continental Divide National Scenic Trail: Miner-Berry- Goldstone

Forest Service

Environmental Assessment

Wisdom Ranger
District, Beaverhead-
Deerlodge National
Forest

Leodore Ranger District,
Salmon-Challis National
Forest

May 2008

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDAs TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202)720-6382 (TDD). USDA is an equal opportunity provider and employer.

Table of Contents

CHAPTER 1	PURPOSE OF AND NEED FOR ACTION	
	Introduction	1
	Purpose and Need	2
	Desired Condition	2
	Proposed Action.....	3
	Public Involvement.....	3
	Key Issues.....	4
	Forest Plan Management Direction	6
	Responsible Official and Scope of the Decision	6
	Contact Person	6
 CHAPTER 2	 ALTERNATIVES	
	Alternative Development Process	7
	Alternative 1 – No Action	7
	Alternative 2 – Proposed Action	8
	Alternative 3	8
	Alternative 4 – Preferred Alternative	9
	Alternative 5	10
	Alternative 6	11
	Features Common to all Action Alternatives	12
	Comparison of Alternatives	15
	Alternatives Considered but not Analyzed in Detail	17
 CHAPTER 3	 EXISTING CONDITION & ENVIRONMENTAL EFFECTS	
	Forest Plan Management Direction	18
	Past, Present, and Reasonably Foreseeable Activities	21
	Resources.....	25
	Recreation.....	25
	Wildlife	33
	Hydrology.....	42
	Scenery.....	44
	Noxious Weeds	49
	Soil	51
	Aquatic Resources.....	53
	Sensitive Plants	55
	Heritage Resources	55
	Consistency with Other Laws, Policy & Direction.....	57
	Agencies or Persons Contacted	58
	MAPS: Vicinity Map; Alternatives 1 through 6 Maps	

CHAPTER 1. PURPOSE OF AND NEED FOR ACTION

Chapter 1 identifies the purpose and need for the proposed action, the scope of the proposed action, and the decisions to be made.

Introduction

The Wisdom Ranger District of the Beaverhead-Deerlodge National Forest (BDNF) and the Leadore Ranger District of the Salmon-Challis National Forest (SCNF) are proposing to construct about 8 ½ miles and reconstruct 13 miles of the Continental Divide National Scenic Trail (CDNST) from Miner Creek to Goldstone Pass. The Miner to Berry portion of the CDNST is in a good geographical location, although certain segments are in need of reconstruction due to steep grades and several wet area crossings. Reconstruction would be designed to remedy existing erosion and grade problems.

The current CDNST trail from Berry to the Goldstone/Pratt Creek Divide is an interim location utilizing existing jeep, ATV, and foot trails to traverse the mid to lower elevations in Berry, Pioneer and Jahnke Creeks before ascending the geographic divide at the head of Darkhorse Creek. System trails exist in Hamby, Berry, Pioneer, Jahnke and Darkhorse Creeks. Proposals locating the trail off of current system roads and trails and up higher on the divide pose a challenge due to the topography. The key location question is which drainage to go up to access the Continental Divide. At some point, a headwall must be climbed to reach the divide. A detailed description of the existing condition can be found in the No Action Alternative description, in Chapter 2.

Background

Congress established the CDNST through the National Trail System Act (P.L. 90-543) as amended November 10, 1978. The CDNST extends approximately 3100 miles from Canada to Mexico and is administered by the Secretary of Agriculture in consultation with the Secretary of Interior.

The following is a timeline of events in the establishment of the CDNST

- October 2, 1968 Congress enacted the National Trail System Act
- 1976, the Continental Divide Trail Study Report initiated in 1969 is completed
- 1977, the legislative Final Environmental Impact Statement for the proposed Continental Divide Trail was completed to accompany the Study Report
- November 10, 1978, Congress amended the National Trail System Act to establish and designate the Continental Divide Trail (P.L. 95-625)
- 1985, the Continental Divide Trail Comprehensive Plan was approved by the Chief of the Forest Service
- April 7, 1989, Environmental Assessment and Decision Notice for the Continental Divide National Scenic Trail on Federal Lands along the Geographic Continental Divide Montana – Idaho is signed.

While the direction to establish a Continental Divide National Scenic Trail is clear, portions of the trail remain on interim routes; portions of the trail have not received a detailed site specific look to determine the final and best location for the trail.

Once a final route is identified, implementation of the selected route for the CDNST requires marking, construction, and reconstruction of segments of the trail. A site-specific analysis is required to examine environmental effects prior to each construction project; this document (with supporting documentation in the project file) discloses the site-specific analysis.

Purpose and Need

The BDNF manages a high quality segment of the trail in southwest Montana that needs additional work to better meet the nature and purpose of the CDNST as described below.

The purpose of this project is to make routing decisions for a portion of the CDNST to best meet the legislative and administrative direction for the trail. In doing so, the Forest Service will further the nature and purpose of this National Scenic Trail as described in the following:

1. The National Trails System Act of 1968 as amended (Public Law 90-543) which state: “National scenic trails, established as provided in section 5 of this Act, which will be extended trails so located as to provide for maximum outdoor recreation potential and for the conservation and enjoyment of the nationally significant scenic, historic, natural, or cultural qualities of the areas through which such trails may pass.”
2. The 1976 Trail Study Report written by the Department of Interior, Bureau of Outdoor Recreation: “The primary purpose of this trail would be to provide a continuous, appealing travel route designed for the hiker and horseman, but compatible with other uses.”

The Forest Service intends to meet the above direction to develop a trail that connects people and communities to the Continental Divide by providing scenic, high-quality, primitive hiking and horseback riding experiences, while preserving the significant natural, historic, and cultural resources along the trail.

The need for the project stems from the fact that segments of the CDNST, from Miner Creek to the Goldstone Divide are on interim routes, mostly consisting of Forest Service system roads, and have not received detailed analysis, nor are they located in an optimum route location. There is a need to examine alternate locations, to understand the experiences offered on each route, understand the environmental effects of alternatives, ensure consistency with other direction for the area, and select the best location for the trail. While it may not be possible to route the entire trail on non-motorized travel ways, there is a desire to look for ways to enhance the CDNST experience by placing the trail in non-motorized settings.

Desired Condition

To have a trail that is safe, environmentally sound, meets Forest Service Manual standards for grade, clearing, and trail width, and meets the intent of the National Trails System Act and the Continental Divide Trail Comprehensive Plan.

Proposed Action

As noted below, the proposed action was the starting point for analysis; it is not the preferred action at this time.

The project area is approximately 10 miles southwest of Jackson, Montana and 30 miles southwest of Wisdom, and 15 miles east of Salmon, Idaho in the Beaverhead Mountains of the Bitterroot Range. The proposed action addresses the trail corridor in three segments:

- Miner Creek to Berry Creek
- Berry Creek to Goldstone-Pratt Creek Divide Pass
- Goldstone-Pratt Creek Divide/Goldstone Pass (Leadore Ranger District, SCNF)

The proposed action comes from planning that was completed in the late 1980s on possible trail locations, and formed the starting point for analysis of trail locations. This alternative includes constructing approximately 8.6 miles of new trail and managing the new trail as a wheeled non-motorized trail. Further, the proposed action calls for reconstructing approximately 12.7 miles of existing trails and low standard roads from Miner Creek to Goldstone Pass (see Alternative 2 map) to implement the CDNST.

The proposed action addresses the trail corridor in the following specific segments:

1. Reconstruct 2.7 miles of existing trail from Miner Creek to Englehard (Trail #203) and maintain current use of the trail which is closed to wheeled vehicles year long.
2. Reconstruct 0.8 mile of trail from Englehard to Hamby (Trail #203) and close the trail to all wheeled vehicles yearlong.
3. Reconstruct 2.5 miles of trail from Hamby to Berry (Trail #203) and maintain current use, which is open yearlong to motorcycles and snowmobiles.
4. Use 0.5 mile of the Berry Meadows Road (Road # 7325) for trail route and leave open to all motorized vehicles.
5. Construct 4.3 miles of new trail which would be closed to wheeled motorized vehicles yearlong.
6. Reconstruct 0.5 miles of Road #71205 to the junction with Trail # 480 and close the road to all wheeled motorized vehicles yearlong. Close an additional 2.1 miles of Road #71206 to wheeled motorized vehicles yearlong.
7. Reconstruct 0.8 mile of Trail #480 to its junction with Trail #442 and reconstruct 1.5 miles of Trail #442 to Pioneer Lake and maintain current use of the trail, which is closed to all wheeled motorized vehicles yearlong.
8. Construct 4.2 miles of new trail from the end of Trail #442 and the intersection with Road #7330 (Darkhorse Creek). The new trail would be closed to all wheeled motorized vehicles yearlong.
9. Manage current erosion problems on 1.7 miles of low standard jeep road from Road #7330 from Darkhorse Creek to Cowbone Lake and maintain current use which is open to all vehicles yearlong.
10. Reconstruct 1.1 miles of Trail #9 from Cowbone Lake to the hydrologic divide and close the trail to wheeled motorized vehicles yearlong.
11. Rehabilitate 0.5 mile of existing ATV trail from the hydrologic divide to the Goldstone Road and use 0.2 miles of the Goldstone Road to Goldstone Pass on the SCNF. This route would conform to the current travel plan in effect on the SCNF.

Public Involvement

On March 3, 2004, a scoping notice was mailed to 289 individuals and groups. Over 100 parties responded with comments and/or concerns, and a comment content analysis was conducted. Public comments helped

develop and shape issues, and led to development of alternatives to the proposed action. The majority of the comments received from the public were concerns about motorized or non-motorized use of the trail.

In addition to formal public involvement, the Forest maintains a Schedule of Proposed Actions (SOPA) that summarizes planned project proposals. This summary is available on the BDNF web page at www.fs.fed.us/r1/b-d. The CDNST Miner-Berry-Goldstone project has been listed on the SOPA since March, 2004. The project has been listed on the SCNF SOPA since October 2007.

On September 13, 2005, an update on the progress of the project was mailed to individuals and groups who commented during scoping. An open house was held on October 6, 2005 and some user groups have been contacted directly to clarify their issues and concerns. The scoping mailing list, public involvement documents, and comment letters received are located in the project file.

Given the expansion of trail construction onto the SCNF, the mailing list for this EA will be expanded and legal notices related to the project will be expanded to include Idaho.

Key Issues

Relevant key issues and potential concerns are addressed in this chapter. The interdisciplinary team (ID Team) examined potential effects of the proposed route and its alternatives on the issues listed below:

1. The quality of motorized and non-motorized recreation opportunities and experiences.
2. Reduction in elk security due to increased trail densities.
3. Fragile high mountain lakes, riparian areas and cirque basins.
4. The scenic integrity of the area.
5. The spread of noxious weeds.

Issue #1: Quality of Motorized and Non-motorized Recreation Opportunities and Experiences.

Although Congressional intent is to manage the CDNST as a non-motorized trail, the National Trail System Act and the Comprehensive Plan allow for motorized use on portions of the trail where such use was allowed at the time of CDNST designation (see Chapter 3 for a more detailed explanation of the direction). The opportunity for motorized or non-motorized recreation on the Miner-Berry-Goldstone Pass trail segment was the most common concern raised by people commenting on this project. The public expressed concern that the trail may increase user conflicts or place users in situations that will foster user conflicts.

Trail users have pointed that there are few points on the CDNST in southwest Montana where a hiker or horseback rider can drive a car or pull a horse trailer to a trailhead and have a non-motorized experience leading to the CDNST. From the Anaconda Pintler Wilderness to Goldstone Pass, there are no access points suitable for a car or pickup truck and horse trailer where the trail leading to the CDNST is not shared with motorized users.

Indices of Measure:

- Miles of CDNST road and trail that are open to motorized and non-motorized use.
- Miles of CDNST road and trail that are proposed for closure to motorized use.

Issue #2: Reduction in Elk Security Due to Increased Trail Densities

New trail construction in high quality elk habitat areas that currently do not have a Forest Service system of trails or roads can have unwanted effects on elk vulnerability and elk distribution.

Index of Measure:

Miles of new trail construction proposed between Berry Creek and Road #71205, in Sections 9, 10, 15, and 16 of Township 7 South, Range 16 West.

Issue #3: Fragile High Mountain Lakes, Riparian Areas and Cirque Basins

Newly constructed trail to high mountain lakes may lead more visitors to these locations, which may affect the integrity of sensitive wetlands surrounding the lake. Sensitive riparian areas along trout-bearing streams may be affected by trail location. Improved access created by a new and/or improved trail has the potential to increase fishing pressure and increase campsite impacts from overnight use.

Indices of Measure:

- Number of high mountain lakes with CDNST access.
- Number of stream crossings in trout streams.
- Miles of trail within 300 feet of streams or lakes.

Issue #4: Scenic Integrity

Although routing the trail higher on the divide provides dramatic views and unique scenery, new trail construction crossing saddles on high talus, beargrass, and/or scree slopes would be visible in short and long distance views, resulting in unnatural features which can detract from users' viewing experience. Disturbance associated with construction is to be expected and can dominate views, but should be minimized to the extent feasible.

Index of Measure:

Overall Scenic Rating as defined by the combined rating of the effect of construction on visual quality (1 = Maximum Modification, 2 = Modification, 3 = Partial Retention, 4 = Retention) for various sections of the trail and the visual experience from the trail (1 = Low, 2 = Moderate, 3 = High).

Views from the trail are also analyzed by looking at middle ground views and Partial Retention VQO and background views per the CDNST Comprehensive Plan.

Issue #5: Noxious Weeds

Known weed infestations at lower elevations in Beaverhead County, Montana and Lemhi County, Idaho may increase the likelihood of weed spread into currently remote (roadless) areas on the BDNF when newly constructed CDNST trail connects to motorized travel routes. Weed infestations in Lemhi County are more extensive than in most of Beaverhead County, especially in the Big Hole Valley. This occurs for a variety of reasons, including elevation and growing season length. Noxious weeds expanding in the Wimpey Creek and Pratt Creek drainages on both public and private lands pose a real threat related to the trail. Control of weeds is more difficult in these remote areas because access is restricted. Weed spread may increase during the construction phase, when disturbed sites create a seedbed that would allow the spread of noxious weeds.

Indices of Measure:

- Number of points where the CDNST trail intersects with motorized routes.
- Miles of CDNST trail that use existing motorized routes, or would allow motorized use.
- Acres of ground disturbance.

Other Management or Resource Concerns

Project cost is a consideration in the evaluation of alternatives. Trail construction in high elevation backcountry areas is expensive and project cost should not be a sole determinant in selecting a trail location; however, it is our obligation to tax payers to be wise about the expenditure of tax dollars. Trail locations can affect the long term cost of maintenance which is an important consideration in the design of this project. Trails can be impacted by early summer snow depositions. Some trail locations can be closed by snow deposition late into the summer or early in the fall reducing the season of use of the trail and reducing trail safety.

Forest Plan Management Direction

Current management direction for the Beaverhead National Forest is found in the Beaverhead National Forest Land and Resource Management Plan (1986). Current management direction for the Salmon National Forest is found in the Salmon National Forest Land and Resource Management Plan (1988). The plans describe forest-wide goals and objectives, standards and guidelines, and direction for subunits of the forest referred to as “Management Areas.” The management direction relevant to the project area is summarized in Chapter 3. The Forest Plan for the Beaverhead National Forest is being revised, and potential changes resulting from the revision may be a complicating factor to some readers. While it is difficult to anticipate the outcome of the new plan, the new plan is not likely to affect the location of the trail. The direction for motorized travel may change a good deal in the new plan. Direction in the new Beaverhead-Deerlodge Forest Plan will supercede the decision made here in regards to motorized and non-motorized use on the BDNF. Refer to Chapter 3 for more detail regarding Forest Plan direction.

Responsible Official and Scope of the Decision

The USDA Forest Service is the lead agency for this analysis. The responsible officials for the decision are the Forest Supervisors of the BDNF and SCNF. The responsible officials will decide whether to authorize construction and reconstruction, signing, some trail obliteration and travel management for the trail segments of the selected route.

Contact Person

Noelle Meier
USDA Forest Service, BDNF
420 Barrett
Dillon, MT 59725
406.683-3932
email: nmeier@fs.fed.us

CHAPTER 2. ALTERNATIVES

Alternative Development Process

A full range of alternatives were developed based upon Forest Plan objectives, National and Regional direction and policy, existing conditions, and environmental issues. Key issues are discussed in Chapter 1; effects are summarized in this chapter, with additional detail disclosed in Chapter 3. The other factors that influenced alternative development are also discussed in Chapter 3. The important differences between alternatives are based upon the driving (or key) issue that is emphasized in each.

Alternative 1—No Action

This alternative provides a baseline for comparison of the potential impacts of the action alternatives to the existing condition and is a management option that could be selected by the Responsible Officials. The results of taking no action would be the current condition as it changes over time due to natural forces. Please refer to the Alternative 1 map.

No new trail would be constructed; therefore the CDNST users would remain on the existing roads and trails. Motorized and non-motorized travel would remain the same and no trail reconstruction would occur. This alternative would not meet the objective of implementing the strategic plan for the CDNST.

1. Within the project area the CDNST extends from Miner Creek to Englejard on Trail #203 for 2.7 miles and is closed to wheeled motorized vehicles yearlong and open to snowmobiles from December 1 to May 15 each year. Snowmobile use on this trail, which runs across the drainage is incidental. Currently, snowmobile use up and down drainages is more common.
2. From Englejard to Hamby, 0.8 mile of trail is currently open to motorcycles.
3. The trail follows Trail #203 from Hamby to Berry Meadows for 2.5 miles and is currently open yearlong to motorcycles and snowmobiles.
4. The trail follows Road # 7325 along Berry Creek to the junction of the Pioneer Road # 71205 for 5.4 miles. This segment is currently open to all motorized vehicles.
5. The trail follows the Pioneer Road #71205 for 1.4 miles to the junction of Overland Trail #36, which is currently open to all motorized vehicles.
6. The trail follows Overland Trail #36 for 1.7 miles to the junction of Trail # 479, which is open to ATVs and motorcycles yearlong.
7. The trail continues on Trail #36 from the junction of Trail #479 to the junction with Jahnke Road #7328 for 0.2 mile, which is currently open to all motorized vehicles. Then the trail continues along Trail #36 to the junction of the Skinner Meadows Road #381 for 2 miles which is currently open to motorcycles.
8. The trail follows Skinner Meadows Road #381 to Darkhorse Road #7330 for 1.1 miles and is currently open to all motorized vehicles. The trail then follows Darkhorse Road #7330 to Cowbone Lake for 5.4 miles and is currently open to all motorized vehicles.
9. From Cowbone Lake the trail continues on Trail #9 to the hydrologic divide for 1.2 miles and is a single track trail open to motorcycles. The trail uses 0.4 mile of existing ATV trail from the hydrologic divide to Goldstone Road #64025 and 0.2 mile of the Goldstone Road to Goldstone Pass on SCNF. These routes are currently open to all motorized uses.

Alternative 2—Proposed Action, as Scoped (2004)

The proposed action comes from planning that was completed in the late 1980s on possible trail locations. This alternative formed a starting point for analysis of trail locations. This alternative includes constructing approximately 8.5 miles of new trail and managing the new trail as non-motorized trail. Further, the alternative calls for reconstructing approximately 12.1 miles of existing trails and low standard roads from Miner Creek to Goldstone Pass to implement the CDNST. Approximately 0.7 miles of existing road would be used and would remain open to all motorized vehicles. This alternative proposes a total of 21.3 miles of CDNST trail. Please refer to the Alternative 2 map.

The proposed action addresses the trail corridor in the following segments:

1. Reconstruct 2.7 miles of existing trail from Miner Creek to Englejard (Trail #203) and maintain current use of the trail which is closed to wheeled motorized vehicles year long.
2. Reconstruct 0.8 mile of trail from Englejard to Hamby (Trail #203) and close the trail to all wheeled motorized vehicles yearlong. Allow snowmobile use from December 1 to May 15 each year.
3. Lightly reconstruct 2.5 miles of trail from Hamby to Berry (Trail #203) and maintain current use, which is open yearlong to motorcycles and snowmobiles.
4. Use 0.5 mile of the Berry Meadows Road (Road # 7325) for trail route and leave open to all motorized vehicles.
5. Construct 4.3 miles of new trail which would be closed to wheeled motorized vehicles yearlong.
6. Reconstruct 0.5 miles of Road #71205 to the junction with Trail # 480 and close the road to all wheeled motorized vehicles yearlong.
7. Reconstruct 0.8 mile of Trail #480 to its junction with Trail #442 and reconstruct 1.5 miles of Trail #442 to Pioneer Lake and maintain current use of the trail, which is closed to all wheeled motorized vehicles yearlong.
8. Construct 4.2 miles of new trail from the end of Trail #442 and the intersection with Road #7330 (Darkhorse Creek). The new trail would be closed to all wheeled motorized vehicles yearlong.
9. Reconstruct 1.7 miles of low standard jeep road from Road #7330 from Darkhorse Creek to Cowbone Lake and maintain current use which is open to all vehicles yearlong.
10. Reconstruct 1.2 miles of Trail #9 from Cowbone Lake to the hydrologic divide and close the trail to wheeled motorized vehicles yearlong and open to snowmobiles from December 1 to May 15 each year.
11. Reconstruct 0.4 mile of existing ATV trail from the hydrologic divide to the Goldstone Road and use 0.2 miles of the Goldstone Road to Goldstone Pass on the SCNF. This route would conform to the current travel plan in effect on the SCNF.

Alternative 3

This alternative is very similar to Alternative 2; however, it responds to some public comments that requested a route with a non-motorized character, as compared to the Proposed Action. Alternative 3 includes a location change at Berry Creek, Darkhorse Lake, and Cowbone Lake the moves the trail off popular and open motorized travel routes. Alternative 3 proposes to construct approximately 12.2 miles of new non-motorized trail, and reconstruct 8.7 miles of trail. Of these miles of reconstruction, 3.8 are proposed to be converted from existing motorized trails and low standard roads to non-motorized use. The location of the new trail would be essentially the same as in Alternative 2, except two segments of new trail construction are proposed. Alternative 3 proposes 20.9 total miles of CDNST trail. To respond to public comment requesting a non-motorized route or experience from a passenger car location, Alternative 3 contains 2.5 miles of access trail from the Skinner Meadows Road to access the trail in Pioneer Creek. Please refer to the Alternative 3 map.

This alternative consists of the following specific activities:

1. Reconstruct 2.7 miles of existing trail from Miner Creek to Englejard (Trail #203) and maintain current use of the trail which is closed to wheeled motorized vehicles year long,
2. Reconstruct 0.8 mile of trail from Englejard to Hamby (Trail #203) and close the trail to wheeled motorized vehicles yearlong.
3. Lightly reconstruct 2.0 miles of trail from Hamby to Berry (Trail #203) and close the trail to wheeled motorized vehicles yearlong.
4. Construct 0.4 miles of new trail from the Berry Meadows Road to Trail #203, which would be closed to wheeled motorized vehicles yearlong.
5. Obliterate 0.6 miles of Trail # 203 from the junction of Trail #203 and newly built CDNST trail to Berry Creek Road #7325.
6. Construct 4.2 miles of new trail from Road #7325 to Road #71205, which would be closed to wheeled motorized vehicles yearlong.
7. Construct 0.6 miles of new trail from Road 371205 to Trail #442, which would be closed to wheeled motorized vehicles yearlong.
8. Reconstruct 2.2 miles of Trail #442 to Pioneer Lake and maintain current use of the trail, which is closed to all wheeled motorized vehicles yearlong.
9. Construct 4.2 miles of new trail from the end of Trail #442 at Pioneer Lake to the intersection with Road #7330 (Darkhorse Creek). The new trail would be closed to all wheeled motorized vehicles yearlong.
10. Construct 2.0 miles of new trail from Darkhorse Lake to Cowbone Lake, parallel to the Darkhorse Road, which would be closed to wheeled motorized vehicles yearlong.
11. Reconstruct 1.0 mile of existing ATV trail from the hydrologic divide to the Goldstone Road, and close it to wheeled motorized vehicles yearlong.
12. Construct 0.8 miles of new trail along the Continental Divide to Goldstone Pass, which would be closed to wheeled motorized vehicles yearlong.
13. An additional 2.5 miles of new non-motorized trail would also be constructed to provide a non-motorized route linking the Skinner Meadows Road #381 to the Pioneer Trail #442 and connecting the CDNST. The terminus of the trail, Road #381 would be widened to provide parking for two to three vehicles.

Alternative 4—Preferred Alternative

This alternative was developed in response to concerns regarding elk security, scenery, and fragile high mountain lakes. The new trail construction from Berry Creek to Pioneer Creek is moved east and down slope to avoid high quality elk security cover and a number of wet areas. The trail bypasses all the high lakes and routes users onto the Continental Divide at the head of Darkhorse and Wimpey Creeks, allowing users to enjoy the sweeping views of Montana and Idaho. The trail location avoids visible headwalls in Pioneer and Jahnke Creeks and is located on an existing trail in Darkhorse, thus reducing construction costs and new visual impacts. This Alternative does not change or close motorized travel routes. Alternative 4 includes a total of 21.8 miles of CDNST trail. Alternative 4 proposes new trail construction for approximately 8.3 miles of trail on the BDNF and approximately 2.8 miles of trail on the SCNF. In addition, approximately 10.5 miles of existing trails and low standard roads would be reconstructed, and 0.2 miles of the Goldstone Road would be used. This alternative provides access to the Continental Divide through the Jahnke drainage and accesses the divide at Darkhorse. It then follows along the west side of the divide to Goldstone Pass. This alternative directs the trail construction along the west side of the Continental Divide from Darkhorse south, where the topography is much gentler. The proposed route would cross motorized roads that access the divide from Wimpey Creek. This route is more scenic, with more construction proposed on the divide itself. This alternative minimizes the amount of construction in

highly visible scenic areas at the head of Pioneer Creek and directs use away from sensitive high mountain lakes in the Pioneer drainage. This alternative routes the trail out of sensitive elk habitat and moves the trail off of the Darkhorse-Cowbone road. Existing motorized and non-motorized uses in the project area on the BDNF and the SCNF would remain unchanged. Please refer to the Alternative 4 map.

This alternative consists of the following specific activities:

1. Reconstruct 2.7 miles of existing Trail #203 from Miner Creek to Englehard and maintain current use of the trail which is closed to all wheeled motorized vehicles yearlong.
2. Reconstruct 3.0 miles of Trail #203 from Englehard to the new construction in Berry Creek, and maintain current use of the trail, which is open yearlong to motorcycles.
3. Construct 6.0 miles of new trail north of Berry Creek to Jahnke Creek Road #7328 which would be closed to wheeled motorized vehicles yearlong.
4. Reconstruct 2.9 miles of Road #7328 to the vicinity of the Jahnke Mine in Section 32, T. 7 S., R.16 W. and maintain current use of the trail which is currently open yearlong to motorcycles.
5. Construct approximately 1.9 miles of new trail from the vicinity of the Jahnke Mine to the existing road near Darkhorse. The new trail would be closed to all wheeled motorized vehicles yearlong.
6. Reconstruct 0.7 miles of the Darkhorse Road #7328 to junction of a non-system trail that accesses the divide and maintain the current use of the road which is open to all motorized vehicles.
7. Reconstruct 0.7 miles of non-system trail from the Darkhorse Road #7328 to the divide and maintain the current use of the trail which is open to motorcycles.
8. Construct 2.8 miles of trail along the Continental Divide to the hydrologic divide, predominantly on the SCNF, which would be closed to wheeled motorized vehicles yearlong. Use sections of the existing user trail (approximately 1.1 miles in length) that begins due west of Darkhorse Lake on the divide continuing south and west across a spur ridge and ending near the 4-wheel drive trail that accesses Goldstone Pass.
9. Reconstruct 0.5 mile of existing ATV trail from the hydrologic divide to the Goldstone Road and use 0.2 mile of the Goldstone Road to Goldstone Pass on the SCNF. This route would conform to the current travel plan in effect on the SCNF.
10. An additional 2.3 miles of new non-motorized trail would also be constructed to provide a non-motorized route linking the Skinner Meadows Road #381 to the Pioneer Trail #442 and connecting to the CDNST. The terminus of the trail, Road #381 would be widened to provide parking for two to three vehicles.

Alternative 5

Alternative 5 responds to public comment as it combines moving the trail between Berry and Pioneer Creeks east out of secure elk habitat and wet areas; it responds to concerns about motorized use by being largely non-motorized and provides a non-motorized access trail. Alternative 5 stays out of the weed prone areas in Wimpey Creek and most of Pratt Creek on the Idaho side of the divide and it bypasses about half the high lakes and avoids new visible trail on headwalls in Jahnke and Pioneer Creeks. This alternative is similar to Alternative 4 in that it routes the Continental Divide Trail through the Jahnke drainage. However, this alternative would remain on the BDNF and restrict motorized use on some trail segments. This alternative does not provide a great deal of direct travel on the Continental Divide itself. The route in this alternative is more scenic and directs use away from sensitive high mountain lakes in the Pioneer drainage. This alternative analyzes 20.1 miles of CDNST trail. Approximately 10.8 miles of new trail would be constructed, 9.1 miles of existing trails and low standard roads would be reconstructed, and 0.2 miles of existing road would be used. This alternative also proposes to obliterate 0.3 miles of motorized trail. Additionally, this alternative proposes 2.5 miles of trail to provide a non-motorized access to the CDNST from the Skinner Meadows road. Please refer to the Alternative 5 map.

This alternative consists of the following specific activities:

1. Reconstruct 2.7 miles of existing Trail #203 from Miner Creek to Englejad Creek and maintain current use of the trail which is closed to wheeled motorized vehicles yearlong.
2. Reconstruct 3.0 miles of Trail #203 from Englejad to Berry Creek (Trail #203) and close the trail to all wheeled vehicles yearlong. Currently the trail is open yearlong to motorcycles.
3. Obliterate 0.3 miles of Trail # 203 from the junction of Trail #203 and newly built CDNST trail to Berry Creek Road #7325.
4. Construct 0.4 miles of new trail from Trail #203 to the Berry Creek Road which would be closed to all wheeled motorized vehicles yearlong.
5. Construct 6.0 miles of new trail from Berry Creek to Jahnke Creek which would be closed to all wheeled motorized vehicles yearlong.
6. Reconstruct 2.9 miles of Road #7328 to the vicinity of the Jahnke Mine in Section 32 Township 7 South, Range 24 East and close the trail to all wheeled motorized vehicles yearlong. Currently, the trail is open to motorcycles.
7. Construct about 3.7 miles of new trail from the vicinity of the Jahnke Mine to the Westside of Cowbone Lake. The new trail would be closed to all wheeled motorized vehicles year-long.
8. Construct an additional 0.7 mile of new trail from Cowbone Lake to the hydrologic divide and manage as wheeled non-motorized.
9. Reconstruct 0.5 mile remnant of the old foot and horse trail that connects from the hydrologic divide to the Goldstone Road. This trail parallels the existing ATV trail and would be wheeled non-motorized.
10. Use 0.2 mile of the Goldstone Road to Goldstone Pass on the SCNF. This route would conform to the current travel plan in effect on the SCNF.
11. An additional 2.3 miles of new non-motorized trail would also be constructed to provide a non-motorized route linking the Skinner Meadows Road #381 to the Pioneer Trail #442 and connecting to the CDNST. The terminus of the trail, Road #381 would be widened to provide parking for two to three vehicles.

Alternative 6

Alternative 6 was developed in response to public comment in that some members of the public felt the best place for the trail would be as close to the Continental Divide as possible for as many miles as possible and one individual pointed out the actual route identified in Alternative 6. This alternative moves the southern end of the route high on the divide and provides scenic views of both Idaho and Montana. This alternative also responds to individuals wishing to see the CDNST as a non-motorized experience. This alternative includes 21.3 total miles of CDNST trail. Approximately 6.8 miles of new non-motorized trail would be constructed on the BDNF, and 4.6 miles of new construction would occur on the SCNF. Reconstruction would occur on approximately 10 miles of existing trails and low standard roads on the BDNF. This alternative would also use 0.2 miles of existing road. The proposed route would cross motorized roads that access the divide from Wimpey Creek and makes no changes to the existing motorized travel routes on the SCNF. This alternative also proposes to obliterate 0.3 miles of motorized trail. This route contains the most new construction proposed on the actual divide. Additionally, this alternative proposes 2.5 miles of trail to provide a non-motorized access to the CDNST from the Skinner Meadows road. Please refer to the Alternative 6 map.

This alternative consists of the following specific activities:

1. Reconstruct 2.7 miles of existing wheeled non-motorized Trail #203 from Miner Creek to Englejad.

2. Reconstruct 0.8 miles of Trail #203 from Englejard to Hamby and close the trail to wheeled motorized vehicles yearlong.
3. Lightly reconstruct 2.5 miles of Trail #203 Hamby Creek to Berry Creek and close the trail to wheeled motorized vehicles yearlong.
4. Construct 0.4 mile of wheeled non-motorized trail near the southern portion of the Miner Trail (#203) to cross the Berry Creek road and join the new trail construction south of Berry Meadows.
5. Obliterate 0.3 miles of Trail # 203 from the junction of Trail #203 and newly built CDNST trail to Berry Creek Road #7325.
6. Construct 5.2 miles of new trail from Berry Creek to Pioneer Trail #442. This trail would be closed to wheeled motorized vehicles yearlong.
7. Lightly reconstruct 3.6 miles of Trail #442 along Pioneer Creek to Pioneer Lake. This trail would remain closed to wheeled motorized vehicles yearlong.
8. Construct 1.2 miles of wheeled non-motorized trail from Pioneer Lake to the Continental Divide and the SCNF/BDNF boundaries.
9. Construct 4.6 miles of wheeled non-motorized trail along the Continental Divide to the hydrologic divide located predominantly on the SCNF. Use sections of the existing user trail (approximately 1.1 miles in length) that begins due west of Darkhorse Lake on the divide continuing south and west across a spur ridge and ending near the 4-wheel drive trail that accesses Goldstone Pass.
10. Reconstruct 0.4 mile of existing ATV trail from the hydrologic divide to the Goldstone Road and use 0.2 mile of the Goldstone Road to Goldstone Pass on the SCNF. This route would conform to the current travel plan in effect on the SCNF.
11. An additional 2.5 miles of new wheeled non-motorized trail would be constructed to provide a non-motorized route linking the Skinner Meadows Road #381 to the Pioneer Trail #442 and connecting the CDNST. The terminus of the trail, Road #381, would be widened to provide parking for two to three vehicles.

Features Common to All Action Alternatives

Per direction issued to Regional Foresters in July of 1997, clarifying management direction from the Comprehensive Plan for construction of new CDNST segments, new trail construction would be designated for wheeled non-motorized use and constructed to a pack and saddle trail standard (FSH 2309.18-91-2, Chapter 2.31b). Signs would also be installed.

Construction of new trail and reconstruction of existing trail would meet Regional standards for grade and motorized/non-motorized clearing and trail width. Construction/reconstruction would be designed to minimize resource damage by improving erosion control with standard grades, drainage dips, and improved wet area crossings; standard Forest Service trail construction/reconstruction practices will be used.

Proposed routes have been reviewed and evaluated on the ground, but final staking is not complete. The final staked route will not be located until the decision is made. For the purposes of this analysis, the route on the map represents a best estimate of the location based on the field reviews. Final layout will refine the route and could move the final location. The final layout will be governed by topography and the application of mitigations or conservations strategies. The staked route will be reviewed for compliance with the sensitive species direction on the Forest and comply with archaeological rules under Section 106.

None of the alternatives propose any changes to the current winter travel management in Miner-Berry-Goldstone under the current Forest Plan direction. Snowmobile use is allowed within the project area and on system trails. Snowmobile use will not be encouraged on newly constructed trails, but allowed to cross the newly constructed trail without restrictions in areas where snowmobile use is currently allowed.

Snowmobile use patterns are most commonly associated with the old road networks, open meadows, open stands of timber, ridge tops and openings created by fires. Lateral side hill trails or trails on open headwalls are very difficult to find and use in 5 to 10 feet of snow. The current lateral trail systems in Miner and Berry Creek drainages are not used by snowmobiles; it is highly unlikely that any of the new trail would become a travel route for snowmobiles.

The following design features are common to all action alternatives and would be incorporated into the final CDNST implementation design.

Design Features

Heritage Resources

Prior to the actual construction of the various segments of the trail, and following placement of a proposed trail flag line on the ground, the Section 106 compliance process must be completed. This will require a Class III inventory, which includes intensive archaeological surveys to insure that significant heritage resources are not adversely affected by trail construction.

Where potential trail locations conflict with heritage resources the trail will be relocated to provide a suitable buffer to protect the historic and cultural values of the heritage sites.

Hydrology

All trails will be built according to current Forest Service design standards.

Best Management Practices will be incorporated into new construction and reconstruction.

Wet areas will be avoided.

Streams will be crossed using spanning structure rather than allowing users to cross through the stream.

Water resource impacts will be monitored by a certified contracting officer or certified contracting officer's representative. The implementation of BMPs and their effectiveness will be monitored during and after the proposed project is completed.

Recreation

If topography and vegetation allow, some segments of trail may simply be marked, rather than receive tread construction.

The CDNST routes will be located off the existing motorized roads, except in a few short sections where the existing road also serves as the best route for the trail.

The CDNST routes will be designed and constructed to pack and saddle standards for a mainline trail (8 foot clearing 10 feet height, maximum sustained grade of 10-15% and 24 inch tread).

Four foot wide gates will be installed where the CDNST passes through livestock fences.

Barriers will be installed where the CDNST crosses roads to discourage motorized entry onto the trail system. Signing will be installed.

Water sources will be identified on CDNST maps and directional signs along the trail. Users will be informed that water sources need treatment to ensure potability. Free flowing sources will be readily available for collecting into bottles.

Trail entrances will be designed to deter cross drainage snowmobile use.

Where possible, existing trail tread or natural openings will be used to reduce ground disturbance. Abandoned trail segments will be rehabilitated and closed to eliminate parallel routes.

Scenery

Stumps created by clearing operations will be flush cut.

Switchbacks from Jahnke into Darkhorse will be designed and constructed in the trees to minimize visual impact of trail construction.

Under Alternative 4, the trail climbing out of Darkhorse will be designed and constructed to maximize screening by existing vegetation.

Under Alternatives 4 and 6, trail construction should avoid scree/talus/rock slopes in steeper areas on the Idaho side or should be limited so as not to be evident in background views from Highway 28 and Salmon.

Occasional viewing opportunities in the forested areas of the trail will be provided by using natural openings where they occur, and views of areas with high scenic quality will be facilitated.

Threatened, Endangered, and Sensitive Plants

Trail construction contracts will include provisions that require all trail construction equipment and all vehicles be washed prior to entering National Forest lands, to prevent the spread and/or introduction of noxious weeds. New trail construction and associated ground disturbance will be monitored for noxious weeds and treated according to Forest Plan direction.

Prior to construction of tread, an on the ground survey of the proposed trail as flagged will be conducted in the alpine and subalpine portions of the trail and in riparian zones, where potential sensitive plant habitat may occur. If any of the sensitive plant species are located, the trail will be routed to avoid adverse impact to these species. Surveys will be conducted during the month of July, the time of flowering.

Surveys of known populations of sensitive species will occur at least once every three years to determine if impacts are occurring as a result of increased visitor use. If impacts are noted, signing or other measures will occur, to limit impacts to those small populations.

Wildlife

All new construction trail and any trails/roads converted to non-motorized will be built to prevent motorized access to wheeled vehicles. It is desirable to have these routes constructed to prevent snowmobile access also.

Trail construction/reconstruction activities will not occur during large ungulate parturition periods, May 15 – June 15 (elk calving, mountain goat kidding, etc.).

Trail construction/reconstruction will avoid old growth Douglas-fir and spruce stands, bog-fens, and riparian zones.

If an active bald eagle, goshawk, or flammulated owl nest is found within the area affected by the project activities, appropriate mitigation measures as determined by the Forest Service wildlife biologist will be implemented to avoid nest failure or abandonment of young.

Comparison of Alternatives

The following tables compare and contrast the alternatives as they relate to the key issues identified during the scoping process and outlined in Chapter 1. With each alternative action, there is a trade-off between beneficial and adverse impacts. The trade-offs are compared based upon the environmental effects identified in more detail in Chapter 3.

Issue #1: Quality of Motorized and Non-motorized Recreation Opportunities and Experiences

The alternatives in this EA vary in the way they affect the balance of motorized and non-motorized use on the CDNST. Alternative 1 has no affect on the proportions; Alternative 6 would increase the amount of non-motorized CDNST by roughly 20 miles or about 5%. This shift would happen by constructing a new non-motorized trail in a new location. Of the 20 plus mile change, no more than 3.8 miles of road, ATV trail, or motorcycle trail would be closed under any alternative.

Consequently, the new trail construction moves the CDNST towards a more non-motorized experience at a relatively small loss of opportunity to motorized users.

The following table displays the change by alternative.

Table 1: Travel management for CDNST for the Miner-Berry-Goldstone trail segment

	Total Miles of CDNST	Miles of CDNST Open to Motorized	Miles of Existing Motorized Trail Proposed for Obliteration	Miles of CDNST Closed to Motorized	Miles of CDNST where Travel Management Changes from Motorized to Summer Non-motorized ¹
Alternative 1	25.1	22.4	0	2.7	0
Alternative 2	21.3	5.4	0	15.9	2.5
Alternative 3 ²	20.9	0	0.6	20.9	3.8
Alternative 4 ³	21.8	8	0	13.8	0
Alternative 5 ³	20.1	0.2	0.3	19.9	5.9
Alternative 6 ²	21.3	0.6	0	20.7	3

1 – This number is included in Miles of CDNST Closed to Motorized, but shows how many of those miles are currently open to motorized.

2 – Alternatives 3 and 6 also propose an additional 2.5 miles of non-motorized, non-CDNST trail that serve as access to the trail.

3 – Alternatives 4 and 5 also propose an additional 2.3 miles of non-motorized, non-CDNST trail that serve as access to the trail.

Issue #2: Reduction in Elk Security Due to Increased Trail Densities

Alternatives 2 and 3 have the most trail within the identified elk security area between Berry Creek and Road #71205, with Alternative 3 being the most. Alternative 1 does not have any trail within this area, and Alternatives 4-6 all have the same number of miles of CDNST through this habitat area.

Table 2: New trail construction proposed between Berry Creek and Road #71205, as used to describe the affect to elk security

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Miles of new trail	0	3.34	3.63	2.86	2.86	2.86

Issue #3: Fragile High Mountain Lakes, Riparian Areas, and Cirque Basins

Alternative 4 has the least overall impact on fragile high mountain lakes, riparian areas, and cirque basins, with one mountain lake accessed by the CDNST, seven stream crossings and 1.66 miles of trail within 300 feet of streams and lakes. Alternative 2 poses the most risk to the water resource due to the number of stream crossings and the proximity of water along the trail route; this route has the highest number of crossings and the highest number of miles of trail within 300 feet of the stream.

Table 3: Indices used to measure the effect to fragile high mountain lakes, riparian areas, and cirque basins

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Number of high mountain lakes with access by CDNST	2	4	5	1	3	1
Number of stream crossings in trout streams	15	11	9	7	8	9
Miles of trail within 300 feet of streams/lakes	3.79	3.79	3.36	1.66	2.12	2.67

Issue #4: Scenic Integrity

All of the action alternatives improve the opportunities to view scenery from the trail in comparison to the existing condition / No Action Alternative. Under Alternatives 2 and 3, the trail climbs from one drainage to another provide opportunities for a variety of short and long distance views into the three drainages, but some of the scenic quality would be compromised in Pioneer and the north side of Jahnke with construction of a trail across the rock slope. Of the action alternatives, Alternative 2 has the lowest overall scenic rating, and is therefore the least attractive alternative in terms of scenery. Alternative 4 has the potential to take advantage of existing vegetation to screen the effects of trail construction in climbing sections, and avoids altogether construction in the top of the Pioneer drainage. In addition, it facilitates long distance viewing for longer duration, of both sides of the divide in some areas. Alternative 4 has the highest overall scenic rating, making it the best alternative in terms of visuals. Alternative 5 adds only the viewing opportunity from the ridge between Jahnke and Darkhorse, in comparison to the existing condition. Alternative 6 maximizes long distance views, especially into the Pioneer drainage and Idaho; however, as under Alternatives 2 and 3, construction in the headwall of the Pioneer drainage would dominate the view from the trail and viewpoints on the divide and stand in powerful contrast to the natural features of the drainage.

Table 4: Overall scenic rating, used to measure scenic integrity. A larger number indicates higher integrity.

	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Overall Scenic Rating	4.0	4.25	6.25	4.75	5.25

Issue #5: Noxious Weeds

The risk rating for noxious weeds is derived from the combined indices of measure. Alternatives 3 and 5 are the least likely to increase noxious weeds, and Alternative 4 is the most likely to increase noxious weeds.

Table 5: Indices used to measure the effect of the CDNST on noxious weeds

	Points where CDNST intersects w/ motorized routes	Miles of CDNST that would allow motorized use	Acres of ground disturbance	Risk Rating
Alternative 1	7	22.4	0.0	Moderate
Alternative 2	6	3.0	5.0	Moderate
Alternative 3	8	0.0	7.0	Low
Alternative 4	9	8.0	6.0	High
Alternative 5	8	0.2	6.0	Low
Alternative 6	7	0.6	6.0	Moderate

Alternatives Considered but Not Analyzed in Detail

Five additional alternatives examining other locations for the CDNST were considered, but not analyzed in detail.

A proposal to locate the CDNST through cirque basins near high mountain lakes along the Continental Divide has been under consideration for many years. Upon close inspection, this alternative was eliminated from detailed study because of topographic limitations. Access from one high lake to the next, from Pioneer Creek to Miner Creek is very difficult if not impossible. If completed the trail high in the cirque basins would be an engineering marvel. The trail in the basins might have to be one way or closed to stock for public safety. If the trail weaved in and out of the basins to avoid the steep ridges, it would increase the length dramatically. This trail location is impractical from Miner Lake to Pioneer Creek due to very high construction costs, potential adverse effects of construction on steep slopes to scenic integrity, questionable public safety.

An alternative route to access the Divide is in the head of the South Fork of Jahnke Creek. This alternative was not considered in detail due to the need to cross private land near the divide. Currently the Forest Service does not have an easement across this private land.

Like the high lakes proposal discussed above, three other variations or high basin proposals surfaced during the analysis. Like the lake-to-lake proposal, the three separate proposals were eliminated from detailed study because of high construction costs and topographic constraints that would cause difficulties building the trail: 1.) Constructing of a new trail from Hamby to the Continental Divide; 2.) Constructing new trail crossing Miner Ridge, descending to Miner Lake and traversing south of the lakes along the Continental Divide and accessing the Divide west of Jahnke Lake; and 3.) Following the existing trail up Berry Creek and constructing new trail northward to the basin southeast of Center Mountain. The Divide north of Center Mountain is extremely rugged, with large elevation changes and glacial headwalls on both sides of the divide; it is not suitable for trail construction.

CHAPTER 3. EXISTING CONDITION & ENVIRONMENTAL EFFECTS

This chapter summarizes Forest Plan management direction, and provides a summary of the existing condition of the affected resources and environmental impacts of the alternatives considered in detail. Further analysis and conclusions about the potential effects are disclosed in reports for each resource and other supporting documentation cited in those reports. Copies of the detailed reports are available upon request.

Forest Plan Management Direction

Beaverhead National Forest Goals

1. Provide a spectrum of recreation opportunities which fulfills expected recreational demands and recognizes the recreational opportunities that can best be provided on the Beaverhead National Forest.
2. Coordinate with the land and resource management and planning efforts of other Federal, State, and local agencies, and with private landowners.
3. Locate and protect heritage resources to maintain their scientific and historical values.
4. Strive to meet all stated Forest goals in an economically efficient manner.
5. Protect the integrity of trail corridors physically and visually and provide the traveler with a wide variety of recreational experiences. Where consistent with this goal, meet Forest-wide standards that ensure protection of other resource values such as visual quality, wildlife, fisheries and water quality.

Objectives

- *Wildlife*: Viable populations of all existing wildlife species will be maintained by providing a diversity of habitats throughout the Forest (FP, page II-3).
- *Fisheries*: “Best Management Practices (BMP)” and Forest wide standards will be implemented in all management activities (FP, page II-4).
- *Watershed*: Appropriate planning, analysis, mitigation, and monitoring will be done to ensure that management activities will not adversely affect water quality and quantity (FP, page II-4).
- *Soils*: Soil productivity will be maintained and soil erosion will be minimized through the application of Best Management Practices...(FP, page II-5).
- *Recreation*: The Forest will be managed to provide a broad spectrum of recreation opportunities. Opportunities will range from “primitive to rural as classified by the Recreation Opportunity Spectrum (ROS). The largest acreage will be in the “non-motorized semi-primitive category”. This category provides a backcountry environment for recreation opportunities that do not require the use of motorized equipment (FP, page II-5).
- *Recreation*: Reconstruction of about 10 miles of existing trail will be scheduled annually. Some of the reconstruction work will require relocation of existing sections of trail (FP, page II-6).
- *Visual Quality*: All landscape altering management activities will be designed to meet or exceed the assigned visual quality objectives for the area. Sensitive viewing areas are the areas seen from identified campgrounds, highways, major National Forest system roads, and National Recreation Trails (FP, page II-7).
- *Cultural Resources*: The cultural resources of the Forest, both prehistoric and historic will be managed to maintain their scientific, social, and historical values (FP, page II-7).

Standards and Guidelines

The protection of other resource values, while achieving the goals for management of Forest lands, is provided through incorporation of standards and guidelines specific to these resources. The following standards and guidelines (FP, Chapter II, pp. 27-41) apply to this project area and are relevant to proposed actions.

Threatened and Endangered Species Standard #1 – Conduct a biological evaluation of each program or activity which is authorized or carried out in threatened or endangered species habitat to determine whether the activity will affect the species. Formal consultation with the U.S. Fish and Wildlife Service will be initiated for all agency activities or programs which may affect the species as determined by the biological evaluation.

Recreation Standard #1 – All management activities will meet the Visual Quality Objectives appropriate for the areas given the assigned visual sensitivity level. The visual sensitivity level of these trails is Level II-Moderate.

Cultural Resources Standard #1 – Cultural resource surveys will be made prior to all significant surface disturbing activities.

Cultural Resources Standard #2 – When cultural resources are discovered during project implementation, operations affecting that discovery will be curtailed until an analysis and evaluation is completed.

Noxious Weeds Standard #1 - An aggressive noxious weed control program will be continued and expanded to reduce or eliminate noxious weeds, or at least to confine present infestations and prevent establishment of new infestations.

Trails Standard #1 – As a minimum, trails will be maintained on a schedule and to a standard which provides for public safety, protects adjacent resources, and retains the structural integrity of the trail tread. Trails within Management Area 29 (National Historic and Scenic Trails) have highest maintenance priority.

Road construction and reconstruction will be allowed where necessary to meet adjacent Management Area Goals. Design needed roads to minimize disruption of the recreational experience of the trail user.

Management Area Goals

The existing interim route of the CDT is located in Management Area (MA) #29 of the Beaverhead Forest Plan. This Management Area contains those lands traversed by designated National Historic Trails, and includes a variable width corridor containing the CDNST. Management Goals for this area provide for protecting the integrity of trail corridors physically and visually and provide the traveler with a wide variety of recreational experiences. Recreation standards for this MA state:

“Trail Construction is allowed to upgrade existing trails. Trailhead facilities may be constructed to facilitate use. Trails in this Management Area have highest maintenance priority. Non-motorized use is encouraged. Motorized use may be permitted on a season or case-by-case basis, as determined through the Southwestern Montana Interagency visitors Map. The Visual Quality sensitivity level of these trails is level II (moderate).”

Portions of all the alternatives north of the Jahnke drainage are located in Management Area #9 of the Beaverhead Forest Plan. This Management Area contains the Beaverhead portion of the Anaconda-Pintler and Lee Metcalf Wilderness Areas, as well as three areas recommended for Wilderness including the West Big Hole Wilderness. The goal for recommended wilderness is to protect their wilderness characteristics

and, to the extent possible, allow existing uses pending a congressional decision of final classification. Recreation standards for this MA state, “maintain existing primitive and semi-primitive non-motorized settings...existing trail systems may be upgraded to facilitate use and disperse users.”

The trail segment from Engeljard to Miner Creek and the segments south of the Jahnke are located in Management Area #8. Management Area #8 consists of areas to be managed to provide a wide array of dispersed recreation opportunities; with high wildlife and fisheries values. Hiking, horseback riding, recreational driving, motorcycle riding, snowmobiling, rock climbing and cross country skiing can take place. The goal for the area is to promote a variety of primitive and semi-primitive motorized and non-motorized dispersed recreation opportunities.

Scenery Management Direction

Scenery Management Direction can be found in the Beaverhead Forest Plan and in the Continental Divide National Scenic Trail Comprehensive Management Plan. Management Area #29 of the Forest Plan includes variable width corridor containing the CDNST. The management direction for this area directs that the “umbrella direction contained in the CDNST Comprehensive Management Plan” be followed, but that in addition to “trail-specific management plans and the Forest-wide Management direction included in Chapter II of this Plan, the following standards apply to this Management Area.” This additional direction (with respect to visual resource) includes the following standard:

Visual Quality – The visual sensitivity levels of these trails is Level II (Moderate) (p.III-93).

No Visual Quality Objective (VQO) is assigned to the MA; therefore, the CDNST Comprehensive Plan direction is used to determine the appropriate VQOs.

The CDNST Comprehensive Plan

Visual Management System. National Forest and Bureau of Land Management managers will apply the Visual Management System as outlined in FSM 2380 and BLM Manual 8411, respectively. Visual Quality Objectives will be determined as a first step. Following this, they will determine the highest VQO which can be achieved consistent with legislative direction that established the trail and existing land use plans. This achievable VQO will be incorporated as management direction. It may, in some cases, be more or less than the level originally inventoried using the Visual Management System. (p. 48)

The Comprehensive Plan continues that the “inventory shall be considered on the basis that the CDNST is classed as a Sensitivity Level 1 travel route...” (p. 49)

Measuring the effects of the trail on the visual resource will be analyzed in two different ways: 1) the effects of the trail itself, including construction and ongoing operation and maintenance, and 2) the quality of the visual experience as seen from the trail.

In order to measure the visual impact of the trail, an inventory of the project area will be completed, resulting in VQOs for the project area, using a variety of viewpoints located in varying proximity to the alternative trail routes. These will be presented to the Deciding Official for review and a final determination of actual VQOs, as described above. These will then be used as a measurement indicator for the visual impact of the existing route as well as the various alternative routes.

The quality of the visual experience will be measured by determining the visible area from identified viewpoints along the alternative trail routes, and generally determining the visual condition of that visible area. This will be done assuming that the trail is a Sensitivity Level 1 route, as per CDNST Comprehensive

Plan direction. Past, present, and future activities such as timber harvest and mining operations will be considered with regard to Comprehensive Plan direction as well.

Salmon National Forest Goals

- Improve the quality of recreation experience and increase the Person At One Time capacity of developed recreation sites in heavy use areas.
- Increase emphasis on managing dispersed recreation use in areas providing Semi-primitive and Roaded Natural recreation opportunities and maintain the generally high quality of these settings.
- Improve the condition of priority trails in designated wilderness, management areas featuring semi-primitive recreation opportunities and nationally designated trails and maintain other high use system trails in a usable condition.
- Provide for pleasing visual landscapes in areas viewed from major travel routes crossing the Salmon National Forest.

Additional information regarding Forest Plan goals, objectives, and standards for the Salmon National Forest can be found at <http://www.fs.fed.us/r4/sc/projects/#Plans>.

Past, Present, and Reasonably Foreseeable Activities

To meaningfully evaluate cumulative effects one must establish reasonable bounds to focus the discussion. These bounds are needed in terms of time and space.

The Beaverhead Forest Plan has directed management in the area since 1986 (approximately 22 years). From the standpoint of livestock grazing, timber harvest and new road construction, travel management and recreation use patterns, this twenty-two year period is meaningful. Ground disturbing activities tend to heal, regain vegetation, and have limited impact after a ten year period.

The cumulative effects area includes the National Forest System land drainages in which the trail is located. Private lands outside the National Forest to the east and west are 6 to 10 miles from the trail and are little affected by the trail nor do they have impact to the trail. The Beaverhead Mountains of the Bitterroot Range south of Highway 43 is largely unroaded and have experienced little change or disturbance in the 22 year period of management under the current Forest Plan. Confining cumulative effects to the drainages directly affected does not exclude some adjacent project nor does it exclude a distant effect.

The effects of the actions described below are disclosed by resource. All resource specialists considered (as appropriate) the following actions or activities in their respective cumulative effects analyses. Rather than repeatedly describing these activities within each resource section, we have summarized them here, with the effects provided within each resource section later in this chapter. To help with context, additional details are provided in some resource sections. Full descriptions are contained in the resource specialists' reports in the project file.

Forest Planning

The Beaverhead and Deerlodge Forest Plans are currently under revision. At this time, a final EIS has been released for public comment. There is a likelihood that the forest plan revision may result in a reduction of motorized trail opportunities in the project area. If the Revised Forest Plan preferred Alternative 6 is adopted, the area known as the West Big Hole in the 1986 Forest Plan and the new forest plan would be

managed largely for summer non-motorized travel and portions of the area would be closed in the winter months to motorized travel.

Livestock Grazing

- Livestock grazing occurs at the lower elevations in Miner, Hamby, Berry, Pioneer, Jahnke, and Darkhorse. Because the trail is on temporary routes or roads low in Pioneer, Jahnke and Darkhorse, cattle do graze or travel on or near the CDNST. All new construction alternatives move the trail above most of the areas where livestock graze. The exception would be where the trail crosses Hamby, Berry, and Pioneer Creeks. The feed areas tend to be in the bottom of the drainage. The trail would have little or no effect on livestock grazing and trail users would see less livestock grazing and impacts on the new route. The trail does not open new grazing areas or provide new access.
- Livestock grazing on the SCNF side of the divide is associated with BLM lands below the National Forest in Wimpey and Pratt Creek.
- The CDNST passes through the Monument allotment, which has had some difficulty meeting standards in the last two years. The problem areas are located on or near the National Forest boundary and stem from poor distribution. Livestock numbers and season have been reduced. The permittee has changed and we look forward to permit compliance.
- The CDNST passes through the Pioneer allotment, which has met grazing standards routinely in the past. A sizeable reduction in total permitted livestock numbers in the early 1990s improved conditions and enforced actions against trespass livestock.
- The CDNST passes through the Bloody Dick allotment. Cattle tend to work back over the hydrologic divide into the Bloody Dick drainage, leaving the headwaters of Darkhorse very lightly grazed on an annual basis.
- Each allotment is inspected each year for grazing compliance, and failure to comply results in adjustments to meet the standards. Livestock grazing will likely continue well into the future at the lower elevations with compliance most years. The BDNF Revised Forest Plan may close or remove the high elevation sensitive portions of the drainage from the allotments, further minimizing the potential for CDNST conflicts. Recent data collection indicates riparian recover is occurring on many streams on the district in the presence of compliant livestock grazing.

Timber Harvest

- Approximately 50 acres of post and pole harvest occurred near the National Forest boundary in Miner Creek in the last decade and 30 acres of post and pole harvest occurred near Goldstone Pass along the Skinner Meadows road. The harvest was a combination of thinning and small clear cuts.
- No other harvest has occurred nor is any planned in the drainages associated with the trail on either District.
- Timber harvest using clear cutting was popular and hit a peak in the 1980s on the Wisdom District; however none of this era harvest occurred in Darkhorse, Pioneer, Berry, Hamby or Miner Creek drainages. Firewood and post and pole harvests are scattered across the lower elevations of the drainages from the period before about 1960.
- There are several hundred acres of Douglas-fir thin from below on the BLM lands in WimpeyCreek on the West Side of the Continental Divide at mid slope. Most stands appear to have been harvested approximately 10 to 20 years ago.

Mineral Exploration

Mining exploration using hand equipment near Rock Island Lake occurred in 1996. The claimant excavated a small trench, removed hand samples and reclaimed the area. The area has disturbance from mining that occurred over 50 years ago.

- Restoration and reclamation of the Goldstone Mine occurred in 2006. The Forest Service removed acid tailings from Pratt Creek and placed them in a repository. Some short term sediment production occurred from the project but the long term elimination of acid mine drainage will be beneficial to the stream.
- Mining remnants from the period 1880 to 1950 can be seen in Pratt, Wimpey, Darkhorse, Jahnke, Berry, Hamby, and Miner Creeks. Most actual mining occurred high in the drainages with support buildings built lower in the drainages. Mining camp remnants are located in Darkhorse and Jahnke creeks.
- The best predictor of future mining development is probably the past taken in conjunction with mining reports compiled during forest planning. The cumulative effects area is mineralized; however, the area is not known to have large quantities or economic deposits of precious metals. We can expect more small scale exploration and testing.

Noxious Weeds: Noxious weed control occurs annually in the project area. Pesticide use follows strict compliance with state and federal regulations as well as direction found in the Forest Noxious weed EIS.

Trail and Road Maintenance: Trail maintenance is conducted on an annual basis. Road maintenance is completed on the Skinner Meadows Road every other year.

Travel Management: Travel management decisions are contemplated in the next four years under the new direction for travel management (2005 Travel Management Rule). The exact outcome of the travel decision is unknown at this time.

On the SCNF, the current travel management proposal allows continued motorized uses of all kinds on the Wimpey Creek road to the Continental Divide and private land. Side roads off the main Wimpey Creek road would be closed except on private land. The current proposal for the CDNST from Goldstone Pass to the Continental Divide above Cowbone Lake is to be non-motorized.

Travel planning on the BDNF, Wisdom Ranger District is less clear. A proposed action has not been developed. As stated earlier, the Revised Forest Plan would likely set in motion considerable change on the CDNST in Miner, Hamby, Berry, Pioneer, and Jahnke Creeks. It is unlikely the Forest Service would make substantial changes in Darkhorse Creek drainage.

Currently 7,489 miles of motorized roads and trails, and approximately 1,853 miles of non-motorized roads and trails occur, on the BDNF. Currently 3,389 miles of motorized roads and trails occur on the SCNF and 6, 544 miles of non-motorized roads and trails occur.

Snowmobiling: Snowmobiling is occurring in all the drainages in which this CDNST project is located. Snowmobiling is typically confined to roads and open meadows at the lower elevation and to the high basins at or above timber line. Use has increased since the forest plan was written; however, snowmobiling in the cumulative effects area is not growing fast. This is likely due to the avalanche danger in the area, the need for very high skill level and the lack of knowledge of the area. Several snowmobile fatalities in the last decade have cooled snowmobiling in the area. None of the access trails are groomed and there is no plan to groom any in the future.

Road and Trail Construction: There had been no new road or trail construction in the last decade and none is planned outside the proposals in this document. The CDNST in Rock Island and the Miner Lake trail were reconstructed in the last decade. A new parking lot was built at Miner Creek in 2003 to park stock trailers and cars outside the campground at the beginning of the low standard Upper Miner road.

ATV use: ATV use has increased substantially on the lower elevation road system and is likely to increase, a 1993 area restriction curtailed cross country travel in the high country of the proposed wilderness, the Regional Forester’s cross country travel decision in 2000 has protected the landscape from wide spread unauthorized trail construction. We have seen ATV use grow on low standard roads. Unauthorized road and trail development is minimal and associated with the bow and rifle hunting season. Summer and non-hunting related motorized travel is confined largely to roads or motorized trails.

Darkhorse Patented Mining Claim (122.56 acres) purchased by United States 2004: The mining claim lying in the headwaters of Darkhorse Creek was purchased from Willis Dupont to provide public access to Darkhorse and Cowbone lakes, dissuade development and associated access and facility requests or development on the National Forest, and eliminate conflicts with the route of the CDNST.

CDNST Analysis: Many segments of the CDNST are undergoing analysis for construction of new trail segments and reconstruction of old trail segments on approximately 85 miles of trail, on seven segments of trail. Analysis and implementation have already occurred for approximately 159 miles of trail. Approximately 360 miles of CDNST on the BDNF, SCNF and Caribou-Targhee NF were open to motorized use prior to the 1978 designation of the CDNST. Additionally, prior to the 1978 CDNST designation, 65 miles of trail were closed to motorized use within the Anaconda-Pintler Wilderness.

Currently, approximately 48 miles of CDNST are open to motorized use, 166 miles of CDNST are closed to all motorized use (includes 65 miles of trail in the Anaconda-Pintler Wilderness), and 45 miles of trail have seasonal or vehicle-type travel restrictions. Of CDNST that exists on Forest roads, 155 miles are open to all motorized use, 4 miles are closed year-round, and 7 miles have seasonal or vehicle-type travel restrictions.

All of the CDNST road and trail travel restrictions listed above were implemented through travel planning decisions. None of these trail or road closures were made through CDNST analysis.

Additional on-going analyses of sections of the CDNST within close proximity to the project area are as follows:

- Nez Perce Gulch Trail (Whitetail Pipestone Travel Management) – Jefferson and Butte Districts
- Leadville Trail – Jefferson and Pintler Districts
- Fleecer/Ten Mile – Butte and Wise River Ranger Districts
- Gibbons Pass/Anaconda Pintler Wilderness Boundary Trail Reconstruction

Fire and Fuels

- Small fires have occurred throughout the drainages. Two large fires have occurred, one on the south side of Goldstone pass (300 acres) and one in the Berry Meadows area (500 acres). Both received direct attack with hand tools, water and air resources and were suppressed in 5 to 10 days.
- Small and large fire activity is expected to continue. Fuel loadings and persistent drought make this area ripe for large fire activity. The Revised Forest Plan will likely increase the opportunity for fire use in the area increasing the role of fire in the area.

Resources

The information presented here is summarized from detailed resource specialist reports and is specific to disclosing the existing condition and potential effects of the alternatives as framed by the key issues identified in Chapter 1. Additional resource information is contained in the resource reports and analysis documents contained in the project file. Copies of resource reports and supporting documents are available on request.

Recreation

EXISTING CONDITION

The analysis area for measuring effects to motorized and non-motorized recreation is the area of land bordered on the north by Miner Creek; on the east and south by the existing interim CDNST route; and on the west by the Continental Divide where the interim route leaves the physical divide, near Goldstone Pass, to Pioneer Creek. The analysis area also includes the small triangular area to the south that is bordered on the north and east by the Continental Divide and on the southwest by the existing interim route, and includes the segment of Trail 9 from its junction with the divide on the east to its junction with the Divide on the west.

Use Patterns and Existing Travel Management

The following describes the use patterns for the segments of the existing interim CDNST route. Use patterns are based on trailhead registration information and personnel estimates.

1. Within the project area the CDNST extends from Miner Creek to Englehard on Trail #203. Snowmobile use on this trail, which runs across the drainage is unlikely due to slopes and design. Summer and early fall use is mainly CDNST through hikers. The trail receives minimal use during hunting season. The first pitch out of Miner Creek is a very steep north facing slope and in need of heavy reconstruction work to contour the trail and reduce the sustained steep grade.
2. From Englehard to Hamby Creek, use is light and predominantly used for game retrieval during the hunting season. The use of this segment is the same as listed above. This trail is in fair condition and in need of some light drainage work.
3. From Hamby Creek to Berry Meadows, motorized use is presently minimal. Use is predominantly CDNST through hikers and fall hunters. The trail is in fair condition.
4. On Road # 7325 along Berry Creek to the junction of the Pioneer Road # 71205 use on this road segment is predominantly motorcycles, ATVs, and hikers. Full-size vehicle use increases in the fall. This road is extremely rough and rocky and crosses a wet meadow. During the past eight to ten years there has been a seasonal closure on this road for erosion control and protection of the roadbed within the meadow.
5. On Pioneer Road #71205 to the junction of Overland Trail #36, motorized use is moderate. The road crosses Pioneer Creek and is impassable at that crossing during high water in the spring.
6. Along Overland Trail #36 to the junction of Trail # 479, motorized use is light. The trail is used by some CDNST hikers, and some hikers use the Skinner Meadows Road. (This route is identified as the interim Continental Divide National Scenic Trail route in Montana and Idaho's Continental Divide Trail (Howard 2000). The Southern Montana and Idaho Guide to the Continental Divide Trail (Wolf 1979) however,

identifies Skinner Meadows Road #381 as the interim route from Darkhorse to the Berry Meadows Road.) This trail is in fair condition and in need of light drainage work.

7. Along Trail #36 from the junction of Trail #479 to the junction with Jahnke Road #7328, motorized use is estimated to be moderate. This road is flat, well traveled and in moderate to good condition.

8. Along Trail #36 to the junction of the Skinner Meadows Road #381, motorcycle use is estimated to be light. This trail is in fair to good condition and is in need of light drainage work.

9. Along Road #381 to Darkhorse Road #7330, use is heavy by all types of motorized use during the summer and fall.

10. Along Darkhorse Road #7330 to Cowbone Lake, use is estimated to be heavy by all types of motorized use during the summer and fall. Snowmobile use is estimated as moderate. This road is in poor condition and is in need of rerouting and drainage work. During the past eight to ten years there has been a seasonal closure on the Darkhorse Road for erosion control.

11. From Cowbone Lake, along Trail #9 to the hydrologic divide, the route is recommended for expert riders and is estimated as lightly used. Trail #9 south of Cowbone Lake is very narrow, on a steep slope and is in need of heavy reconstruction work widening the trail tread and reducing the steep grade. The trail uses an existing ATV trail from the hydrologic divide to Goldstone Road #64025, and the Goldstone Road to Goldstone Pass on the SCNF. Motorized use is moderate on these road and trail segments.

Motorized access from the Idaho side is provided via a road located on private land and the SCNF in Wimpey Creek. There is an existing easement with the BLM permitting use of this road on private land. Another access road, on the SCNF, travels up the Pratt Creek drainage and ends in the Goldstone Pass area. The Pratt Creek route is washed out at lower elevations, on BLM land and is only passable by ATV's.

Trailhead opportunities are currently limited along the existing CDNST route. A trailhead is located on Miner Creek, above the Miner Lakes campground. This facility has a vault toilet and parking for approximately five vehicles with trailers. Vehicles towing trailers are not recommended on the network of roads from Miner Creek to Berry Creek. An area where trailers may be parked and turned around is located on the Berry Meadows Road 7325 at the junction of Pioneer Creek Road 71205. There is also room for trailer parking at the dispersed area, at the junction of Darkhorse Road 7730 and Skinner Meadows Road. Limited parking is also available at the junction of the Jahnke Road 7328 and Skinner Meadows Road.

Each year a number of recreationists choose to hike the entire route of the CDNST. These hikers, called "through hikers", who proceed from south to north generally arrive on this segment of the CDNST in mid to late July. North to south hikers generally arrive on this segment somewhat sooner. The number of "through hikers" from the Continental Divide Trail Society for the 2005 season is estimated at 40 hikers. It is estimated the average number of long distant hikers traveling the CDNST can range from 25-50 per season. These hikers travel light and have re-supply points arranged along the route. An important consideration for through hikers is availability of water along the trail. Most of the interim route provides ample access to water.

The proposed CDNST trail location is within the boundaries of Roadless Area #1-1943 and 13943. The area is currently managed as the West Big Hole Proposed Wilderness per Beaverhead Forest Plan. The proposed and approved trail construction route and corridor would become part of Beaverhead Forest Plan Management Area 29.

There are currently 12.1 miles of the CDNST from Miner Lake Road to Goldstone Pass located within roadless areas. The interim route follows 2.2 miles of existing road with 7.2 miles of trail open to motorcycles and 2.7 miles of summer non-motorized trail within the Big Hole Roadless Area.

For the Miner Creek to Goldstone Pass trail segment, most of the trail routes that provide access to the Continental Divide are motorized routes. Continental Divide Trail through hikers who wish to drop from the Continental Divide to gain access to the road system to travel to Jackson for resupply must travel on semi-primitive motorized trails.

ENVIRONMENTAL EFFECTS

Snowmobile use is currently allowed within the project area and management of snowmobile travel would not change with any of the alternatives. The Recreation Opportunity Spectrum does not change with the alternatives and remains the same as the existing condition. Since the action alternatives move the route off of the Berry Meadows and Skinner Meadows Roads, all of the action alternatives contain more mileage in roadless than the existing interim route.

Alternative 1 - No Action: No new trail construction would be completed and the route would remain predominantly on National Forest system roads and trails open to motorized travel, providing a semi-primitive motorized opportunity. Refer to the Alternative 1 description in Chapter 2 for additional detail.

Maintenance of the existing 25 miles of Miner Lake Trail 203, Overland Trail 36 and Trail 9 would cost approximately \$10,000 per year.

Approximately 12.2 miles of the current interim trail route are located within the roadless area and can be described as a semi-primitive motorized setting. The interim route has more miles of trail along system roads than any other alternative. Therefore, this alternative has the highest number of miles shared between motorized and non-motorized users, and the least number of miles located within roadless, following 2.8 miles of existing road, 5 miles of trail open to motorcycles, 1.7 miles of trail open to ATV's and motorcycles and 2.7 miles of summer non-motorized trail within the West Big Hole Roadless Area.

Alternative 2 - Proposed Action: This alternative contains 8.5 miles of new non-motorized trail construction and proposes to close 2.0 miles of trail and 0.5 miles of road to motorized uses. Of this, 0.5 miles of the Pioneer Road 71205 would be closed to motorized use which effectively closes 2.1 miles of Pioneer Road 71206; approximately 1.1 miles of Trail 9 would be converted from motorized trail to non-motorized trail, which would eliminate an existing loop opportunity for motorcycles. Approximately 5.9 miles of the route would remain under the existing travel management.

Although this alternative has the least amount of new construction, it is not the least costly. Due to the level of difficulty of the proposed route, it is the second highest in estimated cost, at approximately \$416,500. The route from Berry Meadows to Pioneer Creek crosses numerous wet seep areas and would require the construction of numerous puncheon bridges and turnpikes, increasing the initial construction cost of this segment and the future maintenance costs. The proposed routes between Pioneer and Jahnke and Jahnke and Darkhorse, are located on steep talus slopes that would require blasting to construct trail tread, further increasing the initial construction cost. Because the trail tread on talus slopes generally requires shoveling on an annual basis, the future maintenance costs would be increased even more.

The proposed action route length in roadless is 17.2 miles. Overall, it utilizes less system roads and contains less mileage where motorized use occurs than the current interim route. The trail follows .4 miles of system road and 2.5 miles of trail open to motorcycles within roadless. This alternative proposes to convert 0.8 miles of motorized trail in roadless to non-motorized trail. 5.1 miles of existing summer non-motorized trail are used and 8.4 miles of proposed non-motorized new trail construction is located within the roadless area. This alternative routes the trail by Pioneer Lake, improving the standard of trail accessing this pristine area, and it creates an additional access route to the head of Jahnke Lake. With the increased use the trail could potentially receive, and the potential for an increase in the number of campers at both

lakes, there could be a shift away from the current primitive setting in the areas of Pioneer and Jahnke Lakes.

Alternative 3: Alternative 3 contains no trail located on forest system roads and no trails or roads open to motorized use. This alternative proposes 12.2 miles of new construction. Additionally, this alternative proposes to obliterate 0.6 miles of trail that is currently open to motorcycles, and to close 3.8 miles of existing motorized trail to motorized use, eliminating 4.4 miles of motorized opportunity within the project area. By closing 1 mile of Trail 9 to motorized use, this alternative would eliminate an exiting loop opportunity for motorcycles.

New construction in the Pioneer drainage would allow the section of Pioneer Road 71205 to remain open to motorized, in turn leaving section of Pioneer Road 71206, as well. New construction would occur west of the Darkhorse Road from Darkhorse Mine to Cowbone Lake, separating CDNST hikers and horseman from motorized users on the Darkhorse Road. An additional 0.8 mile of new non-motorized trail construction is proposed on the SCNF, on the Pratt Creek Divide, separating CDNST users from the motorized ATV route and use of the Goldstone Road. Additionally, 2.5 miles of newly constructed non-motorized trail would be built from the Skinner Meadows Road to proved access to the CDNST.

Alternative 3 proposes the most miles of proposed new construction and is the most costly of all alternatives, at \$475,000. This alternative also proposes 2.5 miles of non-CDNST trail, to access the CDNST, with an additional cost of \$40,000. The discussion regarding difficulty of construction with regards to Alternative 2 also applies to this alternative.

By utilizing the proposed route of Alternative 2 and converting the entire trail segment to non-motorized, this alternative shifts the trail to a more primitive setting. This route contains 17.6 miles in roadless, (the most of the alternatives). The alternative uses 5.1 miles of existing non-motorized trail within the roadless area and proposes to convert these miles of existing motorized trail within the roadless area to non-motorized. Trail obliteration is proposed for 0.6 miles of motorized trail located within the roadless area. It proposes 9.8 of non-motorized new trail construction. This alternative proposes new construction from the south side of the Miner Lake Trail to facilitate crossing Berry Creek Road 7325 and from Pioneer Creek Road 71205 to Pioneer Creek Trail 422 eliminating the need for the trail to follow any road segments. The discussion above in Alternative 2 regarding the potential effect of shifting away from a primitive setting in the Pioneer and Jahnke Lakes area due to the improved trail access and increased use applies to this alternative. Additionally, 2.5 miles of new construction is proposed from the Skinner Meadows Road to Pioneer Creek Trail 422, accessing the CDNST, within roadless. This new construction provides a primitive trail route accessing the CDNST, and provides non-motorized CDNST through hikers a primitive route to resupply in communities east of the divide.

Alternative 4: Alternative 4 contains 3.8 miles of trail located on forest system roads, 0.5 miles of trail open to both motorcycles and ATVs, 6.6 miles of trail open to motorcycle and 13.8 miles of non-motorized trail. This alternative does not propose to close any motorized roads or trail and follows the current travel management on all existing routes. Approximately 11.1 miles of new construction would occur along the CDNST route and 2.3 miles of trail would be constructed to provide a non-motorized trail access to the CDNST.

The estimated costs for Alternative 4 would be slightly more than Alternative 6, the least costly of all alternatives, at \$375,000, with an additional 2.5 miles of non-CDNST trail adding another \$37,000. The stretch of trail reconstruction proposed from the Miner Lake Trail north of Berry Creek Road, south to Jahnke Creek Road is lower on the slope and would require less turnpike and puncheon bridge construction than Alternatives 2 and 3. Only one talus slope is traversed from Jahnke to Darkhorse, therefore requiring

less blasting than those alternatives. Most of the trail construction on the SCNF is in much easier terrain, requiring less cost per mile of tread. Only approximately ¼ mile of trail may need blasting.

This alternative proposes 15.3 miles (the least of all the alternatives) be located within roadless. As in Alternative 3, Alternative 4 proposes new construction from the south side of the Miner Lake Trail to facilitate crossing Berry Creek Road 7325. It contains 4.5 miles of road and trail where motorcycle use is allowed, and uses 2.6 miles of existing summer non-motorized trail. New construction is proposed for 8.2 miles within the roadless area. This proposed route will provide a semi- primitive motorized experience. Providing access to the divide from Darkhorse will give Continental Divide through hikers an option to drop off the divide and resupply in Salmon using the Wimpey Creek Road. Additionally, 2.3 miles of new construction is proposed from the Skinner Meadows Road to Pioneer Creek Trail 422, accessing the CDNST, within roadless. This new construction provides a primitive trail route accessing the CDNST, and provides non-motorized CDNST through hikers a primitive route to resupply in communities east of the divide.

Alternative 5: Alternative 5 contains 0.2 miles of trail located on forest system road, no trail open to motorized use, and 19.9 miles of non-motorized trail. New non-motorized construction would occur for 10.8 miles of trail. This alternative proposes to close 5.9 miles of road and trail to motorized use, and includes 0.3 miles of motorized trail obliteration. Additionally, 2.5 miles of newly constructed non-motorized trail would be built from Skinner Meadows Road, to provide a non-motorized access to the CDNST.

Alternative 5 is only slightly more costly than Alternative 4, at \$381,500, and still includes the 2.3 miles of non-CDNST trail accessing the CDNST, for an additional cost of \$37,000. This alternative uses the same route as discussed in Alternative 4 for the Miner Lakes Trail to the Jahnke Creek trail segment, and this alternative does not climb to the divide until Goldstone Pass. The new construction proposed from Darkhorse Lake to Cowbone Lake would be in gentle terrain, but the new construction proposed from Cowbone Lake above the existing Trail 9 is on talus slopes and would be difficult as well as costly to build, and would include blasting work.

Alternative 5 follows a route similar to Alternative 4, but remains on the BDNF. It contains 15.9 miles of trail located within roadless, proposes to offer 2.7 miles of existing summer non-motorized trail, and proposes to convert 4.5 miles of motorized trail to non-motorized trail within the roadless area. This alternative proposes to obliterate 0.3 miles of motorized trail and 8.7 miles of new construction are proposed within roadless. This proposal shifts the CDNST route to a primitive non-motorized setting. Additionally, 2.3 miles of new construction is proposed from the Skinner Meadows Road to Pioneer Creek Trail 422, accessing the CDNST, within roadless. This new construction provides a primitive trail route accessing the CDNST, and provides non-motorized CDNST through hikers a primitive route to resupply in communities east of the divide.

Alternative 6: Alternative 6 contains 0.6 miles of trail open to motorized uses and 20.7 miles of summer non-motorized trail, 11.4 miles of which are new construction. Approximately 3.0 miles of existing motorized trail would be closed to motorized use. As in Alternative 5, 0.3 miles of motorized trail would be obliterated. Additionally 2.5 miles of newly constructed trail would be built from the Skinner Meadows Road to provide a non-motorized access to the CDNST.

This alternative would be the least costly of all action alternatives, at 368,500. Alternative 6 also contains 2.5 miles of non-CDNST trail proposed for CDNST access, with an addition cost of \$40,000. It follows the same route from Miner Lakes Trail to the Jahnke Creek trail segment as Alternatives 4 and 5. The new construction proposed above Pioneer Lake is located in the most difficult and steepest topography of the routes to gain access to the divide. The newly constructed trail tread on the talus slopes would likely need

labor intensive shoveling on an annual basis to remove sloughed talus from winter freeze/thaw. The proposed trail construction on the divide itself, on the SCNF from Pioneer to Darkhorse would be located on gentle terrain. In places where the trail would be in the vicinity of the road system on the divide, it would be feasible to delineate the route with cairns, without a need for actual tread construction.

Alternative 6 provides the most trail mileage along the divide itself and provides a more primitive experience; however, the trail will cross the Wimpey Creek Road on the divide on the SCNF in numerous places. This alternative proposes 16.2 miles be located within roadless. The route proposes 6.8 miles of new construction, proposes to utilize 6.4 miles of existing summer non-motorized trail and converts 3.0 miles of motorized trail to non-motorized. As discussed in Alternatives 2 and 3, routing the designated route of the CDNST by Pioneer and Jahnke Lakes has the potential to impact the current primitive setting of the area. As in Alternative 4, routing the trail on the divide provides an option for CDNST through hikers to drop off the divide and resupply in Salmon. Additionally, 2.5 miles of new construction is proposed from the Skinner Meadows Road to Pioneer Creek Trail 422, accessing the CDNST, within roadless. This new construction provides a primitive trail route accessing the CDNST, and provides non-motorized CDNST through hikers a primitive route to resupply in communities east of the divide.

Alternatives 3-6: In alternatives 3 and 6, 2.5 miles of new construction is proposed from the Skinner Meadows Road to Pioneer Creek Trail 422 accessing the CDNST. Alternatives 4 and 5 propose 2.3 miles new construction from the Skinner Meadows Road to the new construction proposed south of Pioneer Creek. These access routes are located within roadless. Please refer to the alternative maps. This new trail construction would provide a primitive trail route providing access between the Continental Divide Trail and the Skinner Meadows Road. This provides a non-motorized trail route for CDNST through hikers to resupply in communities on the east side of the divide.

Effects on Potential Wilderness Designation: The analysis of roadless lands documented in Appendix C to the FEIS for the Beaverhead Forest Plan describes each roadless area, the resources and values considered, the range of alternative land uses studied, and the effects of management under each alternative. As a result of that analysis, some roadless areas were recommended for inclusion in the National Wilderness Preservation System, and others were assigned various non-wilderness prescriptions. The project maps show the wilderness boundary proposed in the Forest Plan. The SCNF portion of the roadless area is not proposed wilderness. New trail construction is proposed within roadless and proposed wilderness in each of the action alternatives.

The following summarizes the overall impact on the proposed wilderness area.

Alternative 1: The interim route of the CDNST currently contains 5.4 miles located within proposed wilderness per the 1986 Beaverhead Forest Plan. No new trail construction would be completed and the trail would continue to follow 2 miles of road, 3 miles of motorized trail open to motorcycles and 0.4 miles of summer non-motorized trail within the roadless area and proposed wilderness.

Alternative 2: This route travels through 11.8 miles of proposed wilderness, (the most mileage of new construction within proposed wilderness), 5.2 miles of which are new construction. Alternative 2 is consistent with 1986 Beaverhead Forest Plan direction, which allows that existing motorized uses in the West Big Hole proposed Wilderness may continue if they do not impair future Wilderness designation. This alternative is the most impactful to soils and the scenery resource. Designation of the trail route in the Pioneer drainage has the potential to change the primitive character of this remote area.

Alternative 3: Alternative 3 travels through 11.3 miles of proposed wilderness and is a non-motorized trail route. This alternative proposes 6.1 miles of new construction. Trail obliteration is proposed for 0.6 miles located within proposed wilderness. The additional proposed trail construction routes the trail off of system

roads. Portions of motorized trail are proposed to be closed, having a positive impact on soil and water resources. This alternative also has the potential to change the primitive character of the Pioneer drainage.

Alternative 4: This alternative proposes 6.6 miles of the route within proposed wilderness, 0.4 miles of which are new construction (the least amount proposed), within proposed wilderness. Alternative 4 does not change or close motorized travel routes and is consistent with 1986 Beaverhead Forest Plan direction, which allows that existing motorized uses in the West Big Hole proposed Wilderness may continue if they do not impair future Wilderness designation. This alternative includes the route up the Jahnke drainage where the trail would be shared with motorcyclists providing the least amount of solitude. This alternative poses the least amount of risk to the soils and water resources within proposed wilderness. There is a potential of weeds spreading from the Wimpey Creek Road onto the proposed new construction along the divide.

Alternative 5: Alternative 5 proposes 6.9 miles of the route within proposed wilderness, 3.5 miles of which are proposed as new construction. The alternative includes 0.3 miles of trail obliteration located within proposed wilderness. Alternative 5 is the least impactful to the scenery resource, proposes no construction on the Divide itself and proposes to separate uses in the Darkhorse drainage. A parallel route is proposed to be constructed in the area of the existing Darkhorse road.

Alternative 6: Alternative 6 proposes 11.7 miles within proposed wilderness and 4.6 miles of new construction. Approximately 0.3 miles of trail obliteration is proposed. This is the most impactful to Reference Landscapes, Natural Integrity, and Apparent Naturalness and contains the most mileage of new construction proposed along the Continental Divide. This alternative also has the potential to change the primitive character of the Pioneer drainage. This alternative has the most potential of weeds spreading from the Wimpey Road onto the new construction on the Divide.

Alternatives 3-6: In alternatives 3 and 6, 0.1 miles of new construction are proposed from the Skinner Meadows Road to Pioneer Creek Trail 422 accessing the CDNST, and in Alternative 4, 0.1 miles of new construction proposed from the Skinner Meadows Road to the new construction proposed south of Pioneer Creek are located within proposed wilderness. Please refer to the alternative maps. This new trail construction would provide a primitive trail route providing access between the Continental Divide Trail and the Skinner Meadows Road. This provides a non-motorized trail route for CDNST through hikers to resupply in communities on the east side of the divide.

Cumulative Effects: Any closure of the CDNST to motorized recreationists is viewed by some in the motorized community as representing a significant loss of opportunity for multiple-use and motorized interests.

Philosophy on management of the CDNST differs between the motorized and non-motorized community. In general, the motorized community requests the sharing of use on the CDNST while the non-motorized community requests the separation of uses. The CDNST Study report directed by the enactment of the National Trails System Act states, “national scenic trails are intended to be established primarily for hiking and horseback riding, and that motorized vehicular use is specifically prohibited by the National Trails System Act.” However, the CDNST Study Report went on to recommend the inclusion of approximately 424 miles of existing primitive road rights-of-way be included in the proposed alignment of the CDNST. The Report states, “most were so primitive in nature that they would offer a recreational experience little different in quality from that where motorized vehicles are excluded.”

The legislation, Comprehensive Plan, EA/DN for the CDNST on Federal Lands along the Continental Divide in Montana and Idaho, and Office of General Council Interpretation gives the Forest Service the latitude to retain motorized use on some specific locations and provides encouragement to build new

segments of non-motorized trail. The Act specifically allows continued motorized use where the trail is located on open roads. The Comprehensive Plan directs that the trail need only be in the vicinity of the actual Continental Divide and that the trail should essentially be kept non-motorized.

The cumulative effects analysis area for the Miner Berry Goldstone segment of the CDNST includes the entire route of the trail from the north end of the BDNF at the Helena National Forest boundary to the south end of the BDNF at Shineberger Creek at the Idaho boundary. This includes segments of trail located on the Bitterroot National Forest and SCNF, as well as trail segments located on land managed by the Salmon Field Office of the Bureau of Land Management. Information was gathered from the CDNST GIS and Strategic Plan Project – Winter 2006, Table I. - GIS Attribute Data and Table 2 - Project Proposal Spreadsheet and corporate Infra data base. Proposed action figures for the current on-going analyses are from the environmental documents.

The analysis analyzes the cumulative effect of past, present and proposed CDNST projects on the BDNF relative to the miles of CDNST motorized and non-motorized recreation road and trail opportunities available to the public across the forest and the above described segment of the CDNST from the Helena National Forest Boundary to the Idaho border at Shineberger Creek.

Forest Plan Revision: The Beaverhead and Deerlodge Forest Plans are currently under revision. At this time the final EIS has been released for comment. There is a likelihood that the forest plan revision may result in a reduction of motorized trail opportunities. Within the range of alternatives, 0 (No Action) to 570 miles (Alt 3) of motorized trail are proposed to be closed. The Proposed Forest Plan for the Beaverhead Deerlodge proposes a range of 760 miles (Alt 3), to 1330 (No Action) miles of motorized opportunities. This results in a range of 0% to a 43% reduction in motorized trail opportunities.

There are currently 6159 miles of motorized road opportunities on the Forest. The most restrictive alternative (3) proposes to close 502 miles of road to motorized use. This results in a proposed range of 0% reduction to 9 % reduction in motorized road opportunities.

The Preferred Alternative in the BDNF Revised Forest Plan closes the Miner, Englehard, Hamby, Berry, and Pioneer drainages to snowmobiling at the mid to higher elevations. If this alternative ultimately reflects the final Forest Plan decision, it would substantially reduce any potential use of the CDNST by snowmobilers.

Travel Management/CDNST Analysis/ATV Use/Motorcycle Use: When the CDNST was designated November 10, 1978, no travel restrictions were in place in the Miner-Berry-Goldstone area. A travel plan with restrictions for motorized travel was implemented on the Beaverhead National Forest on June 1, 1979 and the Deerlodge National Forest on June 1, 1981. Prior to the implementation of these restrictions, when motorized use was causing resource damage on a specific trail, district recreation specialists would investigate and take appropriate action to reduce or eliminate trail damage occurring in these areas.

In 2000, the Regional Forester implemented a special order for Region One. This order generally prohibits cross country travel by motorized wheeled vehicles in the Forests and Grasslands administered by the USDA Forest Service in Montana, North Dakota, and part of South Dakota.

On the BDNF, approximately 19.3 miles of new motorized construction has occurred on the CDNST, and 35.8 miles of new non-motorized construction has occurred on the CDNST. Reconstruction has occurred on approximately 11.6 miles of non-motorized trail. Additionally, 54.5 miles of new non-motorized construction is planned. Four CDNST trail segments are undergoing analysis on the BDNF, and one segment is undergoing analysis on the BNF. Approximately 2.0 miles of trail route and 2.6 miles of road are proposed to be closed, associated with this analysis. The segment of the CDNST from Gibbons Pass to

the junction of Bender Cabin Trail segment (approximately 17 miles) planning was recently completed by the Bitterroot National Forest (BNF).

On the SCNF and BNF, approximately 9.6 miles of new motorized construction has occurred, and 26.3 miles of new non-motorized construction has occurred on the CDNST. Reconstruction has occurred on approximately 21.7 miles of non-motorized trail.

The cumulative effects area used to evaluate the effects of this decision on motorized and non motorized recreation is the entire Beaverhead National Forest from the Helena Forest boundary on the north to the Idaho boarder on the south east end of the forest. The analysis does not include private lands. This area also includes segments of trail that cross the divide onto the Bitterroot National Forest and the SCNF.

This area was selected to represent a regional use pattern. While some users hike the entire CDNST and come from many states, local and regional southwestern Montana and northeastern Idaho users were most concerned about the effects of this decision on motorized travel in their area. This cumulative effects area also contains a landscape pattern found in southwestern Montana. The cumulative effects area stopped short of including the northern ecosystem and the Yellowstone ecosystem as incorporating these large areas with their specific management direction and unique setting would mask the effects the users have asked us to evaluate.

Within the cumulative effects area, the CDNST is 425.3 miles in length. About 39% of the trail is located on a road and 61% is located on a trail. Most of the roads are open to motorized use (155 miles out of the 166 miles); many of the trails are closed to motorized use (193.3 miles are non-motorized and 66 miles are open to some form of motorized use).

Interestingly, 52% of the route of the CDNST in the cumulative effects area is currently managed for some form of motorized use in addition to national trail objectives for the CDNST.

The alternatives in this EA vary in the way they affect this balance of motorized and non-motorized use on the CDNST. Alternative 1 has no affect on the proportions listed above; Alternative 6 would increase the amount of non-motorized CDNST by roughly 20 miles or about 5%. This shift would happen by constructing a new non-motorized trail in a new location. Of the 20 plus mile change, no more than 3.8 miles of road, ATV trail, or motorcycle trail would be closed under any alternative.

Consequently, the new trail construction moves the CDNST towards a more non-motorized experience at a relatively small loss of opportunity to motorized users.

Wildlife

Introduction

Because of the nature of the project proposal and possible impacts, only certain "indicator" species will be covered; elk and pine marten. The project area is within spring-fall range for elk, and they migrate through the area to winter range in Idaho. Pine marten is a management indicator species (MIS) for old growth spruce-fir. The proposed trail route passes through the spruce-fir forest type in some sections, and trail clearing may impact some mature stands. A remnant population of native Rocky Mountain goats occupies the Beaverhead Range extending from the Bitterroot Range to the north, including the analysis area. Rocky Mountain goats are susceptible to human disturbance, including non-motorized recreation; therefore, this species will be included in the effects analysis. The proposed trail route does not pass through the Douglas-fir forest type and no old growth Douglas-fir would be impacted by the project, therefore, the northern goshawk will be considered in the Biological Evaluation as a sensitive species and will not be evaluated as

a MIS for old growth Douglas-fir. Threatened or Endangered Species are discussed in the Biological Assessment (BA); a summary of the BA is included in this report; a summary of the Sensitive Species Biological Evaluation (BE) is also included in this report.

The analysis area for the existing condition, direct, indirect, and cumulative effects to wildlife includes the landscape surrounding the project area at a scale consistent with the potential home ranges/territories of many of the wildlife species considered in this analysis. The analysis area is aggregated from 6th code hydrologic unit codes (HUCs). The cumulative effects analysis area will be the 6th Code HUCs for all species. The 6th Code HUCs within the project area are BigHoleUp (100200040301), BerryUp (100200040302), Hamby (100200040305), and Miner (100200040501), on the Montana side. On the Idaho side, the cumulative effects analysis area consists of approximately 10,500 acres of National Forest System land within the hydrological boundary between Smout Creek and Golway Gulch on the north, the Continental Divide on the east, the hydrological boundary between Pratt Creek and West Fork Sandy Creek on the south, and the National Forest boundary on the west. This area parallels the analysis area in Montana.

Species Discussion

ELK

EXISTING CONDITION

The project lies within the Sapphire Elk Management Unit (EMU), which includes Hunting Districts 211, 214, 270, and 321; all except HD 321 are north of the Continental Divide in the Upper Bitterroot River drainage (MFWP 2005, pp. 172-189). The analysis area comprises a very small portion of the EMU, and elk that summer in the analysis area typically winter in Idaho. The majority of the Sapphire EMU is in the Bitterroot River drainage, including all the Montana portion of the winter range. HD 321 is basically spring through fall range for elk that winter in the Bitterroot or in Idaho. Therefore, the population objectives for the EMU that speak to late winter populations and calf:cow ratios, are not applicable to elk summering in HD 321.

The elk population within the Sapphire EMU, especially HD 321, has substantially increased within the past 20 years; however, the population appears to have declined somewhat in recent years. This has occurred with the present open road density and past timber harvests.

The elk security analysis area (64,482 acres) consists of the Habitat Analysis Units (HAUs) indicated in Table 6. HAU size is based on the estimated summer/fall range for elk inhabiting a project area, follows timber compartment/subcompartment boundaries, and is usually 12-15 sq. mi. (7680-9600 acres) (USDA Forest Service 1986, Appendix C). However, Unsworth et al (1998) recommend evaluation areas should be between 17,000 and 21,000 acres for analyses where bull elk vulnerability is of concern. For areas intended to benefit elk summer range and retain high use, habitat effectiveness (HE) should be $\geq 70\%$. In areas where elk are one of the primary resource considerations, HE should be $\geq 50\%$ (Christensen et al 1993). Current open road density, hiding cover, elk habitat effectiveness, EHE (a function of open road density), elk use potential, EUP (a function of hiding cover), elk effective cover, EEC (a function of open road density and hiding cover) are shown in Table 6. Timber management is permitted in these areas, provided there is no increase in total open roads during the general elk hunting season, and Elk Use Potential (EUP) is maintained at or above 95% of optimum. The analysis area (4 HAUs total) overall, has a moderate open road density (0.91 miles/sq. mile).

Table 6: Existing Condition Elk Habitat Values for Project

HAU	Acres*	Hiding Cover %/Acres	Open Road Miles	Open Road Density	EHE	EUP	EEC
BigHoleUp 100200040301	21,609	27.4/5,937	27.123	0.80	67	67	44.89
BerryUp 100200040302	11,113	28.7/3,187	14.802	0.85	65	73.5	47.775
Hamby 100200040305	17,942	30.5/5,463	30.814	1.1	58	82	47.56
Miner 100200040501	13,818	34.2/4,720	18.622	0.86	64	93.4	59.776
Total/Average	64,482	29.9/19,307	91.361	0.91	63	80	50.4

*National Forest

The amount and percent of Hillis Security Habitat (Hillis et. al. 1991; large blocks (250 acres) of security cover farther than one-half mile from open roads) for each HAU is shown in Table 7. All of the HAUs and the analysis area overall, meet the Hillis Security Area standard of 30% of an analysis area being elk security habitat (Table 7).

Table 7: Elk Hillis Security Habitat for Project

HAU	Acres*	Hillis security Cover Acres	Hillis security Cover percent	Open Road Density
BigHoleUp 100200040301	21,609	9,768	45.2	0.80
BerryUp 100200040302	11,113	5,068	45.6	0.85
Hamby 100200040305	17,942	6,359	35.4	1.1
Miner 100200040501	13,818	7,594	55.0	0.86
Total/Average	64,482	28,789	44.0	0.91

*National Forest

ENVIRONMENTAL EFFECTS

Alternative 1—No Action: This alternative would have no impact on hiding cover availability, open road density, Elk Habitat Effectiveness (EHE), Elk Use Potential (EUP), or Elk Effective Cover (EEC) in the analysis area. No new trails would be constructed. The CDNST would remain on the existing motorized vehicle roads and trails where it currently does, and these portions of the trail would remain open to motorized use. The new trail construction between Berry Creek and Road #71205 in a high security area where no trails currently occur would not be opened up to increased human use during hunting seasons, particularly during archery season. Thus elk security would not change nor would bull elk vulnerability be increased by trail construction by increasing human access. The elk security indices as shown in Table 7 would not change, because the project would not reduce hiding cover, or increase open road density. The EHE averages 63% for the HAUs, which is satisfactory for the present Montana Fish, Wildlife and Parks management objectives for the EMU. Forest plan standards for EUP and EEC are not currently being met. This is because of the open road density and relatively low hiding cover percentage due to the natural open alpine areas. The amount and percent of Hillis Security Habitat (Hillis et. al. 1991; large blocks (250 acres) of security cover farther than one-half mile from open roads) for each HAU will continue to meet the standard of 30% of an analysis area being elk security habitat. This alternative would not affect elk habitat or populations in Idaho.

Alternative 2—Proposed Action: The vegetative clearing associated with this alternative would have no consequential impact to hiding cover availability, open road density, EHE, EUP, or EEC in the analysis

area. However, increased human travel/presence during sensitive life periods for elk, such as calving, is likely to increase disturbance to elk, thereby increasing physiological stress and energetic costs, possibly with deleterious effects. It is difficult to quantify the effects, but a reasonable assumption is that more human travel/presence associated with an alternative, the greater the impact. The new trail construction between Berry Creek and Road #71205 where no trails currently occur would open up a high security area to increased human use during hunting seasons, particularly during archery season; compromising elk security and increasing bull elk vulnerability. All new trail construction would be closed to wheeled motorized use yearlong. The miniscule amount of cover reduction would not change the hiding cover percentage. Open road density is reduced, thus increasing the EEC slightly.

The amount and percent of Hillis Security Habitat for each HAU would continue to meet the standard of 30% of an analysis area being elk security habitat. This alternative would not affect elk habitat or populations in Idaho because no new trail would be constructed there.

Alternative 3: The vegetative clearing associated with this alternative would have no consequential impact to hiding cover availability, open road density, EHE, EUP, or EEC in the analysis area. The new trail construction between Berry Creek and Road #71205 where no trails currently occur would open up a high security area to increased human use during hunting seasons, particularly during archery season; compromising elk security and increasing bull elk vulnerability. All new trail construction would be closed to wheeled motorized use yearlong. Approximately 14.2 acres of potential hiding cover would be removed, but would not change the hiding cover percentage. Open road density is reduced to 0.86 miles per square mile, thus increasing the EEC slightly. The amount and percent of Hillis Security Habitat for each HAU would continue to meet the standard of 30% of an analysis area being elk security habitat. This alternative would not affect elk habitat or populations in Idaho because no new trail would be constructed there.

Alternative 4: The vegetative clearing associated with this alternative would have no consequential impact to hiding cover availability, open road density, EHE, EUP, or EEC in the analysis area. The new trail construction between Berry Creek and Road #71205 where no trails currently occur would still open up a high security area to increased human use during hunting seasons, particularly during archery season; however, the trail would be constructed lower and would miss the heart of this important security area, thus affecting elk security and bull elk vulnerability to a much lesser degree. Trail clearing would remove 10.3 acres of potential hiding cover (HC) for the analysis area HAUs, but would not change the hiding cover percentage. Open road density remains at 0.91 miles per square mile, thus not changing the EEC. The amount and percent of Hillis Security Habitat for each HAU would continue to meet the standard of 30% of an analysis area being elk security habitat. This alternative would affect 2.7 acres of elk habitat in Idaho. This miniscule amount of cover reduction would not impact elk populations.

Alternative 5: The vegetative clearing associated with this alternative would have no consequential impact to hiding cover availability, open road density, EHE, EUP, or EEC in the analysis area. The new trail construction between Berry Creek and Road #71205 where no trails currently occur would still open up a high security area to increased human use during hunting seasons, particularly during archery season; however, the trail would be constructed lower and would miss the heart of this important security area, thus affecting elk security and bull elk vulnerability to a much lesser degree. Trail clearing would remove 12.7 acres total of potential hiding cover (HC) for the analysis area HAUs, but would not change the hiding cover percentage. Open road density is decreased to 0.85 miles per square mile, thus increasing the EEC slightly. The amount and percent of Hillis Security Habitat for each HAU would continue to meet the standard of 30% of an analysis area being elk security habitat. An existing trail segment of 0.5 miles would be rehabilitated in Idaho. No vegetation would be disturbed. This alternative would minimally affect elk habitat or populations in Idaho.

Alternative 6: The vegetative clearing associated with this alternative would have no consequential impact to hiding cover availability, open road density, EHE, EUP, or EEC in the analysis area. The new trail construction between Berry Creek and Road #71205 where no trails currently occur would still open up a high security area to increased human use during hunting seasons, particularly during archery season; however, the trail would be constructed lower and would miss the heart of this important security area, thus compromising elk security and increasing bull elk vulnerability to a much lesser degree. All new trail construction would be closed to wheeled motorized use yearlong. Trail clearing would remove 9.3 acres total of potential hiding cover (HC) for the analysis area HAUs, would not change the hiding cover percentage. About 3.0 miles of existing motorized roads and trails will be closed to wheeled motor vehicles after reconstruction. This reduces the open road density to 0.88 miles per square mile, thus increasing the EEC slightly. The amount and percent of Hillis Security Habitat for each HAU would continue to meet the standard of 30% of an analysis area being elk security habitat. This alternative would affect 4.2 acres of elk habitat in Idaho. This miniscule amount of cover reduction would not impact elk populations.

Action Alternative Synopsis: None of the action alternative would appreciably reduce hiding cover for elk. All action alternatives would have similar impacts to elk habitat and populations. Where the CDNST follows existing trails and roads the route would not cause additional habitat damage. Research has shown that human use, even non-motorized use, has a deleterious effect on elk and many other wildlife species by causing increased physiological stress and energy expenditure to avoid human intrusion. The construction activities and the subsequent use by hikers would cause unnecessary stress and energy loss to elk in areas where they are relatively secure from human disturbance. The impacts to elk populations would arise from the construction of the new trail segment between Berry Creek and Road #71205 that would open up a highly secure area to easier human use, and the increased use by hikers on the CDNST. All action alternatives include this high security area; however, Alternatives 4, 5, and 6 propose constructing the trail at lower elevation and would miss the heart of this important security area. Therefore, the major concern is impacts to elk populations from increased human use and disturbance, although actual habitat losses would be minimal. The only way to prevent these population impacts would be to avoid the proposed new trail construction for the Berry Creek to Road #71205 segment.

Table 8: Comparison of all Alternatives for Elk, for the Wildlife Analysis Area

	Miles of New CDNST trail	Vegetation clearing (acres)	Miles of road and trail reconstruction	Miles of motorized road and trail to be closed to motorized	Miles of trail obliteration	Open Road Density	EHE	EEC
Alternative 1	0	0	0	0	0	0.91	63	50.4
Alternative 2	8.5	8.2	10.4	2.4	0	0.88	64	51.2
Alternative 3	14.7	14.2	5.5	3.8	0.6	0.86	64	51.2
Alternative 4	10.6	10.3	10.7	0	0	0.91	63	50.4
Alternative 5	13.1	12.7	3.4	5.9	0.3	0.85	65	52
Alternative 6	9.6	9.3	6.9	3.0	0	0.88	64	51.2

Cumulative Effects: The main concern from a cumulative effects standpoint regarding elk is their vulnerability to hunter caused mortality, and the potential for subsequent effects on herd composition and hunter opportunity. Currently, elk habitat capability is not a major concern since there is no evidence that the capability of the analysis area to produce elk is currently being constrained. The elk population within the Sapphire EMU, especially HD 321, has substantially increased within the past 20 years; however it appears to have declined somewhat in recent years. Hunter opportunity has increased, especially for antlerless elk. The number of elk available for harvest, hunter numbers, hunter success rates, and number of

elk harvested have all increased since the mid-1970s. The analysis area is within MFWP's Region 3. Because no roads would be constructed, there would be no long-term increase in hunter access and use of roads. The major factor in elk mortality and vulnerability, hunting pressure (Unsworth et al 1993), is not within the scope or control of this analysis. Hunting pressure is controlled by regulations and seasons set by MFWP, and perhaps by the weather prevailing during the hunting season.

The proposed trail follows the Continental Divide at the highest elevations for about a third of its route, but follows drainages and existing roads or trails for most of its length within the analysis area. The proposed trail runs perpendicular to elk migration routes, and therefore, could interfere with elk migration to winter range. Because the new trail that would be constructed would be permanently closed to wheeled motorized vehicle use, and because some of the existing motorized segments would be changed to non-motorized after reconstruction (Alternative 2- Proposed Action), there would be no increase in motorized hunter access and use of roads. The proposed action would have no substantial impact on elk habitat in the analysis area. For the Montana segments, only 8.5 (8.2 acres) to 14.7 (14.2 acres) miles of new non-motorized trail road would be constructed to connect to existing roads and trails. On the Idaho side, 2.8 (2.7 acres) to 4.3 (4.2 acres) miles of new non-motorized trail road would be constructed to connect to existing roads and trails. Elk security indices do not substantially change, because the project would not substantially reduce hiding cover. The EHE averages 63% for the HAU's, which is satisfactory for the present MFWP management objectives for the EMU. Forest plan standards for EUP and EEC are not currently being met because of the open road density and relatively low hiding cover percentage due to the natural open alpine areas.

The action alternatives could lead to cumulative effects to elk habitat and populations when combined with the past, present, and reasonably foreseeable activities listed at the beginning of this chapter. However, none of these activities would have any measurable impacts to elk habitat or would adversely affect the ability of elk to colonize or disperse through the analysis area, adjacent landscapes, and regional landscapes. Any influences of the action alternatives on elk population dynamics and bull vulnerability, relative to those effects attributable to hunting season structure and weather, would be minor in HD 321. When considered with all past, present, and reasonably foreseeable activities, the proposed Forest Service action, would not cumulatively affect elk population viability in the analysis area or on the BDNF.

MARTEN

EXISTING CONDITION

The marten has been identified as a management indicator species for old-growth spruce-fir forests on the Beaverhead National Forest. Forest carnivore surveys in the Pioneer Range, Pintler Range, and the Big Hole during 1990-2003 found marten to be present throughout in suitable habitat (Fager 1991, Kujala 1993, Coffin 1994, Coffin et al 2002, Squires et al 2003).

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action: This analysis assumes that primary marten habitat consists of spruce-fir and lodgepole pine forests; Douglas-fir and whitebark pine comprise secondary habitat. The No Action Alternative would not change the amount of primary spruce-fir and lodgepole pine habitat within the analysis area. No new trails would be constructed. The CDNST would remain on the existing motorized vehicle roads and trails where it currently does so, and these portions of the trail would remain open to motorized use. Open road density and associated trapper access would not be increased. The high value habitat area, currently without trails, between Berry Creek and Road #71205 would not be opened up to increased human use, particularly during trapping season. Thus marten habitat would not be impacted nor would marten vulnerability to trapping be increased by trail construction. The No Action Alternative would

have no effect on pine marten or their habitat. This alternative would not affect potential marten habitat or existing populations in Idaho.

Action Alternative Synopsis: None of the action alternatives would change the amount of primary spruce-fir and lodgepole pine habitat within the analysis area. The vegetative clearing associated with the alternatives would have no consequential impact to marten habitat in the analysis area. However, increased human travel/presence during sensitive life periods is likely to increase disturbance to marten thereby increasing physiological stress and energetic costs, possibly with deleterious effects. It is difficult to quantify the effects, but a reasonable assumption is that more human travel/presence associated with an alternative, the greater the impact. Under Alternatives 2 and 3, the new trail construction between Berry Creek and Road #71205, where no trails currently occur, would open up a high value habitat area to increased human use, particularly during trapping season, thus impacting marten habitat and increasing vulnerability to trapping mortality. For alternatives 4, 5, and 6, the trail would be constructed lower and would miss the heart of this important area; thus impacting marten habitat and increasing vulnerability to trapping mortality to a much lesser degree than alternatives 2 and 3. The percentage of marten habitat in the analysis area would not change. Marten habitat and populations would be minimally affected by the amount of cover reduction.

Alternative 2 and 3 would not affect potential marten habitat or existing populations in Idaho because no new trail would be constructed there.

In Idaho, Alternative 4 would affect 2.7 acres of potential marten habitat, which would have minimal impact to marten habitat. The new trail construction abuts an existing motorized route and could allow snowmobile access along the new trail, even though the new trail would be designated non-motorized. The possible increased access to trappers could affect marten populations.

For Alternative 5, an existing trail segment of 0.5 miles would be rehabilitated in Idaho. No vegetation would be disturbed. This alternative would minimally affect marten habitat or populations in Idaho.

In Idaho, Alternative 6 would affect 4.2 acres of potential marten habitat which would have minimal impact to marten habitat. The new trail construction abuts an existing motorized route and could allow snowmobile access along the new trail, even though the new trail would be designated non-motorized. The possible increased access to trappers could affect marten populations.

Cumulative Effects: When considered with all past, present, and reasonably foreseeable activities, the proposed Forest Service action, would not cumulatively affect marten population viability on the analysis area or on the BDNF.

Viability: Based on current best available habitat information, suitable habitat is well distributed across the landscape for the marten in the USDA-FS Northern Region and BDNF. Short-term viability of the marten in the Northern Region is not a concern due to a variety of factors, but primarily because a) habitat is abundant for this species and b) there is no evidence that the marten is declining. Marten population viability on the BDNF will not be directly affected by this project.

ROCKY MOUNTAIN GOAT

EXISTING CONDITION

A portion of the CDNST -Miner to Berry to Goldstone Project traverses Mountain Goat Hunting District 322. Aerial survey in March 2006 located approximately 40 mountain goats in the Beaverhead Range with 10 kids:100 adults (Vanna Boccadori, FWP, email dated 07/27/06). The mountain goat population within Hunting District 322 has fluctuated since the early 1970s. Only 2 Either-sex permits were allocated for HD 322 during the 2006 mountain goat hunting season.

ENVIRONMENTAL EFFECTS

Alternative 1 – No Action: Trail construction and associated vegetative clearing would have minimal impact to mountain goat cover and forage availability, and would not increase open road density in the analysis area. No new trails would be constructed. The CDNST would remain on the existing motorized vehicle roads and trails where it currently does, and these portions of the trail would remain open to motorized use. The new trail construction between Berry Creek and Road #71205 and new trail construction in subalpine and alpine area where no trails currently occur would not open up high value habitat areas to increased human use during sensitive life periods and during hunting seasons. Thus mountain goat security would not be compromised nor would vulnerability be increased from trail construction increasing human access. The No Action Alternative would have no affect on mountain goats or their habitat. This alternative would not affect mountain goat habitat or populations in Idaho.

Action Alternative Synopsis: None of the action alternatives would appreciably reduce mountain goat habitat. All action alternatives would have similar impacts to mountain goat habitat and populations. Where the CDNST follows existing trails and roads, the route would not cause additional habitat damage. Research has shown that human use, even non-motorized use, has a deleterious effect on mountain goats by causing increased physiological stress and energy expenditure to avoid human intrusion. The construction activities and the subsequent use by hikers would cause unnecessary stress and energy loss to mountain goats in areas where they are relatively secure from human disturbance. Pack animals, such as pack goats and llamas, used by CDNST hikers could transmit diseases to the remnants of a native mountain goat population. The impacts to mountain goat populations would arise from the construction of the new trail segments penetrating subalpine and alpine areas that would open up highly secure areas to easier human use, the increased use by hikers on the CDNST, and the increased access for recreationists. The major concerns for mountain goat populations are related to impacts from increased human use and disturbance, although actual habitat losses would be minimal. Recent population information reflects a decline in goat populations in southwestern Montana. This has caused the State to further limit harvest. Trail construction and use in the high cirque basins in the Bitterroot Range, especially those without good access at this time can be detrimental to goats. The only way to prevent these population impacts would be to avoid the proposed new trail construction for the Pioneer Lake to Darkhorse Creek, Darkhorse Creek to Cowbone Lake, Jahnke Mine to Darkhorse Creek, Jahnke Mine to Cowbone Lake, and Pioneer Lake to Goldstone Pass (mostly in Idaho) segments in subalpine and alpine areas.

Alternatives 2 and 3 would not affect mountain goat habitat or populations in Idaho because no new trail would be constructed there.

Alternative 4 would affect 2.7 acres of potential mountain goat habitat which would have minimal impact to mountain goat habitat. The 2.8 miles of new trail construction abuts an existing motorized route and would allow snowmobile access along the new trail. The possible increased snowmobile use along the new trail and increased access for recreationists could adversely affect mountain goat populations.

In Alternative 5, an existing trail segment of 0.5 miles would be rehabilitated in Idaho. No vegetation would be disturbed. This alternative would minimally affect mountain goat habitat or populations in Idaho.

In Idaho, Alternative 6 would affect 4.2 acres of potential mountain goat habitat which would have minimal impact to mountain goat habitat. The 4.3 miles of new trail construction abuts an existing motorized route and would allow snowmobile access along the new trail. The possible increased snowmobile use along the new trail and increased access for recreationists could adversely affect mountain goat populations.

Cumulative Effects: When considered with all past, present, and reasonably foreseeable activities, the proposed Forest Service action, would not cumulatively affect mountain goat population viability in the analysis area or on the BDNF.

Sensitive Species: Effects to sensitive terrestrial species with the potential to occur within or near the analysis area are summarized below.

Flammulated Owl Determination: There would be no direct, indirect, or cumulative effects caused by the implementation of the project on this species. Suitable habitat would not be impacted by the proposed action. No timber harvest is proposed and population viability is not an issue. Because of these reasons, the project *will have no impact on the flammulated owl.*

Northern Goshawk Determination: Minimal amounts of goshawk habitat would be disturbed by the proposed action. No goshawk nests occur on the proposed trail new construction segments. Population viability would not be reduced by the proposed action. Because of these reasons, the project *will have no impact on the northern goshawk.*

American Peregrine Falcon Determination: There would be no direct, indirect, or cumulative effects caused by the implementation of the project on this species. The proposed actions would not affect potential habitat for peregrine falcons and population viability is not an issue. Because of these reasons, the project *will have no impact on peregrine falcon or its habitat.*

Black-backed Woodpecker Determination: There would be no direct, indirect, or cumulative effects caused by the implementation of the project on this species. No timber harvest is proposed and population viability is not an issue. Because of these reasons, the project *will have no impact on the black-backed woodpecker.*

Townsend's Big-eared Bat Determination: There would be no direct, indirect, or cumulative effects caused by the implementation of the project on this species. No timber harvest is proposed and population viability is not an issue. Suitable habitat does not exist in or near the proposed trail construction. Because of these reasons, the project *will have no impact on the Townsend's big-eared bat.*

Wolverine Determination: There would be no direct, indirect, or cumulative effects caused by the implementation of the trail clearing aspect of the project on this species. However, increased human presence during proposed trail construction, and subsequent human use of the new trails have the potential to impact wolverines. This species could experience loss of secure habitat from trails being constructed in currently difficult to access areas. Because of these reasons, the project *May Impact Individuals or Habitat, but Will Not Likely Result in a Trend in Federal Listing or Reduced Viability for the wolverine Population or Species.*

Fisher Determination: There would be no direct, indirect, or cumulative effects caused by the implementation of the project on this species. Suitable habitat would not be impacted by the proposed

action. No timber harvest is proposed and population viability is not an issue. Because of these reasons, the project *will have no impact on the fisher*.

Northern Bog Lemming Determination: There would be no direct, indirect or cumulative effects caused by the implementation of the project on this species. No suitable habitat in the analysis area would be affected, and the species is not known to occupy the analysis area. Because of these reasons, the project *will have no impact on the northern bog lemming*.

Bald Eagle Determination: There would be no direct, indirect or cumulative effects caused by the implementation of the project on this species. Because the project will not affect bald eagle habitat, prey base, or bald eagle/human interactions, the project *will have no impact on the bald eagle*.

Gray Wolf Determination: The proposed project would not substantially affect key wolf habitat, wolf prey base, or wolf/human interactions, and when considered with all past, present, and reasonably foreseeable activities, the project would not cumulatively affect wolf population viability in the analysis area or on the BDNF; therefore, the project *will have no impact of the gray wolf*.

Hydrology

EXISTING CONDITION

Water in the project area is considered to be of high quality. Runoff is generated primarily from snowmelt in the late spring and occurs later than in the valley below, due to the high elevation of the project area. Stream channels are a mix of ephemeral, intermittent, and perennial and many originate in glacial cirques and are high gradient and well armored. Lower gradient reaches occur where the valley floor widens and these areas support wet meadow complexes.

High elevation lakes occur within the project area. The lakes are generally of glacial origin and occur at the head end of the valley. The lakes tend to be deep with low natural productivity and many have an associated wetland complex along the margin. Riparian areas and wetlands occur throughout the project area. These areas are associated with streams and lakes and occur where topography is gentle. The wetlands and riparian areas are easily impacted by compaction due to the amount of water available in the soil.

ENVIRONMENTAL EFFECTS

Direct, indirect and cumulative effects were analyzed within seven 6th HUC watersheds. No alternative proposes to modify vegetation to the point where basin hydrology would be modified, and therefore, there would be no detectable effect on the streamflow regime in any of the watersheds analyzed. Stream crossings' impacts would be mitigated by building a spanning structure to eliminate crossing through the stream and avoiding wetlands during trail design and layout.

All alternatives meet Forest Plan direction for water quality and riparian health. All alternatives meet state water quality standards. No alternative would adversely affect water quality, nor would any alternative improve water quality to any appreciable degree. All alternatives pose some level of risk to sensitive wetlands surrounding lakes accessed by the trail; however, not all alternatives provide the same level of access. Alternatives that restrict motorized travel would provide more protection for the water resource due to less soil disturbance and less risk to off-trail travel into sensitive wetland or riparian areas. All new trail construction and reconstruction would be conducted using Best Management Practices (BMPs) to reduce or eliminate risk to streams and lakes. Construction of new trail on ridge tops poses less of a risk than construction of trail along stream channels. All action alternatives would require stream crossings and trail within 300 feet of lakes and streams that are in addition to those occurring in the No Action Alternative,

because no reduction in roads or trails that occur in the No Action Alternative (Existing Condition) is proposed.

Alternative 1 - No Action: This alternative proposes to maintain the existing condition. There would be no new trail construction, and no improvement of existing trails, and therefore no change to the water quality and sediment delivery. There would be no detectable effect on the streamflow regime. This alternative proposes to leave 3.79 miles of trail within 300 feet of streams and lakes and proposes to leave 15 stream crossings. Stream crossings are a point where streams are vulnerable to overwidening, sediment input, loss of riparian vegetation, and overuse.

Action Alternatives: None of the alternatives propose to modify vegetation to the point where basin hydrology would be modified. Therefore, there would be no detectable effect on the streamflow regime in any of the watersheds.

Another consideration regarding the construction of new trail is the location of the new trail relative to lakes and streams and its position within the basin. For example, more trail miles constructed on ridge tops pose less of a threat to water quality than do less miles constructed along stream channels, because there is less risk of sediment input the farther a trail is from a stream or riparian area. Therefore, an evaluation of the proposed trail location is needed to put the miles of trail constructed in perspective of its importance to water quality. Table 2 also shows how many miles of trail in each Alternative are within 300 feet of a stream or lake. Alternative 4 has the least number of miles near streams and lakes whereas; Alternatives 1 and 2 have the most. Therefore, Alternative 4 poses the least risk to water resources due to proximity.

In alternatives with new trail construction (2-6) the overall impact to the watershed is a net increase in road and trail density. In all action alternatives new trail is located either adjacent or in close proximity to open roads and trail therefore there would be a net increase in road densities, stream crossings, and area of disturbance.

Stream crossings are a point where streams are vulnerable to overwidening, sediment input, loss of riparian vegetation, and overuse. Therefore, the more stream crossings in each watershed, the more likely there would be some adverse impact to the site. Alternative 4 poses the least risk to channel process and Alternative 1 poses the highest risk.

Comparison of Alternatives: The following conclusions can be made concerning water resources and the Alternatives. Alternative 2 proposes the fewest miles of new trail construction and Alternative 3 poses the most. Alternative 4 has the least number of miles near streams and lakes and Alternatives 1 and 2 have the most. Alternative 4 has the lowest number of stream crossings and Alternative 1 has the highest number of crossings. Based on this analysis, Alternative 4 poses the least risk to the water resource due to the avoidance of water and lakes through ridgeline construction above Darkhorse and Cowbone Lakes, has the lowest number of stream crossing and the least amount of trail within 300 feet. Alternative 2 poses the most risk to the water resource due to the number of stream crossings and the proximity of water along the trail route. Of the action Alternatives, this route as the highest number of crossings and the highest number of miles of trail within 300 feet of a stream.

Cumulative Effects: All stream reaches within watersheds listed under the analysis area would maintain the current level of functioning status.

Regulatory Consistency of the Alternatives: The alternatives are consistent with the Beaverhead Forest Plan standards and guidelines for water resources and all pertinent Federal and State regulations. This project is also consistent with Montana Impaired Waters (303d) provisions. The Montana Code (75-5-703, Annotated 2001) provision 10(c) states that, “new or expanded non-point source activities affecting a

listed water body may commence and continue provided those activities are conducted in accordance with reasonable land, soil, and water conservation practices.” The proposed activities are not likely to cause further water body degradation from the primary impairment sources of impairment. Beneficial uses would be fully protected by the design, implementation, and BMPs proposed in this project.

Scenery

EXISTING CONDITION

On the Montana side of the Continental Divide the project area is characterized by dramatic topography, with forest slopes topped by rocky mountain peaks. Evidence of human activity is visible, but generally remains subordinate to the overall landscape character in the middle and background views from the Continental Divide and other locations. The topography is highly dissected, with broad valleys and jagged peaks, all above the Big Hole Valley where people live, ranch, farm, and recreate.

On the Idaho side of the Continental Divide, the project area is particularly visible in middle and background views, including views from the city of Salmon and Highway 28. Views from Lemhi Valley reveal the broad valley, surrounded by rounded foothills, and from there, rising to the rocky peaks of the Beaverhead Mountains. The foothills are a combination of sage openings and conifers, with Freeman Peak and Monument Peak figuring prominently in the view from Salmon.

The project area has a natural appearance which is emphasized by the rural and agricultural activities occurring in the Big Hole Valley. From the Lemhi Valley, the project area is natural appearing, with no apparent human activity. Looking into the Jahnke and Darkhorse drainages, an occasional road, trail, or remnants of various structures are visible in the foreground or near middleground, but generally views are dominated by the pattern created by the natural appearing mosaic of rock, vegetation, small mountain lakes, and small natural openings. The existing scenic integrity of the project area ranges from High to Very High.

The scenic attractiveness of the project area and the surrounding environment is Class A – Distinctive, due to the unique and dramatic landform which is visible and very powerful from varying distances and viewpoints. In addition, the dramatic mountain scenery from within the project area consists of rocky mountain peaks, forest and grass cover types and high mountain lakes at the head of many drainages, and contributes to the Class A – Distinctive classification. Views from the existing alignment of the trail are generally restricted to the immediate foreground, and near foreground, with occasional openings at higher elevations which allow for opportunities to view greater distances to the divide and across the Big Hole Valley. Visible water features are limited to several creek crossings and Skinner, Darkhorse, and Cowbone Lakes in the Darkhorse drainage. Nearing the top of the Darkhorse drainage, remnants of past mining activity are visible, and as users hike up to Goldstone Pass, more distant views are to be had of the Darkhorse drainage and the Big Hole Valley.

For analysis purposes, viewpoints were established at several locations that were considered important for discussing changes in the scenic quality in the project area, and to assess the landscape visibility. It is from these key viewpoints that the effects of the proposed project are measured. Viewpoint and seen area maps are contained in the project file.

ENVIRONMENTAL EFFECTS

The direct and indirect effects of the alternatives would be visible from both the trail itself as well as other locations on and off the National Forest. Overall, the greatest impact to the scenic resource by the proposed construction would be in areas where the trail crosses or climbs large talus, scree, or rock slopes. In these

areas, the effects of trail construction may potentially result in the introduction of unnatural-appearing linear elements and color differences between the trail and surrounding area which may dominate the view from fore-, middle- and background viewing distances both from the trail itself and from other locations.

Alternative 1 - No Action: This alternative would result in no impacts to scenery as seen from the key viewpoints. Views from this trail alignment are generally limited to foreground views, with more distant views obstructed by vegetation. The exception is the views afforded from atop the Darkhorse drainage, which provides an opportunity for users to view combinations of vegetation, rockform, and water features, and cultural features in foreground views.

Alternative 2 - Proposed Action: This alternative proposes both new trail construction and existing trail reconstruction from Miner Creek drainage to Pioneer Lake, and the effects of construction/reconstruction on this stretch are not expected to be evident in views from the key viewpoints on the divide or elsewhere. The remainder of the trail would cross from Pioneer to Jahnke to Darkhorse over ridges which are predominantly rock, although some areas are forested to some extent. These ridge stretches would be visible and would dominate the view from both portions of the trail and some key viewpoints along the Continental Divide in fore- and middle-ground views, and may be visible but not dominant in background views from key viewpoints.

The climb out of the Pioneer Drainage may be visible from Pioneer Lake as well as the trail, and would create a linear feature on the exposed rock slope which would dominate heavily in these views. The visual impact of this construction would stand in high contrast to the character of the area, which is exemplified by the strong natural features, including the craggy rockform surrounding Skytop and Highup Lakes. Likewise, dropping into Jahnke, the visual effect of this new construction would be an unnatural linear feature on the hillside. This stretch of construction would meet a Maximum Modification VQO.

The climb out of Jahnke would require the construction of switchbacks, which would result in the creation of an unnatural linear feature on the hillside. The visual impact of these switchbacks would be somewhat ameliorated by the tree cover on this slope, which may obscure portions of switchbacks as seen from the remainder of the trail and key viewpoints on the Continental Divide.

Dropping into Darkhorse would also require the construction of switchbacks, and the visual impact of this construction may be more noticeable than on the Jahnke side due to fewer trees to mask the effects of the construction. It is anticipated that construction of this stretch would meet a Partial Retention VQO. Trail reconstruction to facilitate the climb out of Darkhorse would widen the existing trail tread, potentially resulting in a more noticeable and perhaps dominant linear feature across the exposed rock slope, portions of which would be visible from the trail near Cowbone Lake and possibly from a dispersed recreation area at Skinner Meadows. It is anticipated that this stretch would meet at least a Modification VQO.

The views afforded to trail users by this alignment would be alternately closed in by forest canopy, with occasional breaks in the canopy in meadows which would allow more distant views. Climbing the various ridges would provide multiple opportunities for distance viewing into each of the drainages as well as the Big Hole Valley below. As such, opportunities for viewing scenery from higher elevations near the divide would be more frequent (and therefore improved) in comparison to the existing condition. In addition, users would experience views of both powerful natural features and setting in the Pioneer drainage, as well as the cultural remnants of past mining activity in Jahnke and Darkhorse.

Alternative 3: This alternative generally follows the same alignment from the Miner Creek drainage to Pioneer Lake as Alternative 2, and includes a stretch of new trail construction between Forest Service Road #381 and Trail #442. As with Alternative 2 through this stretch, the effects of this alignment are not expected to be evident from the key viewpoints, on the Continental Divide or elsewhere.

From Pioneer Lake to Forest Service Road #7330 in the Darkhorse Creek drainage, the alignment and effects are the same as that described for Alternative 2.

From Forest Service Road #7330, the trail travels along the base of the slope, generally above the lakes, to Cowbone Lake, where it meets Trail #9, and follows it to the divide. This alignment creates another constructed feature/corridor through the upper end of the Darkhorse drainage, and portions of this trail may be visible from Darkhorse and Cowbone Lakes, and may be visible from the Skinner Meadows key viewpoint. It is anticipated that this stretch above the lakes to Trail #9 would meet a Partial Retention VQO.

The effects of reconstruction of Trail #9 to the divide are the same as that described for Alternative 2. The views from this proposed trail alignment would be similar to those from the alignment described under Alternative 2.

Alternative 4: This alternative proposes both new trail construction and existing trail reconstruction from the Miner Creek drainage to a point east of Jahnke Lake. The impacts of this alternative, like Alternatives 2 and 3 are not expected to be evident from the key viewpoints on the Continental Divide or elsewhere.

From east of Jahnke Lake, the trail would begin its climb out of Jahnke into Darkhorse. The climb out of Jahnke would require the construction of switchbacks, which would result in the creation of an unnatural linear feature on the hillside. The visual impact of these switchbacks would be somewhat ameliorated by the tree cover on this slope, as it may obscure portions of switchbacks as seen from the remainder of the trail and key viewpoints on the Continental Divide. Dropping into Darkhorse would also require the construction of switchbacks, and the visual impact of this construction may be more noticeable than on the Jahnke side due to fewer trees to mask the effects of the construction. It is anticipated that construction of this stretch would meet a Partial Retention VQO.

The climb out of Darkhorse would use an existing trail which would be reconstructed. This trail segment would create a linear feature on the hillside but would be somewhat obscured by surrounding vegetation. Depending on the extent of necessary reconstruction work, this stretch is expected to meet at least a Modification VQO.

The remainder of the trail would be located on the Idaho side of the Continental Divide, and would cross at least one steeper stretch, as well as some narrow scree/talus slopes. The effects of trail construction across these areas may be visible from viewpoints in Idaho. The VQO in these areas is Retention, and if effects are visible, this would not meet this VQO. Constructing trail across this slope must be avoided to maintain VQOs, or be limited to the extent that the effects would not be evident in background views.

Views from the trail between Miner Creek and Jahnke Lake would be generally limited to foreground views as a result of vegetation. From the ridge between Jahnke and Darkhorse, this trail alignment would facilitate distant views into the Jahnke and Darkhorse drainages. In addition, distant views into both Montana and Idaho, and of the land- and rockform along the divide, would be visible once users reach the Continental Divide. The stretch along the Idaho side would provide views into the Lemhi Valley, distant views of the Lemhi Range, and possibly Mount Borah, the highest point in Idaho.

Alternative 5: This alternative follows the same alignment as Alternative 4 from Miner Creek drainage to Darkhorse Creek drainage. In this alternative, the proposed alignment travels above both Darkhorse and Cowbone Lakes (as described in Alternative 3).

This alternative would connect with an existing trail east of Trail #9, requiring the construction of switchbacks. This stretch creates another corridor in this drainage, as well as a redefined route up the

predominantly rock slope to Idaho which may be visible from Darkhorse and Cowbone Lakes. The climb out of Darkhorse on the exposed rock slope may be partially visible from the Skinner Meadows viewpoint, and would be visible from stretches of the trail and possibly from the lakes. The switchbacks necessary to make the climb would create an unnatural linear, stair-stepping feature on this barren hillside. It is expected that this stretch would meet a Maximum Modification VQO.

Views from the trail under this alternative between Miner Creek and the Darkhorse drainage at Forest Service Road #7330 would be similar to those described for Alternative 4. Climbing out of Darkhorse would facilitate views of the Darkhorse drainage and features on the Idaho side. Viewing opportunities are increased over the existing condition, but only by the Jahnke-Darkhorse crossing.

Alternative 6: Under this alternative, the effects of construction/reconstruction between Miner Creek and Pioneer Lake are not expected to be evident from any of the key viewpoints on the divide or elsewhere.

The trail climbs out of the drainage south of Pioneer Lake. Switchbacks would be constructed to facilitate this, resulting in an unnatural linear feature across this rocky slope. Like the switchbacks out of Pioneer under Alternatives 2 and 3, this constructed feature would stand in contrast to the natural rock formations and other natural features of this drainage. In addition, this constructed linear feature may be visible and dominate the view from the ridge between Jahnke and Pioneer, looking toward Skytop and Highup Lakes. This stretch of construction would meet a Maximum Modification VQO.

From atop the Pioneer drainage, the trail continues on the Idaho side of the divide to Goldstone Pass. Most of the area along the route is relatively gentle terrain with some forest/tree canopy so that the trail itself would not be evident from Highway 28 or from Salmon. The exception to this would be the steep stretch described under Alternative 4. In order to meet the Retention VQO, the trail construction would need to avoid this area or be limited to the extent that the effects of the trail would not be evident in background views from Highway 28 and Salmon.

Views from the trail under this alternative would be of the Big Hole valley as users traveled from Miner Creek to Pioneer drainage, then, as they neared the Pioneer Lake, views would be of the head of the Pioneer drainage, including Skytop and Highup Lakes. Also visible from Pioneer Lake would be the trail construction at the top of the drainage, switchbacks on the talus/rock slope. From atop the divide, the Big Hole Valley (including Pioneer, Jahnke, and Darkhorse drainages) and Lemhi Valley, Salmon, and the Lemhi Range would be visible in long-distance views (see views described under Alternative 4).

Comparison of Alternatives: All of the action alternatives improve the opportunities to view scenery from the trail in comparison to the existing condition / No Action Alternative. From its beginning point at Miner Creek to the point where each of the alternatives leaves the trees and begins ascending the divide, the visual experience is improved. Under Alternatives 2 and 3, the three climbs from one drainage to another provide opportunities for a variety of short and long distance views into the three drainages, but some of the scenic quality would be compromised in Pioneer and the north side of Jahnke with construction of a trail across the rock slope.

Alternative 4 has the potential to take advantage of existing vegetation to screen the effects of trail construction in climbing sections, and avoids construction in the top of the Pioneer drainage. In addition, it facilitates long distance viewing for longer duration, of both sides of the divide in some areas. In addition, it provides for opportunities to view and experience cultural features in the Darkhorse drainage. Alternative 5 includes the viewing opportunity from the ridge between Jahnke and Darkhorse. Alternative 6 maximizes long distance views, especially into the Pioneer drainage and Idaho; however, as under Alternatives 2 and 3, construction in the headwall of the Pioneer drainage would dominate the view from the trail and viewpoints on the divide and stand in contrast to the natural features of the drainage. The following table

summarizes the effects of the trail construction in visually sensitive trail sections. The *Overall Visual Rating* is derived from *Rating—Visual Impact* and *Rating—Visual Experience*, which are intended to measure the impact of construction on scenery and the overall visual experience as one uses the proposed trail, respectively. Visual impact of construction for each section was assigned based on the Achievable VQO (1 = Maximum Modification, 4 = Retention, etc.) then averaged and combined with the visual experience rating (1 = Low Visual Experience, 3 = High Visual Experience, etc.) to arrive at the *Overall Visual Rating* for each alternative.

Table 10: Effects by Alternative for Visually Sensitive Trail Sections.

Alternative	Trail Section	Inventoried VQO	Achievable VQO	Rating-Visual Impact	Rating—Visual Experience	Overall Visual Rating
2	Pioneer - Jahnke	Retention	Maximum Modification	1	2	4.0
	Jahnke – Darkhorse	Retention	Partial Retention	3		
	Darkhorse – CD	Retention	Modification	2		
3	Pioneer - Jahnke	Retention	Maximum Modification	1	2	4.25
	Jahnke – Darkhorse	Retention	Partial Retention	3		
	Above lakes in Darkhorse	Retention	Partial Retention	3		
	Darkhorse – CD	Retention	Modification	2		
4	Pioneer – Jahnke	Retention	Retention	4	3	6.25
	Jahnke – Darkhorse	Retention	Partial Retention	3		
	Darkhorse – CD	Retention	Modification	2		
	Steep stretches on S-C	Retention (from forest plan)	No modified VQO	4		
5	Pioneer – Jahnke	Retention	Retention	4	2	4.75
	Jahnke – Darkhorse	Retention	Partial Retention	3		
	Above lakes in Darkhorse	Retention	Partial Retention	3		
	Darkhorse – CD	Retention	Maximum Modification	1		
6	Pioneer – CD	Retention	Maximum Modification	1	2	5.25
	Jahnke – Darkhorse	Retention	Retention	4		
	Steep stretches on S-C	Retention (from forest plan)	No modified VQO	4		
	Darkhorse – CD	Retention	Retention	4		

Cumulative Effects: Generally, effects to scenery result from management activities such as timber harvest, fuels reduction activities, construction, mining activities, and natural or human caused/managed activities such as fire. Within the project area, past activities include mining and recreation activities, resulting in constructed features such as buildings, roads, and trails. These features are visible from some viewpoints, but remain subordinate to the natural and natural-appearing landscape character. Many of these structures may be considered a positive element in the landscape as they help to communicate the history of the area and past human activities. Present activities include ongoing livestock grazing and recreation (trail and recreation site use), which would generally have no effect on scenery. Future activities such as timber harvest, mining operations, or construction activities are not planned for the area, so no effect to scenery is anticipated.

Noxious Weeds

EXISTING CONDITION

On the Montana side of the Continental Divide, the level of noxious weed infestation is considered to be very low on National Forest System (NFS) lands within the Montana corridor described above. Existing infestations consist mostly of widely scattered spotted knapweed (*Centaurea maculosa*) plants, and are typically confined to roadsides at lower elevations. Infestations are known to occur on the following NFS roads: Miner Creek (#182), Lost Miner (#7326), Skinner Meadows (#181), and lower Berry Creek (#7325). There are no known infestations on existing NFS trails within the corridor. The actual infested area is estimated to be less than five acres, and these infestations are currently being treated with herbicides on an annual basis by Forest Service noxious weed control crews.

On the Idaho side of the Continental Divide there are known moderate to heavy infestations of noxious weeds on private, State, and federal lands. The heaviest infestations are found at lower elevations on private and Bureau of Land Management (BLM) lands, and are most prevalent along roadsides, and other disturbed areas adjacent to these roads. Within the Idaho portion of the analysis corridor, the level of infestation generally decreases from the lower elevations to the higher elevations, and this difference is most likely due to a change in plant communities (i.e., shrub/grassland to conifer), soil types, or other environmental factors that limit the establishment and spread of weeds along this elevation gradient.

ENVIRONMENTAL EFFECTS

Alternative 1 - No Action: Under this alternative, motorized and non-motorized travel would remain on existing roads and trails currently being used for the CDNST. These roads and trails total approximately 25.1 miles, and motorized use would continue to occur on about 22.4 miles. There would be no new trail construction or reconstruction that would result in ground disturbance; therefore, there would be no additional risk of noxious weed establishment and spread over what is currently occurring along the CDNST and within the analysis corridor. Based on the existing motorized use occurring on these roads and trails, the current weed invasion risk is estimated to be moderate. On NFS lands within the Montana portion of the analysis corridor, treatment of existing noxious weed infestations would continue to occur on an annual basis by Forest Service weed control crews, and in accordance with the BDNF Noxious Weed Control Environmental Impact Statement and Record of Decision (USDA, 2002).

Alternative 2 - Proposed Action: This alternative proposes to construct 8.5 miles of new trail, and heavy reconstruction on approximately 1.8 miles of existing trail. These activities would result in approximately 5.0 acres of ground disturbance that would be susceptible to invasion by noxious weeds. There would be six points where the CDNST intersects motorized routes within the analysis corridor. This alternative proposes to allow motorized use on approximately 3.0 miles of the trail.

Based on the above indices of measure, this alternative is estimated to have an overall moderate risk of transporting and spreading noxious weeds, or weed seed, along the CDNST, and into areas adjacent to the trail. Specifically, the greatest potential risk of noxious weed transport would come from the Idaho side of the corridor at Goldstone Pass, where unauthorized motor vehicle use of newly constructed trail from Darkhorse to Pioneer Lake could result in weed establishment on disturbed sites. This risk from unauthorized vehicle use is also possible on the Pioneer to Berry Meadows new trail segment; however, this risk would be considerably lower given the level of weed infestation, and origin of motorized access points on the Montana side.

Alternative 3: This alternative proposes construction of approximately 12.2 miles of new non-motorized trail, 0.6 miles of trail obliteration, and 1.7 miles of heavy trail reconstruction that would result in

approximately 7.0 acres of ground disturbance. There would be eight points where the CDNST intersects motorized routes, and there would be no trails or roads open to wheeled motorized use. Although these indices of measure are very similar to Alternative 2, it is estimated that this alternative would result in a lower overall risk of noxious weed transport and establishment along the CDNST due to no motorized use being allowed on the trail. However, the potential for unauthorized motorized use, and subsequent weed establishment, would be similar to, if not greater than, Alternative 2 due to the number of points the CDNST intersects motorized routes, and amount of new trail construction susceptible to weed invasion.

Alternative 4: With implementation of this alternative, there would be about 11.1 miles of new trail construction, and 0.7 miles of heavy trail reconstruction. These activities would result in approximately 6.0 acres of ground disturbance susceptible to weed invasion. Under this alternative the CDNST would intersect motorized routes at eight points, and would allow wheeled motorized use on about 8.0 miles of the trail. Compared to Alternative 2, this alternative is expected to result in a higher overall risk of noxious weed transport and establishment along the trail for the following reasons: 1) there would be an increased number of points the CDNST would intersect motorized routes originating from Idaho, 2) an increased amount of new trail construction on the Idaho side that would result in ground disturbance susceptible to weed invasion, and 3) greater potential for weed transport along the CDNST due to the amount of motorized use allowed on the trail.

Alternative 5: Under this alternative, there would be about 10.8 miles of new trail construction, 0.6 miles of trail obliteration, and 0.7 miles of heavy trail reconstruction. These activities would result in approximately 6.0 acres of ground disturbance susceptible to weed invasion. There would be eight points where the CDNST intersects motorized routes, and approximately 0.2 miles being open to wheeled motorized use. With the majority of the trail remaining in Montana, and motorized use being closed on many of the trail segments, this alternative would result in a much lower overall risk of weed transport and establishment than Alternative 4, but would have a very similar risk when compared to Alternative 3. The only appreciable difference between this alternative and Alternative 3 is the amount of new trail construction (12.2 miles versus 10.8 miles), and its associated ground disturbance.

Alternative 6: This alternative proposes construction of approximately 11.4 miles of new non-motorized trail, 0.6 miles of trail obliteration, and 0.7 miles of heavy trail reconstruction. These activities would result in approximately 6.0 acres of ground disturbance. With implementation of this alternative, there would be about seven points where the CDNST intersects motorized routes, and approximately 0.6 miles being open to wheeled motorized use. Compared to the other action alternatives, activities associated with this alternative would result in a higher risk of noxious weed transport and establishment along the CDNST, but would have the least risk of transporting weeds into areas where weed control would be difficult because of gentler topography, and shorter distances from existing roads and trails on either side of the Divide. The overall moderate risk associated with this alternative is derived from the number of motorized routes the trail intersects in Idaho, ground disturbance associated with the amount of new trail construction along the west side of the Divide in Idaho, and potential for unauthorized motorized use.

Comparison of Alternatives: The following table displays a quantitative summary of the indices of measure for each action alternative, with an overall summary of the risk for noxious weed transport, establishment, and spread within the analysis corridor, when compared to the No Action alternative. The risk rating is derived from the combined indices of measure, and effects discussions for each alternative.

Table 11: Noxious Weed Invasion Risk by Alternative

Alternative	Indices of Measure			Risk Rating
	No. of Points the CDNST Intersects Motorized Routes	Miles of Motorized Trail	Acres of Ground Disturbance	
1	7	22.4	0.0	Moderate
2	6	3.0	5.0	Moderate
3	8	0.0	7.0	Low
4	9	8.0	6.0	High
5	8	0.2	6.0	Low
6	7	0.6	6.0	Moderate

Cumulative Effects: Within the analysis corridor, past actions that have resulted in noxious weed establishment and spread are primarily a result of activities which created ground disturbance, and were subsequently prone to invasion by weeds. Specifically, these past activities include mining, logging, grazing management, and recreation management. Although these activities resulted in direct disturbance effects to the soil surface, the invasion by weeds was most likely an indirect effect of connected actions such as road and trail construction, or reconstruction, needed to access the activity area. These connected actions resulted in major pathways and vectors for weed transport and spread into disturbed areas that were previously uninfested. The most obvious examples of this effect can be observed along the roads and trails that access the Goldstone and Jahnke Mine sites from the Idaho side of the analysis corridor.

Present actions that are contributing to the transport and spread of noxious weeds within the analysis corridor are mostly related to travel management on federal lands. On the BDNF and SCNF, cross-country motorized travel by wheeled vehicles is prohibited yearlong, and motorized travel is authorized on open roads and trails as designated in the most current travel plan for each Forest. These open motorized roads and trails, and unauthorized cross-country vehicle travel, are currently creating the greatest risk for weed transport and deposition in the analysis corridor. Other current risks include the feeding of uncertified hay by recreational stock users, and the transport and spread of weed seed by livestock and native ungulates such as elk. For all alternatives, on NFS lands within the Montana portion of the analysis corridor, treatment of existing noxious weed infestations would continue to occur on an annual basis by Forest Service weed control crews, and in accordance with the BDNF Noxious Weed Control Environmental Impact Statement and Record of Decision (USDA, 2002).

Reasonably foreseeable future actions include the continuation of noxious weed spread by motorized vehicles that travel on designated open roads and trails within the analysis corridor; however, these routes may, or may not, change from the existing situation. Travel management planning is presently occurring on the SCNF, and is scheduled to start on the Wisdom District of the BDNF in 2008. The transport and spread of weeds by livestock and wild ungulates would also continue to be a potential threat within the analysis corridor.

Soil

The analysis area for soil encompasses all land within an individual treatment area. In general, soils outside the treatment boundaries (activity areas) are not expected to be directly or indirectly affected. The analysis area for the direct, indirect and cumulative effects is the 6th HUC watersheds.

EXISTING CONDITION

Since development of watersheds by roading and timber harvest, the dominant erosion processes in the roaded portions of the project area is surface erosion from the bare soil areas of roads, including the cutslope, fillslope, and travelway. Roads can provide a chronic, long-term source of sediment to streams within the analysis area. Forest Service system roads can be considered land removed from production administratively and biologically.

A source of short-term erosion in the analysis area is related to past timber harvest and subsequent fuels treatment. However, these activities include less than 350 acres of post and pole harvests, understory thinning, and firewood removal, over the past 30 years. These activities increase the amount of bare soil on native slopes typically for short time periods. These activities are revegetated and are no longer sources of sediment.

Field surveys of the soil resource in the project area will occur during the final trail layout. Due to the limited amount of past activities in the project area, no field surveys were conducted to determine the amount of legacy soil damage. The soil quality standards require the Forest Service to manage lands so that upon completion of activities in a treatment area, such as a timber sale unit, no more than 15 percent of the unit has detrimentally damaged soil. The standards further require that if the units already have more than 15 percent detrimentally damaged soil due to past activities prior to the planned treatment, that upon completion of the treatment and restoration the soil condition can not be any worse than it was prior to treatment and should move toward a net improvement in soil quality.

ENVIRONMENTAL EFFECTS

Experience indicates that the potential impacts on soils are best evaluated on a site-specific, trail by trail basis. The major soils concerns – compaction, nutrient loss, displacement and instability – are most effectively reviewed, for both short and long term effects, at the site level. With proper project implementation, as specified in this document, unacceptable direct, indirect, and cumulative effects on the soils resource are not anticipated beyond the extent of the trails themselves.

As project implementation proceeds, appropriate constraints or mitigations may be added or changed in order to better meet the intent of adequate resource protection or enhancement as outlined in the forest plan. As the proposed project is initiated, it will be monitored to evaluate implementation efficiency, prescription adequacy, and to update rehabilitation needs or protection.

Alternative 1 - No Action: Roads and trails with motorized use would continue to experience compaction, erosion, and displacement through continued and possibly expanding use. Many of the trails and roads were not located to avoid sensitive soils or have not been maintained to effectively drain water. These sites would continue to deteriorate and may encourage users to move off of established trails and pioneer new routes to avoid the most heavily impacted locations. This alternative meets soil quality standards for soil disturbance. Sites currently eroding would receive periodic maintenance. However, it is likely that such maintenance will be sporadic and will not result in long term improvement of the existing condition. No soil production would be administratively removed through new trail construction.

Alternative 2 - Proposed Action: This alternative meets soil quality standards for soil disturbance. Potential for soil erosion on existing and new trails would be minimized through BMPs and site-specific design criteria. This alternative requires that 3.07 acres of soil production be administratively removed as a result of new trail construction. This amount of area administratively removed from production is minuscule compared to the 77,020 acre project area.

Alternative 3: This alternative meets soil quality standards for soil disturbance. Potential for soil erosion on existing and new trails would be minimized through BMPs and site-specific design criteria. This alternative requires that 5.32 acres of soil production be administratively removed as a result of new trail construction. This amount of area administratively removed from production is minuscule compared to the 77,020 acre project area. Approximately 0.44 acres of soil would be returned to production as a result of decommissioning 0.6 miles of trail.

Alternative 4: This alternative meets soil quality standards for soil disturbance. Potential for soil erosion on existing and new trails would be minimized through BMPs and site-specific design criteria. This alternative requires that 4.87 acres of soil production be administratively removed as a result of new trail construction. This amount of area administratively removed from production is minuscule compared to the 77,020 acre project area.

Alternative 5: This alternative meets soil quality standards for soil disturbance. Potential for soil erosion on existing and new trails would be minimized through BMPs and site-specific design criteria. This alternative requires that 4.76 acres of soil production be administratively removed as a result of new trail construction. This amount of area administratively removed from production is minuscule compared to the 77,020 acre project area. Approximately 0.44 acres of soil would be returned to production as a result of decommissioning 0.6 miles of trail.

Alternative 6: This alternative meets soil quality standards for soil disturbance. Potential for soil erosion on existing and new trails would be minimized through BMPs and site-specific design criteria. This alternative requires that 5.01 acres of soil production be administratively removed as a result of new trail construction. This amount of area administratively removed from production is minuscule compared to the 77,020 acre project area.

Cumulative Effects: With proper project implementation, as specified in this document, unacceptable cumulative effects on the soils resource are not anticipated from any of the action alternatives. Consequently, the utilization of soil protection measures and best management practices are expected to preclude the need for additional cumulative effects analyses. Deviation from the standards and guidelines would be the primary trigger for a more detailed analysis. No deviations are planned at this time.

Regulatory Consistency: The soils analysis indicates that all alternatives and all activities proposed by the alternatives would meet the Region 1 Soil Quality Standards through the implementation of management practices outlined in Chapter 2. All Forest Plan management direction would be met by the proposed alternatives.

Aquatic Resources

EXISTING CONDITION

Aquatic resources were analyzed within four 6th HUC (Hydrologic Unit Code): Miner (100200040501), Hamby (100200040305), BerryUp (100200040302), and BigHoleUp (100200040301).

Eastern brook trout, burbot, and dace have been found during various surveys in the Miner HUC. Westslope cutthroat trout have not been found in Miner Creek. The South Fork of Miner Creek and the intermittent tributaries have not been surveyed. Hybrid WCT, grayling, mountain whitefish, eastern brook trout and burbot are present in Lower Miner Lake while the Upper Miner Lakes contain rainbow trout and eastern brook trout. A 2000 amphibian survey found spotted frogs throughout the HUC, along the middle and upper reaches of Miner Creek and in several lakes. No other amphibians were found.

Cutthroat trout were planted in Hamby and Engeljard creeks numerous times between 1934 and 1954 and in Lake Geneva in 1966. Spotted frogs were noted in Englejard Creek during surveys in 1995 and in an area north of Englejard Creek in 1996 and 2000.

Eastern brook trout is the only salmonid documented in Berry Creek, although Berry and Timberline lakes support populations of Yellowstone cutthroat trout. No amphibian surveys have occurred and there are no records of incidental amphibian observations.

Eastern brook trout predominate in this HUC, although a 1997 survey in Blind Canyon Creek did document the existence of westslope cutthroat trout. Eastern brook trout are the only species documented in the North Fork Pioneer, Jahnke, and Darkhorse Creeks. Spotted frogs were noted in Skinner pond #1 and longtoed salamanders were found in Skinner pond #2. An incidental observation of spotted frogs in Pioneer Creek is also listed. The uppermost 12 kilometers of the Big Hole River flow through this sub-watershed, but no sampling has occurred on this segment of the river for fish species composition, populations, or relative abundance, or for instream habitat conditions. An electro-fishing sample of Blind Canyon Creek consisted of a single fish captured – a genetically pure westslope cutthroat trout. Darkhorse and Cowbone lakes have been planted with Yellowstone cutthroat trout for many years, reducing the likelihood that genetically pure westslope cutthroat trout exist in Darkhorse Creek. Jahnke Creek was planted in 1944 and 1959 with “cutthroat trout” but it is likely that these fish were Yellowstone cutthroat, and it is unlikely that this stream supports westslope cutthroat. Other streams within the sub-watershed are likely to not support westslope cutthroat.

ENVIRONMENTAL EFFECTS

All new trail construction and trail reconstruction would be conducted using Best Management Practices (BMPs) to reduce or eliminate the risk to streams and lakes from sediment and other pollutants. Stream crossings’ impacts would be mitigated by building a spanning structure to eliminate crossing through the stream. Wetlands and other sensitive sites would be avoided during layout and design of the trail.

The hydrology report predicts that no alternative would adversely affect water quality and that riparian health in all alternatives would remain unaltered, and it is therefore, safe to assume fish habitat in streams should remain unaltered.

All alternatives pose some level of risk to sensitive wetlands surrounding lakes accessed by the trail; however, not all alternatives provide the same level of access, therefore those differences are noted in the effects by alternative discussion. Newly constructed trail to high mountain lakes may lead more visitors to these locations. Improved access created by a new and/or improved trail has the potential to increase fishing pressure on some of these high mountain lakes. The number of lakes with increased access varies by alternative (See table below).

Table 12: Number of lakes with increased access

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Lakes	2	4	5	1	3	1

Alternative 3 would increase accessibility to the greatest number of high mountain lakes. In alternative 3, the lakes the proposed CDNST would pass near are Pioneer, Jahnke, Darkhorse, and Cowbone lakes and one unnamed lake about 1.5 miles north of Darkhorse Lake. Alternative 2 proposes the trail near the same lakes with the exception of the unnamed lake. No information exists on the unnamed lake and it may not even support a fishery. Darkhorse and Cowbone lakes are stocked by Montana Fish Wildlife and Parks, typically every 4 years. Jahnke Lake does not get stocked on a regular basis according to data more recent

than 1990. Pioneer Lake was last stocked in 1990 with Yellowstone cutthroat trout. The above stocking information comes from MFWP's fisheries information system website. So while some lakes in the area are stocked regularly, lakes like Jahnke and Pioneer are likely more vulnerable to over-fishing. Alternatives 1, 4, and 6 would least affect the high mountain lake fisheries because the proposed CDNST route would provide the least amount of high mountain lake accessibility.

Sensitive Plants

EXISTING CONDITION

Possible occupied habitat of four R1 Sensitive species and four R4 Sensitive species occurs within the proposed project corridors. The lodgepole pine and Douglas-fir forested portions of the CDNST are not habitat for any R1 sensitive plant species except in riparian zones and wetlands. In those areas *Mimulus primuloides* may occur. The subalpine forest and alpine tundra have potential habitat for *Antennaria densifolia*, *Saxifraga tempestiva*, and *Saussurea weberi*. These species are currently known to occur on alpine tundra in the Goat Flats and Storm Lake Pass areas above 9000 feet elevation. On the SCNF, potential habitat for *Agoseris lackshewitzii*, *Cymopterus douglasii*, and *Poa abbreviata* var *lyrata* may occur. No federally proposed, threatened, or endangered plant taxa occur in the proposed project.

The area is generally noxious weed free. However extensive infestations of spotted knapweed and Canada thistle occur to the west, in Idaho.

ENVIRONMENTAL EFFECTS

Direct and Indirect Effects: No effects to proposed, threatened, or endangered plant species would occur as a result of any alternatives for this project.

Cumulative Effects: This trail would connect with previously constructed trails and roads. Completion of the trail would make it more likely that visitor traffic will increase to areas that pass through known sensitive plant habitat. An increase in use of trails where these species occur may cause trampling, should users leave the trail.

Heritage Resources

EXISTING CONDITION

The analysis area is located along the periphery of several minor mining districts including the Ajax District and associated mines located along minor tributaries of Lake Creek 10-15 miles to the northwest, and the Beaverhead/Monument District located along the lower Bloody Dick Creek 10-15 miles to the southeast. Two historic mining properties are located within the southern portion of the analysis area. The Jahnke Mine is situated in the upper reaches of Jahnke Creek and the Dark Horse Mine along the headwaters of Dark Horse Creek.

ENVIRONMENTAL EFFECTS

Alternative 1 - No Action: No previously recorded heritage resources are known to occur along the existing travel routes identified in this alternative. The existing designated travel route provides motorized access through the historic Dark Horse mining property, but avoids the historic Jahnke property.

Not all of the existing trail system and associated travel routes have been inventoried for heritage resources. It is probable that both prehistoric and historic heritage resources exist along the currently used trail system. These unidentified archaeological and historic sites would remain undocumented and unmanaged. Since they would remain unknown to forest managers they would continue to be subjected to the degrading influences of erosion and other natural impacts that could damage or destroy significant sites before stabilization, excavation or other site management action could recover or preserve their scientific and cultural values. Archaeological and historic sites adjacent to roads and trails are also subject to a higher level of vandalism than those ¼ mile or more from such travel routes. Under this alternative, the Jahnke Mine would continue to be accessible by motorcycle and snowmobiles via Forest Route 7328 and the Dark Horse Mine would continue to be accessible by unrestricted motorized traffic.

Alternative 2 - Proposed Action: Having the smallest amount of proposed new trail construction, this alternative has the lowest potential of impacting unknown and as yet unrecorded heritage resources. This alternative crosses terrain that is considered medium and low probability for the occurrence of heritage resources. Similar to the No Action alternative, motorized vehicular access to the Dark Horse Mine would continue. Non-motorized access would be provided in close proximity to the Jahnke mine by way of newly constructed trail segments.

Continued public access through, or in close proximity to, the historic Jahnke and Dark Horse mining properties provides the potential for vandalism of historic resources to occur. Potential vandalism could include the removal of artifacts or damage to standing structures.

Alternative 3: This alternative proposes the largest amount of new trail construction, considerably more than Alternative 1 or 2, but only slightly more than proposed in Alternatives 4, 5 and 6. This alternative therefore has the highest possibility of impacting unknown and as yet unrecorded heritage resources. This alternative crosses terrain that is considered medium and low probability for the occurrence of heritage resources. Under this alternative, non-motorized access would be provided in the vicinity of both the Dark Horse and Jahnke mining properties.

Continued public access through, or in close proximity to, the historic Jahnke and Dark Horse mining properties provides the potential for vandalism of historic resources to occur. Potential vandalism could include the removal of artifacts or damage to standing structures.

Alternative 4: The Alternative provides for considerably more new trail construction than found in Alternative 1 and 2, and a similar amount of new trail construction as found in Alternatives 3, 5 and 6. This alternative therefore also has a high potential of impacting unknown and as yet unrecorded heritage resources. This alternative crosses terrain that is considered medium and low probability for the occurrence of heritage resources. Similar to Alternative 1 and 2, motorized vehicular access to the Dark Horse Mine would continue. Non-motorized access would be provided in close proximity to the Jahnke mine by way of newly constructed trail segments.

Continued public access through, or in close proximity to, the historic Jahnke and Dark Horse mining properties provides the potential for vandalism of historic resources to occur. Potential vandalism could include the removal of artifacts or damage to standing structures.

Alternative 5: The Alternative provides for considerably more new trail construction than found in Alternative 1 and 2, and a similar amount of new trail construction as found in Alternatives 3, 4 and 6. This alternative therefore has a high potential of impacting unknown and as yet unrecorded heritage resources. This alternative crosses terrain that is considered medium and low probability for the occurrence of heritage resources. As in Alternative 3, non-motorized access would be provided in the vicinity of both the Dark Horse and Jahnke mining properties.

Continued public access through, or in close proximity to, the historic Jahnke and Dark Horse mining properties provides the potential for vandalism of historic resources to occur. Potential vandalism could include the removal of artifacts or damage to standing structures.

Alternative 6: This Alternative provides for considerably more new trail construction than found in Alternative 1 and 2, and a similar amount of new trail construction as found in Alternatives 3, 4 and 5. This alternative therefore has a high possibility of impacting unknown and as yet unrecorded heritage resources. This alternative crosses terrain that is considered medium and low probability for the occurrence of heritage resources. Unlike any of the previous alternatives, new trail construction in the vicinity of the Dark Horse and Jahnke mining properties would be re-routed to the Idaho side of the divide, and limited to non-motorized traffic. This alternative would have the least amount of potential direct or indirect impacts to the historic mining properties.

Consistency with Other Laws, Policy, and Direction

Endangered Species Act

None of the alternatives are anticipated to have a direct, indirect, or cumulative effect on any threatened or endangered species in or outside the project area. A complete biological assessment (BA) will be available with the Decision Notice.

National Historic Preservation Act

A standard Class I review of existing documents and records on file at the BDNF and the Montana State Historic Preservation Office was conducted. Prior to the construction or reconstruction of any trail segment, and following placement of a proposed trail flag line on the ground along the selected route, the National Historic Preservation Act Section 106 compliance process will be completed and documented in the Supervisor's Office and District files. Intensive archaeological survey will be completed to insure that significant heritage resources are not adversely affected by project implementation. Native American communities have been contacted and public comment encouraged.

Clean Water Act and Montana State Water Quality Standards

The design of project activities is in accordance with Forest Plan standards and guidelines, Best Management Practices, and applicable Forest Service manual and handbook direction. Project activities are expected to meet all applicable State of Montana water quality standards. The proposed activities are not likely to cause further water body degradation from the primary impairment sources of impairment.

Environmental Justice and Civil Rights

Executive Order 12898, issued in 1994 ordered Federal Agencies to identify and address any adverse human health and environmental effects of agency programs that disproportionately impact minority and

low-income populations. The Order also directs agencies to consider patterns of subsistence hunting and fishing when an agency action may affect wildlife or fish. The project will not alter opportunities for subsistence hunting and fishing by Native American tribes. Tribes holding treaty rights for hunting and fishing on the BDNF are included on the project mailing list, and have the opportunity to provide comments on this project. Public involvement occurred for this project, the results of which I have considered in this comment decision. Public involvement did not identify any adversely impacted local minority or low-income populations. This decision is not expected to adversely impact minority or low-income populations.

The Civil Rights Act of 1964 provides for nondiscrimination in voting, public accommodations, public facilities, public education, federally assisted programs, and equal employment opportunity. Title VI of the Act, Nondiscrimination in Federally Assisted Programs, as amended (42 U.S. C. 2000d through 2000d-6) prohibits discrimination based on race, color, or national origin. This decision complies with this act.

National Environmental Policy Act (NEPA)

NEPA provisions and all regulations for implementation of NEPA (as required under 40 CFR 1500) have been followed in the development of this environmental assessment. Chapter 3 and the specialist reports in the project file disclose the expected impacts of this project.

Agencies or Persons Contacted

The following people participated in the preparation of this environmental assessment:

Erin Brown	ID Team Leader
Bryce Bohn	Hydrologist/Soil
Dan Downing	Fish Biologist
Kevin Greenwood	Range Conservationist
Ray Gross	Trails Coordinator
Dennis Havig	Wisdom District Ranger
Dennis Hilliard	Leadore District Ranger
Bob Hutton	Range/Trails
Patti Johnston	Recreation
Tom Komberec	Wildlife Biologist
Cheryl Martin	Editor
Harriet McKnight	GIS Specialist
Mark Sant	South Zone Archeologist
Doug Wright	Scenery
Bob Wooley	Ecologist/Sensitive Plants

Other agencies contacted include:

Bureau of Land Management
 Beaverhead County Commission
 Montana Fish, Wildlife, and Parks
 Montana Department of Environmental Quality
 Montana State Historic Preservation Office
 U.S. Fish and Wildlife Service

The following individuals were not directly involved in preparation of this assessment, but provided specific technical input or information in appropriate areas of specialization.

Gordon Ash – Recreation/Trails Specialist, Dillon RD
Gail Baer – NEPA specialist, SCNF
Trish Callaghan – Trails, Recreation SCNF
Craig Simonson – Transportation Planner, BDNF
Cavan Fitzsimmons – Forest Trails Coordinator, SCNF
Jeff Slag – Recreation Specialist – Leadore RD
Pete Schuldt – Civil Engineer Technician, SCNF
Cindy Haggas – Wildlife Biologist, SCNF
Dan Garcia - Fisheries Biologist, SCNF
Ken Stauffer - Landscape Architect, SCNF
Norma Staaf – Special Uses Coordinator (Landscape Architect), SCNF
Steve Matz – Archeologist
Mike Steck – Wildlife Biologist, SCNF
Diane Schuldt – Wildlife Biologist (Weeds), SCNF
Betsy Reffinburger – Hydrologist, SCNF
Karyl Krieger – Forest Planner, SCNF
Linda King – Resource Assistant, West Fork RD
Deb Gale – Wilderness/Trails Specialist, West Fork RD
Nick Hazelbaker – Trails Specialist, West Fork RD
Rob Jagers – Recreation Trails Specialist - Salmon Field Office