

# Environmental Assessment

## Blodgett Creek and Canyon Creek Road Upgrade



USDA Forest Service  
Bitterroot National Forest  
Stevensville Ranger District



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## **1 Chapter 1 - PURPOSE AND NEED FOR ACTION**

### **I. INTRODUCTION**

The Forest Service is proposing to upgrade Blodgett Creek Road #736 and a portion of road Canyon Creek Road #735 under the Public Forest Service Roads (PFSR) program. This effort would improve safety conditions, provide for surfacing upgrades, and reduce sediment flow into nearby streams.

The goals of the PFSR program are to:

- A.** Provide safe and efficient access to destinations in the national forests and grasslands;
- B.** Provide a seamless transportation link between State and other local government highway systems and the attractions of the national forests and grasslands;
- C.** Encourage/improve economic development of rural communities through quality recreation and tourism experiences;
- D.** Improve water and air quality; and
- E.** Reduce erosion.

These roads were constructed in the 1960s and adjacent private land has since been subdivided and developed for housing. A number of private driveways and private land access roads intersect with Roads #735 and #736. The mix of residential and recreational traffic on these roads was not anticipated or included in the original road design. An upgrade to the roads is needed for public safety.

A campground improvement and additional parking were added at the terminus of Road #736 in 2003.

A Roads Analysis was completed in April 2003 and supports upgrading the road standards for Blodgett Creek Road #736 and Canyon Creek Road #735.

### **II. PURPOSE AND NEED**

The purpose of this proposed PFSR project is to increase driver safety and user convenience while accessing the Bitterroot National Forest. Blodgett Creek Road provides access to Blodgett Campground and Trail #19. Blodgett Campground is the nearest campground to the city of Hamilton. This is a popular area for rock and ice climbing. Canyon Creek road provides access to the National Forest and Trails 101 and 525.

These roads are directly connected to the Ravalli County road system and are within 2 miles of State Highway 93. Ravalli County currently maintains a portion of the Blodgett Creek Road under an agreement with the Forest Service. Upgrading these roads under this program would provide for a seamless link between national forest roads and State and County road systems.

#### **A. There is a need to:**

- 1.** Upgrade the roads to public road standards for increased public safety.
- 2.** Reduce the annual maintenance expense on the roads.

#### **B. Proposed Action**

The proposed action is to reconstruct the roads to include: asphalt paving, installation of guardrails, and road widening where needed. The road width would be a traveled way of 18 feet with 2-foot shoulders on either side making the minimum roadway width 22 feet. The fill over Putnam Gulch would have

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guardrails installed, this would require an additional 2 feet of shoulder width for a total traveled way of 26 feet.

The project would begin at the junction of Road #736 and the County Blodgett Camp Road. This portion of the project would terminate at Blodgett campground; the length is approximately 2.1 miles. The second portion of this project would begin at the intersection of Roads #735 and #736 and would terminate at the trailhead; the length is approximately 0.7 miles. The total length of road upgrades would be approximately 2.8 miles.

**Table 1-1** is a description of the Proposed Action developed by the Interdisciplinary Team based on the comments from the public and Map 2-1 shows a graphic representation of the Proposed Action.

**Table 1-1 Proposed Action**

<b>Location</b>	<b>Road Segment</b>	<b>Proposed Activity</b>
Blodgett Creek Road #736	From the junction with Blodgett Camp Road to the junction of Canyon Creek road (segment A to B on Map 2-1)	Provide a two-lane (24 ft wide) road. (This is the current width of the road). Upgrade the surfacing to bituminous pavement. Install guardrails at the Putman Gulch fill. This would require additional fill material to get four feet of additional width for the guardrails. Lengthen the culvert at Putman Gulch. Install additional relief culverts.
Blodgett Creek Road #736	From the junction with Canyon Creek Road to the National Forest boundary (segment B to C).	Provide a two-lane (24 ft wide) road. Approximately 4 to 6 feet of additional road width would be needed. Upgrade about 800 feet of surfacing to bituminous pavement (just around sharp corner). Retain aggregate gravel surfacing on the remainder of the segment. Install additional ditch relief culverts.
Blodgett Creek Road #736	From Forest boundary to Blodgett Campground (segment C to D)	Transition to a single lane road with turnouts as the existing road is designed. Apply recycled asphalt surfacing to reduce dust.
Canyon Creek Road #735	From junction with Blodgett Creek road to the last residence (segment B to E)	Provide a two-lane road (24 ft wide) with paved surfacing. Approximately 6 to 10 feet of additional road width would be needed. Install additional ditch relief culverts.
Canyon Creek Road #735	From last residence to end of road (segment E to F).	Retain the existing single lane with turnout road standard. Add aggregate gravel surfacing. Install additional ditch relief culverts.
All roads	All segments	Existing right-of-way width is adequate. No additional right-of-way is needed. Keep clearing width to the minimum necessary for safe passage. Develop & implement a sign plan to provide Forest visitors adequate direction, provide better safety awareness, and notify the public of private land restrictions.

The purpose of this document is to provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact (40 CFR 1508.9(1)). See Map 1-1 for a display of the project area vicinity.

### **III. DECISIONS TO BE MADE**

The Stevensville District Ranger is the responsible official who will determine whether to upgrade the Blodgett Creek and Canyon Creek roads. The decisions to be made include:

- A.** Whether to upgrade the Blodgett Creek and Canyon Creek roads as described in the proposed action or one of the alternatives.
- B.** Identify mitigations to reduce the risk of potential adverse effects for any selected actions.
- C.** Specify monitoring actions to ensure any selected action is implemented as planned and that environmental effects meet Bitterroot Forest Plan standards.

### **IV. FOREST PLAN MANAGEMENT DIRECTION**

The Blodgett and Canyon Creek Road Upgrade project area is located primarily on easements across private land. The upper ends of the roads are within Forest Plan Management Areas, 5 and 3c. Other Management Areas adjacent to the project area may be considered during individual specialist reports and include MAs 6, 7, and 10. The project is expected to meet the following Forest-wide standards and guidelines, and the Management Area direction:

- A. Goal.** Design transportation systems and road management programs that are responsive to public concerns and protect resource goals.
- B. Objective.** Minimize adverse effects on water quality and fish habitat during construction and maintenance.
- C. Forest-wide Standards**
  - 1.** Roads will be maintained to design standards.
  - 2.** All roads will be designed to facilitate reestablishment of vegetative cover on disturbed areas within a reasonable time, not to exceed 3 years, after termination of a contract. If the road is necessary as a permanent addition to the National Forest transportation system, then the roadbed may not be revegetated.
- D. Management Area 3c Standards.** In addition to the Forest-wide standards for road construction, the following standards will be required on specific viewsheds to meet the retention visual quality objective:
  - 1.** Clearing – Vary clearing width and clearing edge tree density. Retain trees in the fill slopes. Treat unnatural appearing debris so that it is subordinate to the characteristic landscape.
  - 2.** Cut and fill slope construction and treatment – End haul where required to meet the visual objectives. Leave the slope rough to minimize vegetative recovery time. Hand planting, mulching, placing topsoil, and fertilization will be done when needed. Soil disturbance should be subordinate to the characteristic landscape.
  - 3.** Structures – Design and or place all structures to be compatible with the natural characteristic landscape.
  - 4.** Surfacing – Use dust retardant, gravel, or other surfacing material.
  - 5.** Screening – Roads in this management area should be screened, so they are not evident from visually significant viewpoints.
- E. Management Area 5 Standard.** Maintain road surface for public safety and to protect the environment.

**V. SCOPE OF THE PROPOSED ACTIONS**

The scope of the proposed actions contained in this document are limited to the reconstruction of Blodgett and Canyon Creek roads as discussed in Chapter 2 and shown on the alternative maps. The actions proposed in the document are not intended to serve as a general management plan for the area, and this is not a programmatic EA. If the responsible official selects an action alternative in the Decision Notice, implementation of the activities specifically identified would begin as soon as possible without further NEPA documentation.

The proposed action and the alternatives to the proposed action would not require a site-specific amendment to the Bitterroot Forest Plan.

**VI. PERMITS REQUIRED**

Permits are required to implement the proposed action or any of the alternatives to work on the culverts and fill a small piece of wetland in Putman Gulch. This is a joint permit application to the Montana Department of Fish, Wildlife and Parks (MTFWP) and the Army Corps of Engineers. This permit would be acquired before construction would begin.

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**Map 1-1, Blodgett Creek and Canyon Creek Roads Vicinity Map**

## **2 Chapter 2 - ENVIRONMENTAL ISSUES AND ALTERNATIVES**

### **I. INTRODUCTION**

Chapter 2 outlines the public scoping process that led to the identification of environmental issues about the impacts of the proposed action. Key issues raised by the public or Forest Service personnel led to the consideration of design requirements, mitigation measures, and alternatives to the proposed action. Two alternatives to the proposed action (including the No Action Alternative) were identified that warranted detailed analysis. Other alternatives were considered and dismissed for reasons explained later in this chapter.

The chapter includes management practices and mitigation measures, monitoring plans, and a comparison of the effects of the alternatives on various resources.

### **II. SCOPING AND PUBLIC COMMENT**

**A. Public Involvement.** Scoping for the Environmental Assessment incorporates all public contacts made during 2002. The Stevensville District NEPA mailing list was used for government agencies, the media, and individuals interested in this type of Forest activities. Public letters were mailed, notices were published in newspapers, and open houses were held as described below:

1. Notice of an open house was mailed to about 55 individuals that live on the Blodgett and Canyon Creek roads on March 25, 2002 (Project File).
2. An open house was held on April 5, 2002. The purpose of this open house was to introduce the reconstruction project to the public and local residents to ask them for ideas on what should be included in the proposed action. Seventeen individuals signed in and participated during the open house (Project File).
3. Notes from the April 5, 2002 open house were mailed to about 63 individuals that live on the Blodgett and Canyon Creek roads or who expressed an interest in the project.
4. The project was included in the July 2002 Bitterroot National Forest Quarterly Project List.
5. A public scoping letter outlining a specific proposed action was mailed to approximately 200 individuals, organizations, and agencies on August 19, 2002 (Project File). Public comment was accepted until September 1, 2002.

**A. Internal and External Agency Involvement.**

1. Internal scoping involved meetings on the Stevensville Ranger District. A field review of the proposed activities by interdisciplinary team (IDT) members was held on June 21, 2002 (Project File). The proposed action was developed at an IDT meeting on June 21, 2002, following the field review. An IDT meeting was held on October 8, 2002, to review public scoping comments and identify environmental issues (Project File).
2. Native American Tribal members were consulted as required by the National Historic Preservation Act, the National Environmental Policy Act, and the American Indian Religious Freedom Act. The Confederated Salish and Kootenai Tribe was consulted during the planning stages of this project (Project File).
3. The U.S. Fish and Wildlife Service was contacted during the planning stage concerning Threatened and Endangered species.

### **III. ISSUES**

Issues that may be controversial or represent unresolved conflicts are evaluated. They may be used to identify alternatives to the project. These issues are called the key environmental issues.

**A. Key Environmental Issues.** The issues that the Responsible Official believed to be the key issues and that were used to influence design considerations and mitigation for the proposed action and/or develop

alternatives to the proposed action are presented below, along with the indicators used to gauge the alternative's response to the issues. The indicators are a primary factor used in the comparison of alternatives later in this chapter.

- 1. Reconstruction Standard:** Many of the comments received on the proposed action concerned the extent and level of reconstruction. These concerns were expressed as desires for less road width, less paving, more paving, gravel surfaces on some segments, and adequate drainage. This will be tracked as the amount of 2-lane road and the amount of paved road.
  - 2. Public Use on Private Lands:** Nearly all of the local residents expressed concern and frustration with public use on their private lands. They were concerned that improved roads would invite more people and increase public trespass problems.
- B. Other Issues.** Other issues identified by the Interdisciplinary Team will be evaluated in the Environmental Consequences section of this document (Chapter 3). They include the following:
- 1. Recreation:** Concern was expressed about the effects of improved access on recreation facilities and use.
  - 2. Wilderness:** There was a concern about how improved access would affect use in the Blodgett Canyon portion of the Selway Bitterroot Wilderness. How will improved access affect the Wilderness use?
  - 3. Water Quality:** There is a concern about how the proposed action would affect water quality in Blodgett and Canyon creeks.
  - 4. Fish:** Blodgett Creek has been identified as an important stream for bull trout. There is a concern how the proposed action would affect fish species and habitat.
  - 5. Wildlife:** The forests in Blodgett Canyon provide habitat for a wide variety of wildlife species. There is a concern about how the proposed action and associated human activity would affect wildlife, including Management Indicator Species (MIS) and Threatened, Endangered, or Sensitive Species (TES).
  - 6. Vegetation:** There is a concern about the effect on vegetation, especially any clearing done for the reconstruction.

#### **IV. ALTERNATIVES**

The Interdisciplinary (ID) Team reviewed all comments received during scoping for the proposed action. The ID Team examined the comments in an effort to better define the scope of the analysis, the level of analysis that would be sufficient to address the concerns, and to develop a range of alternatives that is reasonable and responsive to the key issues.

- A. Alternatives Considered but Eliminated from Detailed Study.** The following proposed alternatives have been eliminated from detailed study by the ID team for the reasons stated and because they do not meet the purpose and need as stated in Chapter 1.
- 1. More Paving on Blodgett Creek Road.** Bituminous paving provides a smooth, durable, dust-free, low maintenance surface. An alternative that would pave the Blodgett Creek road all the way to the Blodgett Campground was considered. This alternative was not evaluated in detail because use levels on this segment of road would not justify paving, paving the entire road would increase the cost beyond predicted funding, and the forest character of the road would change too much.
  - 2. No Paving.** An alternative that would provide all gravel surfacing on the Blodgett Creek Road was considered, but dismissed. This alternative would have replaced the gravel surfacing on the lower segment of the Blodgett Creek road with more gravel. Traffic levels would continue to form severe washboards in the road surface. Dust would continue to create a traffic hazard due to poor visibility. This alternative was not considered in detail because it would not meet the purpose and need to improve user safety on the road.
  - 3. Single-lane for Canyon Creek Road.** Canyon Creek Road is currently a single lane road. This alternative would retain the single lane width for the entire length rather than widening the lower

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segment to two lanes. The lower segment of this road accesses numerous private land parcels and current use levels exceed single lane capacity. It was not considered in detail because it would not meet the purpose and need to improve traffic safety.

**B. Alternatives Considered in Detail.** Three alternatives (including the proposed action) were considered in detail. The major features of the alternatives are presented in Table 2-1. Alternative A is the no action alternative under which no change in the current road standards would occur. Alternative B is the proposed action developed by the Forest Service in response to public ideas about the Blodgett and Canyon Creek Roads. Alternative C is an alternative that would authorize a lesser amount of road reconstruction in response to public scoping comments. Map 2-1 shows Alternative B and the features from Table 2-1.

The purpose and need to provide a public road system that is safer for all users influenced the development of the proposed action. There is a strong need to accommodate both National Forest users and private homeowners along the routes. Concerns about water quality and public trespass also contributed to specific design features and mitigation measures.

Other issues presented by the public were considered by the ID Team and addressed through development of several alternatives that were not studied in detail (discussed above) or through mitigation techniques (discussed in Table 2-3, Management Practices and Mitigation Measures). The disclosure of potential effects related to the issues is found in Chapter 3.

- 1. Alternative A (No Action).** This alternative would maintain the existing road design standards on both Blodgett Creek and Canyon Creek roads. No reconstruction activity would take place. Normal road maintenance activities would continue the same as it has in the past.
- 2. Alternative B (Proposed Action).** This alternative was developed as the Proposed Action in response to ideas that were voiced at the open house on April 5, 2002, and would improve user safety by reconstructing the Blodgett Creek and Canyon Creek roads to a higher standard.
- 3. Alternative C.** This Alternative was developed by the Interdisciplinary Team in response to public concerns about the amount of development included in the proposed action. This alternative would not widen the Blodgett Creek road (segment B to C), it would not upgrade the 800 feet of surfacing to bituminous pavement around a sharp corner on segment B to C, and with would not widen and pave the Canyon Creek road segment B to E. These treatments would result in a narrower surface and less paving than Alternative B. Alternative C also has a slightly different combination of road and crossing improvements.

All of the mitigation measures and monitoring plan described for Alternative B would apply to Alternative C.

C. Comparison of Alternative Features. Table 2-1 displays a comparison of the features of each alternative.

Table 2-1, Features Of The Alternatives

Location	Segment	Proposed Activity	ALT A (No Action)	ALT B Proposed Action	ALT C
Blodgett Creek Road #736	From the junction with Blodgett Camp Road to the junction of Canyon Creek road (A to B)	Provide a two-lane (24 ft wide) road. (This is the current width of the road).	Yes	Yes	Yes
		Upgrade the surfacing to bituminous pavement.	No	Yes	Yes
		Install guardrails at the Putman Gulch fill. This would require additional fill material to get four feet of additional width for the guardrails.	No	Yes	Yes
		Lengthen the culvert at Putman Gulch	No	Yes	Yes
		Install additional relief culverts.	No	Yes	Yes
Blodgett Creek Road #736	From the junction with Canyon Creek Road to the National Forest boundary (B to C)	Provide a two-lane (24 ft wide) road. Approx. 4 - 6 feet of additional road width needed.	No	Yes	No
		Upgrade about 800 feet of surfacing to bituminous pavement	No	Yes	No
		Retain aggregate gravel surfacing on the remainder of the segment.	Yes	Yes	Yes
		Install additional ditch relief culverts.	No	Yes	Yes
Blodgett Creek Road #736	From Forest boundary to Blodgett Campground (C to D)	Transition to a single lane road with turnouts as the existing road is designed.	Yes	Yes	Yes
		Apply recycled asphalt surfacing to reduce dust.	No	Yes	Yes
Canyon Creek Road #735	From junction with Blodgett Creek road to the last residence (B to E)	Provide a two-lane road (24 ft wide) with paved surfacing.	No	Yes	No
		Provide a two-lane road (24 ft wide) with gravel surfacing	No	No	Yes
		Install additional ditch relief culverts.	No	Yes	Yes
		Install rolling dips	No	No	Yes
Canyon Creek Road #735	From last residence to end of road (E to F)	Retain the existing single lane with turnout road standard.	Yes	Yes	Yes
		Add aggregate gravel surfacing.	No	Yes	Yes
		Install additional ditch relief culverts	No	Yes	Yes
		Install rolling dips	No	No	Yes
All roads	All segments	Existing right-of-way (ROW) width is adequate. No additional ROW is needed.	Yes	Yes	Yes
		Keep clearing width to the minimum necessary for safe passage.	Yes	Yes	Yes
		Develop and implement a sign plan to provide adequate direction to Forest visitors, provide better safety awareness, and notify the public of private land restrictions.	No	Yes	Yes

**D. Comparison of the Effects of the Alternatives.** Table 2-2 compares the effects of the alternatives, emphasized by the issues raised by the public. Issue indicators are the parameters used to measure the effects of each alternative emphasized by those issues.

**Table 2-2, Comparison Of Alternatives**

ISSUE AND INDICATOR	ALTERNATIVE A No Action	ALTERNATIVE B Proposed Action	ALTERNATIVE C
Reconstruction Standard			
• Ft of 2-lane road	No Change	13,625	7,025
• Ft of paved road	No Change	7,825	3,325
Public Use on Private Lands	No Change	Yes	Yes
• <b>Sign Plan</b>			

**E. Management Practices and Mitigation Measures.** The action alternatives (Alternatives B & C) incorporate a set of features designed to reduce impacts on resources or to enhance resource values. These management practices and mitigation measures enable the proposed action to meet the purpose and need for action described in Chapter 1, while addressing each of the identified resource concerns. These management practices and mitigation measures would be incorporated into the project design, included as permit or contract requirements, or implemented as normal agency requirements.

**Table 2-3, Management Practices and Mitigation Measures**

RESOURCE INVOLVED	MANAGEMENT PRACTICE OR MITIGATION MEASURE
Air Quality	Control the dust during construction activities by using water or other dust control palliatives.
Cultural Resources	The project contractors would be required to halt ground-disturbing activities and immediately notify the Bitterroot National Forest Archaeologist in the event that cultural evidence or historical sites are encountered during project construction. The archaeologist would determine the significance of the materials and specify appropriate mitigation measures.
Sensitive Plants	Known populations of Sensitive plant populations would be avoided during construction. If new populations were located during implementation, the project would be modified to protect the population viability.
Soils	Topsoil removed from excavated construction areas would be stockpiled where possible and used during revegetation of disturbed sites. If ground water is intercepted it would be directed to a stable discharge area by use of sub drains or other means that eliminate erosion potential.
Vegetation	Revegetation efforts (grass-seeding, fertilizing, and mulching) of disturbed areas and cut and fill slopes of newly reconstructed roads would be implemented as soon as practical to protect all excavated areas and prevent the introduction or spread of noxious weeds, especially spotted knapweed. All ground disturbing activities that create bare soil would be revegetated with a seed mix identified by the Forest Botanist. Shrub plantings may also be advised in certain situations.
Water Quality	Water Quality Best management Practices (BMPs) would be implemented and monitored. Use cofferdam and pump to route water around culvert replacement sites. At Putman Gulch crossing, install silt fence along toe of fill, provide long-term erosion control (jute blanket), seed with Botanist approved seed mix.

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RESOURCE INVOLVED	MANAGEMENT PRACTICE OR MITIGATION MEASURE
	<p>Mulch and seed new fill and cut slopes with Botanist approved seed mix.                      Place energy dissipaters or filters below ditch relief culvert outlets.                      The Interdisciplinary team would identify areas needing special stabilization measures during the construction process. Measures may include silt fence between construction areas and streamside management zones, slash filter windrows, or erosion control mat. Treatment areas would be identified during layout and would be designated on the ground by the Forest Service. Sediment basins and sediment filters would be established to filter surface runoff. Construction activities would cease during periods of heavy precipitation or runoff and silt fencing would be used during construction where appropriate.</p>
Fisheries	<p>Road fills would not encroach on the floodplain of fish-bearing streams (Blodgett and Canyon Creek), but may influence Putman Gulch.                      Currently replacement of the Putman Gulch Culvert is not considered necessary from an engineering viewpoint, but more analysis may determine the culvert is unfit. If the culvert at the Putman Gulch crossing is determined to need replacement, it would be replaced to accommodate a 100-year flood, including associated bedload and debris (meeting INFISH standard RF-4).                      Large trees cut within the RHCA would be utilized for aquatic habitat enhancement if instream placement were considered desirable by the fisheries biologist. Any activities below the high-water mark will require a Joint Application for Permit (application for Montana Stream Protection Act permit (SPA-124) which is reviewed by the Montana Department of Fish, Wildlife and Parks and the U. S. Army Corps of Engineers).                      Fuel handling and storage during construction would be located and contained so that potential for contamination of surface and subsurface soil and water resources is minimal. Where possible fuel handling and storage would not occur within 300 feet of surface water.                      Experienced specialists from the ID team would identify areas needing special stabilization measures during the staking and construction process. Measures are likely to include silt fence between construction areas and streams, seeding or planting vegetation, and hydro mulching.</p>

**F. Monitoring Plans.** Monitoring includes administration of the project and will likely involve a Forest Service Official being on the ground two to three times per week. All monitoring items are the responsibility of the Forest Service unless otherwise stated. Table 2-4 summarizes the monitoring plans for this project.

**Table 2-4, Monitoring Plans**

RESOURCE MONITORED	MONITORING PLAN
Watershed/Fisheries	Implementation and effectiveness monitoring of the Best Management Practices (BMPs) to prevent erosion will be done by the North Zone fish biologist or hydrologist.
Noxious Weeds	The FS will periodically conduct weed monitoring in conjunction with Forest weed inventories. Areas needing treatment will be included in the ongoing weed treatment program on the Bitterroot National Forest.
Safety	Closures for public safety will be monitored for effectiveness by the project engineer.

### 3 Chapter 3 - AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

#### I. INTRODUCTION

The purpose of this chapter is to describe the components of the environment that could be affected by the proposed actions and alternatives. It provides the scientific and analytic basis for the comparison of the alternatives presented in Chapter 2.

Each resource specialist evaluated the direct, indirect, and cumulative effects that would be caused by implementing each alternative.

#### II. PAST, PRESENT, AND REASONABLY FORESEEABLE ACTIONS

Analysis of cumulative effects presented in this chapter considered past, present, proposed, and reasonably foreseeable activities that could affect the issues pertinent to the Blodgett and Canyon Creek Road Upgrade analysis. Reasonably foreseeable actions include those known management activities that are ongoing or scheduled to occur in the next five years. These activities may occur regardless of which alternative is selected for implementation. Some activities may only affect one resource. Activities do not affect all resource areas the same. For this project these include:

- A. Past road construction in the lower end of the Blodgett Creek watershed on private land.
- B. Past campground and trailhead development at the mouth of Blodgett Canyon.
- C. Trail construction in Blodgett Canyon.
- D. Fires of 2000, particularly the Blodgett Fire.
- E. Burned Area Recovery Project.
- F. Noxious weed treatments in the Blodgett Campground and Trailhead vicinity and along the Blodgett Trail.
- G. Development occurring on adjacent private lands.

#### III. RESOURCES

##### A. Recreation

1. **Area of Analysis.** The area of analysis for recreation is Blodgett Campground, the trails and trailheads, and access roads.
2. **Bitterroot Forest Plan.** The Bitterroot Forest Plan management area (MA) 5 goals and standards apply to Blodgett Campground and the trailheads. Goals are simple and all relate to the purpose and need for this project. The MA 3c goals and standards apply to both roads as they lead to the campground trailheads.

- **Goals.** MA 5 is to emphasize motorized and nonmotorized semi primitive recreation activities and elk security. (Ch III-37).

MA 3c says to manage for recreation access to the Selway-Bitterroot Wilderness ... (Ch III-30).

In addition the Forest has a Recreation Strategy (1994) that identified the Blodgett campground/trailhead area as an area to correct resource problems related to the campground, trailhead, and day use activities all located in the same area.

- 3. Affected Environment.** The Recreation Opportunity Spectrum (ROS) is a land management tool used to classify lands based on the different recreation settings they provide. The system considers several indicators when classifying an area of land including remoteness access, naturalness, facilities and site management, social encounters, visitor impacts, and visitor management. The setting, activities, and opportunities for experiences have been arranged along a continuum divided into six classes: primitive, semi-primitive (motorized and non-motorized), roaded natural, rural, and urban (USDA Forest Service ROS users Guide). The Blodgett area is classified as Roaded Natural.

Blodgett access road was constructed in 1966, the access bridge across Blodgett creek was built in 1967, and the campground was constructed in 1968 and upgraded in 2003. Use has been heavy for the campground and the trailhead facilities the past 20 years with the facilities being fully utilized on most weekends through the summer use season. The Blodgett area campground and trailhead are two of the more popular and heavily used recreation areas on the Bitterroot Forest. The proximity of this site to the Missoula and Hamilton areas has generated use that maximizes the facilities on most summer weekends. The Blodgett Canyon trail is very scenic and is relatively gentle in grade, making the trail very popular. Blodgett Canyon is a popular, well-known destination for rock climbing activities. Use for all activities is expected to grow as national trends and pressure from the growing population of Ravalli and Missoula counties continues. There also has been development of the private land, and subsequent road access, along this road.

The main trailhead parking area is located directly adjacent to the campground. This area provides parking for the day use (climbing) in the area and the trail access for Forest Service trail #19.

In the Canyon Creek drainage, Forest Road # 735 leads to the Canyon Creek Trailhead that is the beginning of Blodgett Overlook Trail #101, and Canyon Creek Trail #525. Portions of Trail #525 lie both inside and outside of the Selway-Bitterroot Wilderness.

Canyon Creek Trailhead's proximity to Hamilton makes it a popular day and overnight use area during the snow-free season. Visitors have diverse recreational opportunities, including hiking, horseback riding, hunting, fishing, berry picking, wildlife viewing, rock climbing, and photography.

Visitor use on Canyon Trail #525 is primarily hiking, most often as day use in the first 2-3 miles. The trail is constructed to Canyon Lake and is maintained annually to accommodate foot or stock traffic during the summer use season. The trail climbs through a rough boulder area below Canyon Lake, including two short stretches that are hazardous to stock. Few users are willing to negotiate this upper section with stock. Canyon Creek Trail is used as access for maintenance and operation of the Canyon Lake dam.

Blodgett Overlook Trail #101 is a relatively short (2.0 miles) trail that overlooks Blodgett Canyon and lies entirely outside of the wilderness. The trailhead does not have a stock ramp and has limited turning space or parking for stock trailers.

The Recreation Opportunity Spectrum (ROS) is Roaded Natural at the Canyon Creek trailhead.

- 4. Environmental Consequences.** The area is attractive to many of the local residents because the area is small, rustic, and has impressive vistas of the adjacent canyon rock. These main attractants would not change under this or the other alternatives.
- **Alternative A (No Action).**
    - **Direct and Indirect Impacts.** No changes are proposed in this alternative. Maintenance of existing facilities would continue.

## Blodgett Creek and Canyon Creek Road Upgrade

Current use patterns and trends at Blodgett Campground and the trailheads would continue as recreation use increases, the congestion would be heavy on weekends, and conflicting uses would continue. The heavy recreation use and increased residential traffic make travel on these roads unsafe.

Dust, mud, and higher maintenance costs resulting from the higher use would continue to be problems on the road.

- **Forest Plan Consistency.** This alternative would be consistent with the recreation goals for MAs 5 and 3c in the Bitterroot Forest plan.
- **Alternative B (Proposed Action)**
  - **Direct and Indirect Impacts.** The steadily increasing demand at the campground, trailheads, and residences would be better served by upgrading the roads. The small informal scenic atmosphere would be maintained or improved. This area would be signed to inform users of limited size vehicles. The safety of all of the road users would be the greatest under this alternative because there would be less dust created, fewer road maintenance problems, more and better turnouts, and better signing of the road and its hazards.

This alternative would not increase capacity or use for the campground or trailhead facilities. Rather it would create a safer more pleasant experience in transitioning from automotive travel to trail travel.

- **Forest Plan Consistency.** This alternative would be consistent with the recreation goals and standards for MAs 5 and 3c in the Bitterroot forest plan.
- **Alternative C**
  - **Direct and Indirect Impacts.** This alternative is designed to respond to comments to not change the road as much as the proposed action. Its effects would be similar to those of Alternative B but recreation traffic would contribute to dust and maintenance costs would be higher with less pavement. Safety of the road users would be greater than Alternative A but less than Alternative B.
- **Cumulative Impacts.** None of the alternatives should change the recreation use in the analysis area. The proximity to Missoula and Hamilton will be the main factor in the types and levels of use. The upgrades to the road will not change the use; it will only provide a safer way to get to and from the recreation facilities.
- **Forest Plan Consistency.** This alternative would be consistent with the recreation goals and standards for MAs 5 and 3c in the Bitterroot forest plan.

## B. Wilderness

1. **Area of Analysis.** The area considered in this analysis is the Blodgett Creek drainage includes Blodgett Creek Trail #19 into the Selway–Bitterroot Wilderness, and the Canyon Creek drainage including the Canyon Creek Trailhead, Blodgett Overlook Trail #101, Canyon Creek Trail #525, and the basin surrounding Canyon and Wyant Dams. Portions lie both inside and outside of the Selway-Bitterroot Wilderness.
2. **Regulatory Framework and Bitterroot Forest Plan.** The Bitterroot Forest Plan established Forest-wide multiple use goals, objectives, and management area requirements as well as management area prescriptions. The analysis of roadless lands, documented in Appendix C, of the FEIS for the plan, described each roadless area, the resources and values considered, the range of alternative land uses studied, and the effect of management under each alternative. As a result, some roadless areas were recommended for inclusion in the National Wilderness Preservation System and others were assigned various non-wilderness prescriptions. The Selway–Bitterroot Roadless area was assigned to MA 6 and is the non-wilderness portion of the affected area. The goal for MA 6 is “pending action by

Congress, manage to maintain the presently existing wilderness characteristics and potential for inclusion in the wilderness system.”

Direction for Bitterroot National Forest management of the wilderness portion of the affected area is contained in the Forest Plan MA 7c and the Selway-Bitterroot Wilderness General Forest Plan Management Direction (Forest Plan Amendment #7, 1992).

- 3. Existing Condition.** Blodgett Campground and Trailhead is located approximately seven miles outside the Selway-Bitterroot Wilderness, (SBW). The Selway-Bitterroot Wilderness lies within the Bitterroot, Nez Perce, Clearwater, and Lolo National Forests. The Selway –Bitterroot Management Plan amended the forest plans on all four forests responsible for SBW administration. The SBW, second largest wilderness in the lower 48 states, totals 1.3 million acres and the Bitterroot National Forest contains 508,000 acres of this total.

In addition, the Bitterroot Forest Plan recommended adding 48,305 acres of the Selway- Bitterroot Inventoried Roadless Area, (IRA) to the Selway-Bitterroot Wilderness. Approximately seven miles of the Blodgett Creek Trail #19 that leaves Blodgett Campground is included in this IRA. This IRA varies in width from six miles to less than a mile.

Access from Blodgett Campground to the wilderness boundary is along the Blodgett Creek Trail #19. The trail is open to hiking and stock use. Blodgett Canyon is a very popular area and the day use in this area and along the trail is increasing. Generally most encounters take place within the first five miles of Trail #19 with use by day hikers and rock climbers. They tend to stay for the day and come out that night. As one gets closer to the Wilderness encounters seem to lessen. There are two lakes but they are not great destination lakes because of elevation gain, distance to High Lake, and no fish in Blodgett Lake. Stock parties are seen as well as hikers going in for overnight and multiple day trips. The use and impacts at Wilderness campsites increases markedly during the fall hunting season.

General Wilderness characteristics of this drainage are summarized in six categories:

- **Natural integrity** refers to the extent to which long-term ecological processes are intact and operating. Impacts to natural integrity are measured by the presence and magnitude of human induced change to an area. The impacts of human activity leading up to the wilderness and within the SBW are generally light to moderate, with the exception of Blodgett Creek Trail #19 and campsites.
- **Apparent naturalness** is indicated by how the environment looks to most people using the area. Human activities are primarily confined to the narrow trail corridor and the area immediately adjacent to it. The remainder of the area is topographically extreme and discourages human activity. Humans have had a minor impact in these areas through the suppression of fires.
- **Remoteness** is a perceived condition of being secluded, inaccessible and out of the way. The presence of humans is apparent in the trail corridor and immediate area adjacent to it. Any remoteness experienced is due to the topographic relief and vegetation screening and would increase as one gets further up the Blodgett Creek Trail #19 and closer to the SBW Wilderness.
- **Solitude** is a personal, subjective value defined as isolation from the sight, sound, and presence of others and the developments of humans. The feeling of solitude in its purest sense is not available within the trail corridor. Encounters are more frequent within the first five miles of the Blodgett Creek Trail #19 and decrease as one gets closer to the wilderness boundary.
- **Special features** are those unique geological, cultural, or scenic features that may be located in wilderness. Notable features include spectacular scenery, air quality, wildlife, and opportunities for wilderness related activities.

## Blodgett Creek and Canyon Creek Road Upgrade

- **The Manageability/Boundaries** element is the ability to manage an area to meet size criteria and the five elements discussed above. While the proposed project will not change or alter the boundary of the current recommended Selway-Bitterroot IRA having a campground and trailhead that gets moderate to high use adjacent to this boundary may or may not affect its probability of being classified as an addition to the Selway-Bitterroot Wilderness and further compromising the above 5 elements.

The wilderness is divided into four Opportunity Classes (OC) developed to allow for and provide a range of wilderness experiences, from the most pristine Opportunity Class 1 to most heavily used Opportunity Class 4. Characteristics are based on standards as described in the Forest Plan. The section of Blodgett Creek Trial #19 that enters the SBW is in Opportunity Class 3. The natural environment is generally unmodified with exception of the trail corridor.

The Recreation Opportunity Spectrum (ROS) ranges from Roaded Natural at the Canyon Creek trailhead to Primitive within the Selway-Bitterroot Wilderness.

#### 4. Environmental Consequences

- **Direct, Indirect, and Cumulative Effects of all Alternatives:** Whether or not the road upgrades are made should not affect wilderness use or values. However, if the upgrades are not done there will be a chance for more accidents or injuries to wilderness users because of the expected gradual rise in use from both the recreationists and adjacent landowners and the poor visibility caused by dust in dry conditions. If the road upgrades are not made road maintenance costs will increase because of the increased use. Trailhead parking at the Canyon Trailhead is a limiting factor on trail use and would be unaffected by road upgrades.

It is unlikely there would be any cumulative effects or connected actions associated with this alternative. There are no other connected or anticipated activities in this part of the Selway-Bitterroot Wilderness. There are no additional planned activities in the drainage, except for routine trail maintenance.

- **Forest Plan Consistency.** This project is in compliance with the Forest Plan standards for Management Areas 6 and 7c, the SBW General Management Direction, and the Wilderness Act.

#### C. Watershed

1. **Area of Analysis.** The proposed activity location is within the Blodgett Creek and Canyon Creek watersheds, near the Bitterroot National Forest boundary. Both streams contribute directly to the Bitterroot River and drain heavily glaciated, mountainous terrain. These watersheds will serve as the analysis area for the water resource.
2. **Regulatory Framework.** The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500), renamed the Clean Water Act (CWA) in 1977, establishes Federal water quality policies, goals, and programs. Both the Environmental Protection Agency (EPA) and the States have responsibility for carrying out the CWA. The objective of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nations waters".

The State of Montana has classified all waters within the analysis area as B-1 waters (Administrative Rules of Montana (ARM) 16.20.604).

The Montana Streamside Management Zone Law establishes activities that may occur with the streamside management zone (SMZ).

Water quality is currently maintained and improved through the selection and application of Best Management Practices (BMPs) for controlling non-point sources of pollution to surface water. BMPs

are the foundation of non-point water quality standards for the State of Montana. BMPs are considered reasonable only if beneficial uses are protected.

3. **Bitterroot Forest Plan.** Forest-wide goals and standards for soil and water resources are to:
  - Maintain soil productivity, water quality, and water quantity (pg. II-3). Forest –wide Management Objectives state how resources will be managed under the Forest Plan,
  - Manage riparian areas to prevent adverse effects on channel stability and fish habitat (pg. II- 6).
  - Maintain the percentage of “hydrologically unrecovered” area permitted in a landscape within the guidelines of Table II-5 of the Forest Plan (pg. II-24).
  - As part of project planning, site-specific water quality effects will be evaluated and control measures designed to ensure that the project would meet Forest water quality goals; projects that will not meet State water quality standards will be redesigned, rescheduled, or dropped (pg. II-24).
  - Soil and water conservation practices will be a part of project design and implementation to ensure soil and water resource protection (pg. II-25).
  - Actively reduce sediment from existing roads. Sediment reduction measures to be considered include:
    - Cross-drains into vegetative filter strips away from streams,
    - Grass seed, fertilized, mulch and netting on cuts and fills,
    - Slash filter windrows or straw bales at toe of fill in contributing areas; and
    - Gravel ditches and road surfaces (pg. II-25).
4. **Affected Environment.** Blodgett Creek watershed displays heavy glacial influence in its physical attributes. The classic “U”-shaped canyon is typical of glaciated mountain ranges, with various cirques, moraines, glacier striations, and fractured bedrock. Soils are relatively young (rocky and undeveloped) and are discontinuous. Rock outcrops dominate the landscape, and forest cover is spotty except for a strip along the stream channel and the north-facing canyon wall. Forest types in the watershed range from Ponderosa Pine/Douglas Fir communities at lower elevations to Engelmann Spruce/Subalpine Fir in the upper elevations. The upper headwaters area has various alpine plant communities, including dwarf spruce, Whitebark Pine, mosses, and sedges interspersed with boulder fields and bedrock. Blodgett Mountain (8,647 feet) marks the upper end of the watershed, with the confluence of Blodgett Creek and the Bitterroot River at approximately 3,500 feet.

Canyon Creek is a somewhat smaller watershed, formed by Downing Mountain (8,690 feet) on the south, Canyon Peak (9,150 feet) on the west, and Romney Ridge to the north. Its physical characteristics are similar to those of Blodgett Creek watershed, on a smaller scale. The Montana Rivers Information System considers it to have 8.6 miles of channel supporting perennial flow before it joins the main stem of the Bitterroot River near Hamilton.

The stream channel characteristics for both canyons are appropriate for glaciated watersheds. Channel materials are mostly boulder and bedrock in the upper watershed, with cobble-size particles increasing lower down. The channel itself ranges from very steep near the headwaters, to moderately steep near the forest boundary and has a step-pool or cascade vertical profile throughout much of its length. Horizontal movement of the channel has been extremely limited by the boulder/bedrock substrate and stream banks. Overall channel stability within the canyon is very high due to the extremely rocky landform it flows through. Below the canyons (and the Forest boundary), the streams flows across a large, sloping alluvial fan until it hits the Bitterroot River. This reach across the fan is less steep, less stable, and more vegetated than those in the upper watershed due to the finer materials in the deposition left by glacial outwash activity.

The hydrograph for both streams is snowmelt-driven. Annual precipitation amounts range from up to 80 or 90 inches for an average year in the upper watershed, to 20 inches near the forest boundary, to

approximately 12-14 inches on the Bitterroot Valley floor. Upwards of 70 percent of this comes as snow in the winter months, with a large portion of that stored in the snowpack until spring. High flows occur during the snowmelt peak in May and June, and recede to low flows in late summer and fall. Low flows are maintained throughout the winter until the following spring melt. The reservoirs affect flow in the stream reaches below the dams. Generally, the storage of snowmelt water near the end of the spring melt lowers peak flows in June and early July. Release of water beginning in late July increases the base flow level until the reservoirs are drained, usually in late September or early October. Lower in the canyons, drainage area that is not controlled by the dams dominates the flow regime, and less reservoir effect is seen.

- **History and Land Uses.** Human effects on the Forest Service portion of the watershed have been quite limited. A large part of the Blodgett and Canyon Creek watersheds are protected by a wilderness designation, and human activity within the watershed is mainly non-motorized and recreational in nature. Exceptions on Forest Service lands occur only through motorized access to the trailheads and campground. Several small dams are currently operated in the upper watershed. Fire has affected stream flows and geomorphic processes in the past but does not presently have a substantial effect. Overall, the lack of human disturbance has provided for very high water quality and a relatively natural flow regime.
- **Off-Forest Influences.** A variety of land uses affecting water quality and timing have occurred in the private land east of the Forest boundary and west of the Bitterroot River, including timber harvest, irrigation withdrawals, residential development, livestock grazing, and municipal development. Typical stream and water column responses to these activities include increases in water temperature and sediment, along with decreases in bank and channel stability. To this date, these effects have not combined to reduce support to pertinent beneficial uses in this stream (see discussion under Beneficial Use Support, below).
- **Blodgett Creek.** Very little disturbance has occurred in the National Forest portion of this watershed due to its wilderness and wilderness study area designations and associated management. No road-building or timber harvest activity have been undertaken upstream of the Blodgett campground, and none is planned. A road/stream crossing used to access Blodgett Campground is currently stable and contributes little sediment to the stream due to the grades of connecting road surfaces.
- **Canyon Creek.** Water quality was rated as “high” before the 2000 fires and is expected to be similar afterwards due to the small areas burned and no significant changes in land use. No stream segments within the watershed are listed on the MTDEQ 303(d) list of impaired water bodies, and water quality is considered sufficient to fulfill all pertinent beneficial uses. No road-building or timber harvest activity have been undertaken upstream of the Canyon Creek trailhead, and none is planned.
- **Beneficial Use Support.** The designated beneficial uses of aquatic life support, salmonid fishes, and irrigation are currently fully supported, as designated by the State of Montana’s 1996 and 2000 303(d) lists of water quality limited streams. Fire effects from 2000 were not considered in this rating due to their later occurrence, but the small amount of burned area in the watersheds is unlikely to change this rating. The Post-Fire Assessment notes no decrease in watershed health or increases in watershed sensitivity after the fires of 2000, and visual observations support this determination.
- **Wetlands.** Wetlands fall under Clean Water Act protection as “water bodies of the United States” (please see above notes on the regulations). In addition, Executive Orders 11988 and 11990 protect against loss of wetlands and their important functions. Wetlands and riparian areas within the analysis area and on National Forest lands are limited. While precipitation is sufficient to support wetlands, the thin soil and glacial influence have created few ideal habitats. Wilderness designation has maintained wetlands on the National Forest portion of the watershed

in very good to excellent condition. A minor amount of compaction and erosion is evident where foot/horse trails are located in boggy areas. Dam operations may diminish flood flows in some stream reaches immediately below the reservoirs, limiting streamside wetlands in those areas. Off-Forest, wetland condition is difficult to summarize. This is due to wetland losses from irrigation diversions, channelization, and hardening of stream banks, contrasting with increases in wetlands from flood irrigation and ditch transmission losses.

- **Unique Features.** No special features or conditions needing special protection are known in the watershed.

Overall, watershed and stream health in the Blodgett and Canyon Creek watersheds can be summarized as very good to excellent. Stream conditions reflect the extremely limited human influence on National Forest lands within the watershed. Management impacts are limited to trail use and maintenance, and there are no notable sensitive areas. The existing condition compares favorably with the desired condition, and all beneficial uses pertinent to the water body classification are being fulfilled. The watershed condition is consistent with Forest Plan direction (See the Watershed report in the project file for in-depth analysis of the existing condition of Blodgett and Canyon Creek watersheds).

- 5. Environmental Consequences.** Three alternatives were developed, including a no-action alternative. The ground-disturbing components of the two action alternatives (Alternatives B & C) are similar with several exceptions. These differences provide a way to compare potential water resources effects for the two alternatives.

- **Alternative A - No Action.**

- **Direct and Indirect Impacts.** This alternative proposes no action other than to retain the current road infrastructure and continue with the current management. The current gravel surfaces would be maintained as in the past, and no new paving would be applied. Gravel road surfaces around Putman Gulch would continue to be sediment sources to the stream, in the same manner as in the past. No beneficial reductions in road-surface and ditch sediment would occur with the no-action alternative.

- **Effects common to both Alternative B and C:**

- **Direct and Indirect Impacts.** Common to Alternatives B and C is the widening of fill and possible culvert replacement at Putman Gulch. Widening the fill to accommodate guardrails would require expanding the fill slope on both sides of the road with new, unconsolidated material. This would create an exposed, disturbed area immediately adjacent to the stream, with the potential to contribute sediment directly to Putman Gulch during rain and snowmelt events. Mitigation measures and BMPs listed in Chapter 2 would reduce these sediment contributions to the minimum practicable amount, but some sediment would reach the stream nonetheless. The connected disturbed area is likely to contribute minor amounts of sediment until the surface re-vegetates. With seeding and mulching, and follow-up treatments in following years, this should be achieved within 3-5 years. At that time, sediment produced by the fills at the Putman Gulch crossing would have decreased to a level similar to what is occurring presently, or potentially less depending on the success of the re-vegetation effort.

Both action alternatives offer many improvements in road and ditch drainage and surface erosion. These shared beneficial items are listed below, along with effects:

- o Paving the road segment over Putman Gulch would reduce the connected disturbed area over present conditions. Paving also allows for ditch stabilization by providing reduced sediment and elimination of grading. Long-term benefits to the stream system and biota in Putman Gulch and the Bitterroot River would be achieved via the elimination of sediment at this crossing.

## Blodgett Creek and Canyon Creek Road Upgrade

- o Additional ditch relief culverts along most road segments would reduce the concentrated flow in roadside ditches, which in turn would reduce sediment production. They would also reduce turbid ditch water contributions to Putman Gulch and other ephemeral crossings by shortening the contributing ditch length uphill of the crossing.
- o Dust reduction via recycled asphalt surfacing along the Blodgett Creek road would reduce impacts to riparian areas and the water column to an undetermined degree. New gravel surfacing for a segment of the Canyon Creek road, along with re-shaping the roadbed, would reduce sediment contributions to the ephemeral tributaries to Putman Gulch that are present along this road.
- o New gravel surfacing on certain road segments would reduce roadbed erosion, although not as much as on those segments being paved.

Some other elements (e.g. guardrails) shared by the action alternatives are neither harmful nor helpful to the water resources in the analysis area. Much of the short-term disturbance from road improvements takes place on dry sites, far from flowing water. Since much of the projects intent is to improve road drainage and road surface durability, long-term benefits are expected from either Alternative B or C.

- **Alternative B – Proposed Action.**

- **Direct and Indirect Effects.** Activities that could introduce sediment into streams are limited to the road widening proposed for the Blodgett Creek Road segment from the junction with Canyon Creek Road to the Forest Service boundary. This road segment crosses no mapped ephemeral or intermittent channels as it traverses a steep ridge between Putman Gulch and Blodgett Creek watersheds. Road widening requires an expansion of cuts or fills, exposing easily eroded unconsolidated soils to rain or snowmelt events. Mitigation measures and BMPs listed in Chapter 2 would reduce these sediment contributions to the minimum practicable amount, and riparian areas along Blodgett Creek are relatively wide (approximately 100' per side) along this segment and would provide acceptable filtering capability. New gravel surfacing and reshaping of the roadbed would also be beneficial by reducing the sediment from the road widening to a small degree and by creating a better drained, more durable surface than previously existed.

Another beneficial activity of Alternative B includes the proposed road paving of the widened Canyon Creek Road segment from Blodgett Creek road to the last residence. This action would stabilize the road surface, reduce sediment inputs at one ephemeral channel crossing, and allow ditch stabilization.

- **Alternative C.**

- **Direct and Indirect Effects.** Activities unique to Alternative C are limited to the graveling of the proposed widened Canyon Creek Road segment from Blodgett Creek road to the last residence. The difference in water resource effects would be somewhat minor. There are only two potential channel crossings (ephemeral or intermittent) on this road segment, so there is limited influence on the Putman Gulch stream system whether the road is paved or not. As a general rule, gravel road systems tend to produce more sediment at stream crossings than paved road systems.

The beneficial activity unique to Alternative C is the inclusion of rolling dips on the Canyon Creek road from the last residence to the end of the road at Canyon Creek trailhead. Rolling dips help remove flowing water from gravel road surfaces and reduces erosion and maintenance needs. There are six ephemeral or intermittent stream crossings on this road segment that would benefit from the reduced erosion and sedimentation. These channels are

tributary to Putman Gulch and generally do not flow late in the summer. See Table 2-1 for a comparison of the proposed activities of each Alternative.

- **Cumulative Effects.** As detailed in the Existing Condition report for water resources (located in the Project File), there are presently no cumulative effects problems in the National Forest portion of the Blodgett or Canyon Creek watersheds, and State-assigned beneficial uses are supported throughout both watersheds. The downstream Bitterroot River is listed on the MTDEQ 303(d) list; please see the Watershed Function/Stream Health section below for more discussion on this subject. The majority of the work is proposed for the Putman Gulch watershed, which contributes flow directly to the Bitterroot River. Due to the small amount of disturbance associated with this project, the use of BMPs and the benefits associated with improved road drainage and surfaces, no contribution to short or long-term cumulative effects is predicted with either action alternative.

Three important watershed cumulative effects measures suggest little to no effect from this proposed project. Stream channel extension and stream crossing density would not change under any alternative, as there is no increase in road or ditch length, and no new stream crossings. Total watershed compacted area in Blodgett Creek will increase slightly with the road widening from the junction with Canyon Creek Road to the Forest boundary. This increase is too small to change “sponge and filter” functions on a watershed basis.

Downstream effects from the proposed project would also be extremely limited. Short-term increases in sediment may occur during culvert replacement or thunderstorms occurring during road upgrade activities, but effects would be limited to the immediate crossing locations due to the small amounts involved. Long-term sediment contributions would decrease with improved road surfaces, drainage, and stability.

On private lands below the Forest, development and irrigation diversion have rated various impacts. While some flow from Blodgett Creek is diverted for agricultural use, it generally maintains its hydrologic connection with the Bitterroot River throughout the year. The proposed activities would not change the current flows or affect established water rights.

Almost all activities proposed for the Blodgett and Canyon Creek Road Upgrade Project are within the Putnam Gulch watershed, a small (approximately 2 square mile) watershed. Most of the watershed is on private lands; the Forest Service manages only the upper 20 to 30 percent. Within the Forest Service portion, activities have been minimal and limited to trail and road maintenance. The 2000 Blodgett Fire burned most of the Forest Service part of the watershed, with a range of fire severity and some fire suppression activities. Gully cutting and soil erosion following the fire has been minimal, but some areas are still not fully re-vegetated at this time. Residential development has been relatively widespread in the private section of the watershed. These sites create disturbed areas resulting from construction, livestock, and driveways, but little of this is hydrologically connected to the stream due to the general lack of surface flow on this dry site. The amount of irrigation diversion or augmentation in Putman Gulch is not known, but the proposed activities would not affect or interact with these uses.

To summarize cumulative effects, the action alternatives (Alternatives B and C) have a very small potential to produce sediment in the analysis area. Most of this potential can be eliminated through the mitigation measures (please see the Consequences of Alternatives discussions above), but a very small risk remains. This remaining risk is mainly associated with large storm events during construction, which are possible but infrequent during the late summer construction period. The work period was chosen, in part, to reduce the probability of this and other potential water resource impacts. With little existing human impact in the upper watersheds, and little

possibility of substantial effects from this project, loss of beneficial uses, water quality, or channel damage in Blodgett Creek or Canyon Creek would not occur. Putman Gulch may see elevated sediment during culvert replacement, but this would be a short-term (2 days) effect. A very small amount of sediment from the new fill at the culvert crossing is also expected, with sporadic contributions during heavy rainstorms during the revegetation period (up to 5 years). Overall, the sediment pulses from the road system would be reduced by the proposed upgrades, especially by the paving across Putman Gulch. Please see the Mitigation Measures in Chapter 2 of the EA for methods used to minimize sediment contributions. Blodgett and Canyon Creek road upgrade project is likely to reduce siltation to the main river by improving the road surface and stabilizing ditches and stream crossings.

Potential wetland loss is estimated at less than 80 square feet (roughly 2 feet on each side of the stream for up to 20 additional feet of crossing width or culvert length). Little to no wetland loss is expected from the road upgrades at ephemeral/ intermittent crossings higher in Putman Gulch. No activities are proposed that would threaten floodplain functions or endanger floodplain areas downstream through erosion or flooding. The small size of floodplain lost through culvert extension and filling at the main Putman Gulch crossing is unlikely to affect overall floodplain function in the analysis area in general, or in Putman Gulch specifically. This activity is authorized under Clean Water Act S404, Nationwide Permit 14 (placement or replacement of fill less than 153 cubic meters for minor road crossings of waters of the United States, including upgrades) as long as all applicable BMPs are implemented and are effective.

- **Forest Plan Consistency.** All alternatives for the Blodgett and Canyon Creek Roads Upgrade project, implemented with the mitigation measures and BMPs, would be fully consistent with the 1987 Bitterroot Forest Plan Standards and Guidelines (listed in the Existing Condition – Water Resources Report). All other pertinent regulations pertinent to water resources would also be met, as long as proper permitting processes are followed.

**Summary.** The Blodgett and Canyon Creek Roads Upgrade project proposes little new disturbance and reduces current disturbed area through paving road segments and improving cross drainage. This would produce a long-term net reduction in sediment-related effects in Putman Gulch and the Bitterroot River, which is on the 1996 and 2000 MTDEQ 3039D0 lists of impaired water bodies. Short-term sediment pulses may be generated during culvert replacement and road widening activities. The small area being proposed for ground-disturbing activities limits the duration and intensity of these effects. Cumulative effects are not currently threatening water quality or pertinent state-assigned beneficial uses in Canyon Creek, Blodgett Creek, or Putman Gulch.

### D. Fisheries

1. **Area of Analysis.** The analysis area for this project for fisheries is the Blodgett and Canyon creek drainages. This boundary was chosen because the majority of the fishes in the drainages spend the majority of their life history in the sub watersheds. Connectivity with the Bitterroot River is also discussed. Blodgett Creek is a 28 square-mile watershed and Canyon Creek is ten square miles. The lower two square miles of each watershed is privately owned and is farmed, used for livestock grazing, developed as home sites, and has some industrial development (road surfacing and cement mixing plant). The project area is located in the lower third of the drainage. Except for the existing campground, trailheads and trails, and small ditches originating from Canyon Creek, the Bitterroot National Forest portion of the sub watersheds are in a nearly undeveloped condition. About three percent of the analysis area experienced moderate to high severity fire in the fires of 2000, which had very minor effects on the fisheries.
2. **Regulatory Framework.** The regulatory framework includes Endangered Species Act, Forest Service policy on sensitive species, and the Forest Plan, as amended by the Inland Native Fish Strategy (often referred to as INFISH; 1995). Westslope cutthroat trout is a sensitive species in Region 1 of the Forest Service, which includes the Bitterroot National Forest. Bull trout are protected

as a threatened species, under the Endangered Species Act. Critical habitat is being proposed at this time for bull trout in the Columbia River basin. The existing Federal listing, and the critical habitat designation, if finalized, requires Federal agencies to review their activities to ensure they are not likely to jeopardize the continued existence of listed species or adversely modify a protected species' critical habitat. A biological assessment (BA) has been completed to document this review. The BA for this project is combined with a biological evaluation (BE) to evaluate potential effects on the sensitive fish species (westslope cutthroat trout).

For more detailed information on these documents and their specific standards and recommendations, please consult the Fisheries Specialist report in the Project File.

- 3. Bitterroot Forest Plan.** The standards and guidelines most relevant to fisheries are summarized below. INFISH set standard widths for Riparian Habitat Conservation Areas (RHCAs). Within RHCAs, riparian-dependent resources, such as native fish habitat, receive primary emphasis. INFISH Standards and guidelines specific to this project include:
- RF-2 – For existing or planned roads meet riparian management objectives and avoid adverse affects to fish by: (b) minimizing roads in RHCAs, (d) avoiding sediment delivery to streams from the road surface.

A goal stated in the Forest Plan is that habitat be provided to support viable populations of native and desirable non-native wildlife and fish (Forest Plan II-3), and the habitat needs of sensitive species, as listed by the Regional Forester, will be considered in all project planning (Forest Plan II-22). The most relevant Forest Plan Forest-wide Management Objectives include:

- 1(e) Maintain habitat to support current populations of catchable trout. Maintain riparian habitat and its potential to replace woody debris.

Forest Plan Forest-wide Standards and guidelines relevant to this project and fisheries are:

- F(2)(e)(7) – Cutthroat trout populations will be used as an indicator of fisheries habitat changes.
- F(2)(j)(1) – Roads will be maintained to design standards.
- F(2)(h)(10) - The proposal would reduce the sediment production that comes from the existing roads.
- F(3)(a)(3) – Channel water away from the road surface to minimize the loss of material from the road surface.

- 4. Affected Environment.** Blodgett Creek is a moderate sized tributary to the Bitterroot River. Near the campground, the channel width is about 40 feet and flows range from 20 to 50 cubic feet per second in August. Summer flows are partially controlled by the dam at Blodgett Lake. Canyon Creek is about half the size of Blodgett and its flows are partially controlled by Canyon and Wyant lakes (reservoirs) in the headwaters.

At Blodgett Creek the area near the Blodgett road has a relatively wide floodplain (approximately 100 to 300 feet wide). The floodplain contains springs and abandoned channels. The stream meanders very little near the campground, but meanders more between the campground and the Forest boundary. Canyon Creek on the Forest and through the project area has a narrow floodplain, which is confined in a relatively steep and narrow canyon.

Blodgett and Canyon creeks have been snorkeled and the Bitterroot River has been electro shocked to estimate the number of fish, identify the species and their distribution. The native salmonids in the project area are westslope cutthroat trout (*Oncorhynchus clarki lewisi*) and bull trout (*Salvelinus confluentus*). The only native trout observed in the Canyon Creek drainage was the westslope cutthroat trout.

## Blodgett Creek and Canyon Creek Road Upgrade

The bull trout are present, but are uncommon in Blodgett Creek. Before the construction of irrigation water ditches and diversions, other habitat degradation occurring, and the introduction of brook trout the subpopulation bull trout were more numerous, and large migratory bull trout were a substantial component of the Bitterroot River population and probably the Blodgett Creek subpopulation.

Small cutthroat trout (most are less than 8 inches in length, and few are greater than 12 inches) are abundant in both creeks. Also native to the area, and observed in the sub watershed, are the slimy sculpin (*Cottus cognatus*), longnose dace (*Rhinichthys cataractae*), white fish (*Prosopium williamsoni*), and longnose and largescale suckers (*Catostomus catostomus* and *C. macrocheilus*).

Introduced fish species are present in both creeks. Rainbow (*O. mykiss*), Brown (*Salmo trutta*) and brook trout (*Salvelinus fontinalis*) are common downstream of the Forest boundary, especially closer to the Bitterroot River. In Blodgett Creek rainbow-cutthroat trout hybrids have been reported on the Forest and downstream on private lands. To assess fish habitat quality, and identify potential habitat restoration projects an inventory of the Bitterroot National Forest portions of both streams was initiated in 2001. All of Canyon Creek appeared to be nearly undisturbed by human influence. At Blodgett Creek, when comparing the upstream sections (reaches 2 and 3) with the section adjacent to the campground and roads (reach 1) we found the upstream reaches had about ten times more large woody debris than the near-campground reach (large wood is very important because it provides shelter and habitat diversity) and the upstream reaches had more pools. There was not a detectable difference in width to depth ratios. This ratio is often related to channel stability (narrow and deep streams are usually considered better for fish), or surface fines (both reaches had very low amounts of fine sediment), and no difference in temperatures.

Moderate fishing pressure exists near the trailheads. The pressure decreases upstream of the trailhead. There are no grazing allotments on this portion of the Forest and no timber harvest has occurred in the last decade. Fish passage problems at irrigation diversions and diversion of fishes into ditches may have a substantial effect on fisheries. Ten ditches between the Forest and the river may take water from Blodgett Creek, and seven are mapped in Canyon Creek (Water Resources Survey 1958). Migration and other movements by fishes are likely hindered by downstream water temperatures (thermal barriers) and reduced flows related to these diversions.

- **Alternative A (No Action)**

- **Direct and Indirect Effects.** The No Action alternative would not have any direct effect on fish or fish habitat. The indirect advantage of this alternative relative to the other alternatives is that there would be no potential for construction related sediment entering the stream. The disadvantage of this alternative is the sites that would otherwise be stabilized with reconstruction may continue to degrade and add more sediment to streams than a properly designed and maintained road and a well-surfaced road.

- **Alternative B (Proposed Action)**

- **Direct and Indirect Effects.** The proposed activity in this alternative that could negatively affect the aquatic resource is the reconstruction of the roads, especially sections near (within approximately 300 feet) of streams. Construction has the potential to increase sediment delivery to downstream fisheries.

Cuts or fills would not encroach on the floodplain of fish-bearing streams but may influence Putman Gulch. This gulch is not known to have fish, but fish may be present as it is connected to private ponds and ditches.

Fuel delivery and storage would be located, designed, constructed, and maintained so that potential for contamination of surface and subsurface soil and water resources is minimal.

The Interdisciplinary team would identify areas needing special stabilization measures during the staking and construction process. Measures are likely to include silt fence between construction areas and streams, slash filter windrows, and hydro mulching. Sediment basins and sediment filters would be established where necessary to filter surface runoff.

Construction activities would cease during periods of heavy precipitation or runoff.

- **Alternative C**
  - **Direct and Indirect Effects.** This alternative would result in a narrower surface and less paving than alternative B. There would be no difference in the overall effect to aquatic habitats by implementing this alternative rather than alternative B. Improvements in narrowing the amount of impact are offset by the decrease in pavement (a very non-erosive surface relative to gravel).
- **Cumulative Effects.** Road maintenance and wildfire have occurred on this portion of the Forest. They have resulted in fine sediment accumulation slightly greater than an undisturbed area. Road maintenance, the campground and trailheads, and dispersed recreation activities are activities that will continue to occur in the reasonable foreseeable future.

The no action alternative would have negligible cumulative effects on fish or fish habitat. The advantage of this alternative relative to the proposed action is that there would be no short-term increase in sediments that may reach aquatic habitat. The both action alternatives have the potential to negligibly increase the cumulative impact of fine sediment accumulation in Blodgett and Canyon creeks, and Putman Gulch in the short term, but no cumulative effect on fisheries in the long-term. Benefits of improved drainage and road surfacing are offset by the increased width of the roads.

- **Forest Plan Consistency.** All alternatives for the Blodgett and Canyon Creek Roads project, implemented with the mitigation measures and BMPs, would be fully consistent with the 1987 Bitterroot Forest Plan Standards and Guidelines including those in INFISH. All other pertinent regulations pertinent to water resources would also be met with implementation of the fisheries mitigation measures listed in Chapter 2.

## **E. Wildlife**

1. **Analysis Area.** The proposed activity location is within the Blodgett Creek and Canyon Creek watersheds, near the Bitterroot National Forest boundary. These watersheds will serve as the analysis area for the wildlife resource.
2. **Regulatory Framework.** The two principle laws relevant to wildlife management are the National Forest Management Act of 1976 (NFMA) and the Endangered Species Act of 1973 (ESA). Regulations promulgated subsequent to passing NFMA require the Forest Service to manage fish and wildlife habitat to maintain viable populations of all native and desirable non-native wildlife species and conservation of listed Threatened or Endangered species populations (36 CFR 219.19). Additional guidance is found in Forest Service Manual (FSM) Direction, which states; identify and prescribe measures to prevent adverse modifications or destruction of critical habitat and other habitats essential for the conservation of endangered, threatened, and proposed species (FSM 2670.31 (6)). ESA requires Forests to manage for the recovery of threatened and endangered species and the ecosystems upon which they depend. Forests are required to consult with the Fish and Wildlife Service if a proposed activity may affect the population or habitat of a listed species.

## Blodgett Creek and Canyon Creek Road Upgrade

The FSM also directs the Regional Forester to identify sensitive species for each National Forest where species viability may be a concern. Forests are then required to monitor sensitive species populations and prevent declines that might require listing under ESA (FSM 2670.32 (4)).

The principle policy document relevant to wildlife management is the Bitterroot Forest Plan of 1987. This document provides standards and guidelines for management of wildlife species and habitats on the Forest. The Record of Decision (1987) for this plan requires retention of 25 percent of the big game winter range in thermal cover. Other Forest Plan standards related to maintenance of wildlife populations include standards for amount and distribution of old growth habitat by management area, retention of snags, maintenance of elk populations and habitat, and management of elk habitat effectiveness through the Travel Planning process (USDA, Forest Service, 1987).

The area immediately adjacent to Blodgett Creek above and below the Blodgett campground is old growth habitat. The campground itself supports good numbers of large, old trees, but snags and other hazard trees are regularly removed to protect campground users.

3. **Affected Environment.** The private land along the Blodgett Creek Road and the lower part of the Canyon Creek Road has been subdivided into parcels that range from 4 to 40 acres. Houses have been built on many of these parcels, and habitat around these houses has been modified to various extents. The roads are used regularly throughout the year by residents driving to and from their homes, and by visitors going to and from the Blodgett Creek and Canyon Creek Trailheads, and the Blodgett Creek Campground.

The existing Blodgett and Canyon Creek roads pass through areas that were harvested in the early 1900s. Many of the property owners have recently thinned the forests on their land to reduce fuel loading and the risk of stand-replacing fire in the future. Habitat in these areas is now dominated by 60-80 year old ponderosa pine and Douglas-fir. There is little if any old growth habitat in the vicinity of these roads. There is a narrow band of riparian vegetation along Putnam Gulch.

The Forest's Management Indicator Species (MIS) are pileated woodpecker, pine marten, and elk. Pileated woodpeckers and pine marten are associated with mature and old growth habitats at lower and higher elevations, respectively. There is little suitable habitat for these species in the vicinity of these roads. The area provides some cover and forage suitable for wintering elk, but the presence of the roads and human activity associated with the houses largely precludes elk use of the area.

Habitat along the roads is not suitable for any of the Threatened or Endangered wildlife species that occur on the Forest, but is suitable for two of the sensitive species that occur locally. These include boreal toad and northern goshawk (foraging only). The habitat along the road is not suitable for any other TES wildlife species known or suspected to occur on the BNF, including bald eagle, gray wolf, grizzly bear, lynx, peregrine falcon, black-backed woodpecker, flammulated owl, Coeur d'Alene salamander, fisher, wolverine, western big-eared bat, northern bog lemming and northern leopard frog.

4. **Environmental Consequences.**

- There is little difference between the alternatives in terms of their effects to wildlife populations or habitat.
- None of the alternatives would affect old growth habitat, because no old growth habitat exists within proposed construction areas.
- None of the alternatives would affect the MIS species associated with old growth, pileated woodpecker and pine marten. There is no moderate or high-quality habitat for these species within proposed construction areas, so none would be impacted. There is little chance that individuals of either species would be affected since both are highly mobile, and there is no quality habitat to attract them to the area. Construction activities would probably not affect elk,

which tend to avoid this area due to the existing houses and traffic, and which are normally near the Bitterroot divide during the construction season. None of the alternatives would affect the viability of any of the MIS species at any scale.

- **Direct and Indirect effects.** Both of the action alternatives could have minor effects to the boreal toad population. Toads that stray onto the road could be killed by construction equipment, and the wider road surface that would be constructed in some places under Alternative B could make it somewhat more difficult for toads to safely cross the entire road width. None of the action alternatives would affect northern goshawk nesting habitat, but both action alternatives could have very minor effects to goshawk foraging habitat. None of the alternatives would affect habitat or populations of any other TES wildlife species. Most of them do not occur in the area due to the lack of suitable habitat. See the Biological Assessment and Biological Evaluation in the project file for additional information and effects calls for these species.
- **Cumulative Effects.** The action alternatives would have only very minor direct and indirect effects to TES wildlife species. These minor, localized impacts would result in negligible additional cumulative effects because they would be so minor and at such a small scale. None of the alternatives would affect the viability of any wildlife species at any scale.
- **Consistency with the Forest Plan.** All alternatives meet Forest Plan standards (FP II-21) and ESA requirements for the conservation of Threatened and Endangered wildlife species.

#### **F. Vegetation**

Vegetation will not be adversely affected by any of the alternatives. The Forest Service has an easement over most of the road that will be upgraded and will work with the private landowners to remove only the trees and vegetation necessary to achieve the purpose and need for the project.

On National Forest land the Forest Service will meet the Forest Plan standards and goals for the management Areas that the roads are in.

#### **G. Heritage Resources**

A cultural resource inventory was completed for this proposed action; the results were negative. Compliance with Sec. 106 of NHPA was fulfilled under the terms of the Montana State Historic Preservation Office/Region 1 Forest Service Programmatic Agreement. The negative inventory report was included in the Forest's Annual Compliance Report to Montana SHPO, submitted on March 1, 2003. Consultation with the Confederated Salish and Kootenai Tribal Preservation Office was completed in May 2002, with no cultural concerns identified by the Tribes.

Should any cultural material be located during the course of the project, all work will cease and the Forest Heritage Program Manager must be notified immediately.

#### **H. Transportation**

A Roads Analysis was completed for this project. The results of this analysis were used in many of the resource sections. The complete report can be found in the project file.

A sign plan has been developed for this project and would be implemented to identify private and National Forest lands, identify appropriate activities, control traffic on the roads, and direct travelers to the trailheads and campground. Appendix A contains the proposed Sign Plan for the project.

#### **I. Threatened, Endangered, and Sensitive Plants/Noxious Plants**

Three federally listed threatened plant species occur in Montana: water howellia (*Howellia aquatilis*), Spalding's catchfly (*Silene spaldingii*), and Ute ladies' tresses (*Spiranthes diluvialis*). None of them have been found on the Bitterroot National Forest.

## Blodgett Creek and Canyon Creek Road Upgrade

- 1. Analysis Area.** The area analyzed for TES plants is the Blodgett and Canyon Creek Roads Upgrade Analysis Area.
- 2. Regulatory Framework.** The U.S. Fish and Wildlife Service designate threatened and endangered plant species. Sensitive plant species, identified by the Regional Forester, are species “for which population viability is a concern, as evidenced by significant current or predicted downward trends in 1) population numbers or density and/or 2) habitat capability that would reduce a species’ existing distribution” (FSM 2670.5). Forest Service management practices should “avoid or minimize impacts” on sensitive species to ensure they do not become threatened or endangered species because of Forest Service actions and to “maintain viable populations of all native species throughout their geographic range on National Forest System lands” (FSM 2670.22 and 2670.32). Project effects on TES species will be disclosed in a Biological Evaluation (FSM 2670.32).

The Forest Plan (p. II-29) states “the primary means of preventing, containing, or controlling noxious weeds will be through vegetation management practices and by the use of biological control agents. Herbicides may be utilized to provide short-term protection on specific sites, after appropriate environmental analysis.” Region 1 of the Forest Service directs an Integrated Weed Management approach for management of noxious weeds on National Forest System lands in the region (FSM 2000, Zero Code 2080 – Noxious Weed Management, Supplement #R1 2000-2001-1). Requirements for timber projects include cleaning all equipment before moving it into the project area, analyzing weed risks associated with the project, and minimizing soil disturbance and creation of bare soil.

- 3. Affected Environment:** Aerial photographs were used to determine potential habitat for sensitive plant species in the project area. The following species have potential habitat in the project area and/or occur in the vicinity:

candystick	<i>Allotropia virgata</i>
western boneset	<i>Eupatorium occidentale</i>
turkey-peas	<i>Orogenia fusiformis</i>
woollyhead clover	<i>Trifolium eriocephalum</i>
hollyleaf clover	<i>Trifolium gymnocarpon</i>
sandweed	<i>Athysanus pusillus</i>
scalegod	<i>Idahoia scapigera</i>
yellow lady’s slipper	<i>Cypripedium parviflorum</i>
western pearlflower	<i>Heterocodon rariflorum</i>
storm saxifrage	<i>Saxifraga tempestiva</i>

Extensive field surveys have been done in the project area in association with other projects. Potentially suitable habitat exists for turkey-peas and holly-leaf clover, although extensive surveys in conjunction with the Stevensville Southwest Integrated Resource Analysis (1991-93) never revealed these species. These species have been found associated with dry to moist Douglas-fir forests and are not as common in pure grasslands.

Woolly-head clover has been found in open meadows associated with lodgepole pine and Douglas-fir. Turkey peas, holly-leaf clover, and woolly-head clover have not been found at the northern end of the Bitterroot Forest where the project is proposed. One exception is a population of hollyleaf clover located near Rock Creek on the Lolo National Forest.

Candystick usually occurs in mature, open lodgepole pine stands in the subalpine fir/beargrass habitat type and is associated with beargrass and grouse whortleberry. It is a mycotrophic species, obtaining carbohydrates from a mycorrhizal fungus connected with its roots (Elzinga, 1997). The mycorrhizae

## Blodgett Creek and Canyon Creek Road Upgrade

are usually associated with lodgepole pine or some other subalpine conifer species in the northern Rockies.

Western boneset occurs in rocky outcrops and talus slopes. Sandweed and scalepod are known to occur together in vernal moist rocky areas in the Blodgett and Mill Creek canyons. A new population of both sandweed and scalepod was located above Sheafman Creek in 2001. These sites are south facing, drying as the summer progresses. Both these species are difficult to see due to their small size and disappear sometime in May or June, so surveys need to be done early in the spring. The closest known population of storm saxifrage occurs to the north of the project area on St. Joseph Peak.

No known populations of riparian sensitive plant species are known in the vicinity from extensive previous surveys. Small yellow lady's slipper is not known to occur on the Bitterroot Forest but is known from moist forests and forested riparian areas on the Flathead National Forest. This species has also been found to the north of the project area on the Lolo National Forest. Western pearl-flower has been found in moist swales in the foothills of the Bitterroot Mountains. A population of western pearl-flower is known to occur north of the project area.

Spotted knapweed (*Centaurea biebersteinii* {*C. maculosa*}) is currently established along both Blodgett and Canyon Creek road and on most sparse-canopied south slopes with road access. This species is present where openings in the canopy at the lower to middle elevations are large enough to allow plant survival and reproduction. Chemical treatments and biological agent releases have been applied to aid in containment of this noxious weed. Oxeye daisy (*Leucanthemum vulgare* {*Chrysanthemum leucanthemum*}) is also found along both Blodgett and Canyon roads, in common associated with spotted knapweed. This species can thrive on nutrient poor soils, but has a wide edaphic tolerance.

Other species found in the project area include sulfur cinquefoil (*Potentilla recta*) and houndstongue (*Cynoglossum officinale*). These species are located primarily along the roads, trails and campsites or other high-use areas. Common tansy (*Tanacetum vulgare*) is becoming more common along the roadsides on the Stevensville District, but has not yet been adequately mapped because of its very recent listing as a noxious weed in the State of Montana.

#### 4. Environmental Consequences:

- **Alternative A – No Action.**
  - **Direct and Indirect Impacts.** Under this alternative, no sensitive plant species are known to occur where road upgrade activities are proposed. No soil disturbance along the road would occur. Weeds would continue to spread along roads at existing rates. Noxious weed treatment of roads in the project area (USDA Forest Service 2003) may reduce the risk of weed spread. Overall this alternative should have a low risk of noxious weed spread.
- **Alternatives B and C**
  - **Direct and Indirect Impacts.** The proposed project is not likely to adversely affect any of the above listed sensitive plant species since none are known to occur where upgrade activities are proposed. The size of the area likely to be disturbed during the construction activities will be localized and limited to within ten feet on either side of the existing road surface. The exception is the Putnam Gulch fill, where a couple of additional feet of surfacing would be required to install guard rails. Potentially suitable habitat may be disturbed by heavy machinery accessing construction sites, but should not affect the population viability of Turkey peas or Hollyleaf clover. Sandweed, scalepod, and candystick are located within five miles of the proposed project area, but are located a sufficient distance to not be affected by the construction activities. There may be a loss of potential habitat for

## Blodgett Creek and Canyon Creek Road Upgrade

turkey-peas and holly-leaf clover as a result of a road widening, but this would be negligible and would not likely result in a trend toward Federal listing or have an adverse affect on the population viability for either species.

- **Cumulative Effects.** Road construction activities would likely promote the spread of noxious weeds, since three species are currently known to exist along both Blodgett and Canyon Creek roads. Spotted knapweed, oxeye daisy and sulfur cinquefoil are likely to colonize newly disturbed areas along roadsides. Incorporating mitigation measures (Chapter 2) relating to noxious weed prevention associated with road construction activities would reduce the potential for noxious weed invasion into disturbed areas. Additionally, the Bitterroot Forest Noxious Weed Management Project (FEIS January 2003) authorizes roadside treatments on both Blodgett and Canyon roads.
- **Consistency with the Forest Plan** – All alternatives for the Blodgett and Canyon Creek Roads Upgrade project, implemented with the mitigation measures and BMPs would be fully consistent with the 1987 Bitterroot Forest Plan Standards and Guidelines.
- **Summary.** The proposed Blodgett and Canyon road upgrade project is not likely to adversely impact individual sensitive plant populations, since none are known to occur in the immediate area. Although the project may create soil disturbance for invasive species encroachment, adhering to Regional guidelines (listed in the regulatory framework) for preventing noxious weed spread, should minimize the risk of weed establishment.

## **4 Chapter 4 – LIST OF PREPARERS**

The following individuals assisted in the analysis of the project and preparation of this document.

Craig Odegard/Lori Clark	- Botany/Noxious Weeds
Mary Williams	- Historian/Heritage
Terry Carlson/Ed Snook	- Hydrology
Lynne Dickman	- Soils
Mike Wilson	- Recreation
Rob Brassfield	- Fisheries
Dave Lockman	- Wildlife
Kim Johnson	- Silviculture
Rich Jacobson/Jake Pintok	- Transportation
Ken Hotchkiss/Don Stadler	- Writer/Editor - Project leader
Deb Gale	- Wilderness
Jack Cornelisse	- GIS Specialist

**5 Chapter 5 – PERSONS AND AGENCIES CONSULTED**

**Scoping:** Scoping comments and input from the two public scoping efforts, neighborhood meetings, and field trip were received from the following:

Tom and Judy Anderson	Kirk Thompson
Dr. Courtney Ernst	Gene Samuelevich
The Ecology Center	Vito and Carol Ciliberti
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Bill Pfeffer	Susan Mackey
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Brent and Beth Holmes	Howard Rapp
Kevin Hooper	Marshall Bloom
Bill Peters	Nadine Mackey
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The following Tribe and agencies were consulted during the analysis process:

Confederated Salish and Kootenai Tribe  
Montana Fish, Wildlife and Parks  
Montana Department of Natural Resources  
US Fish and Wildlife Service

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