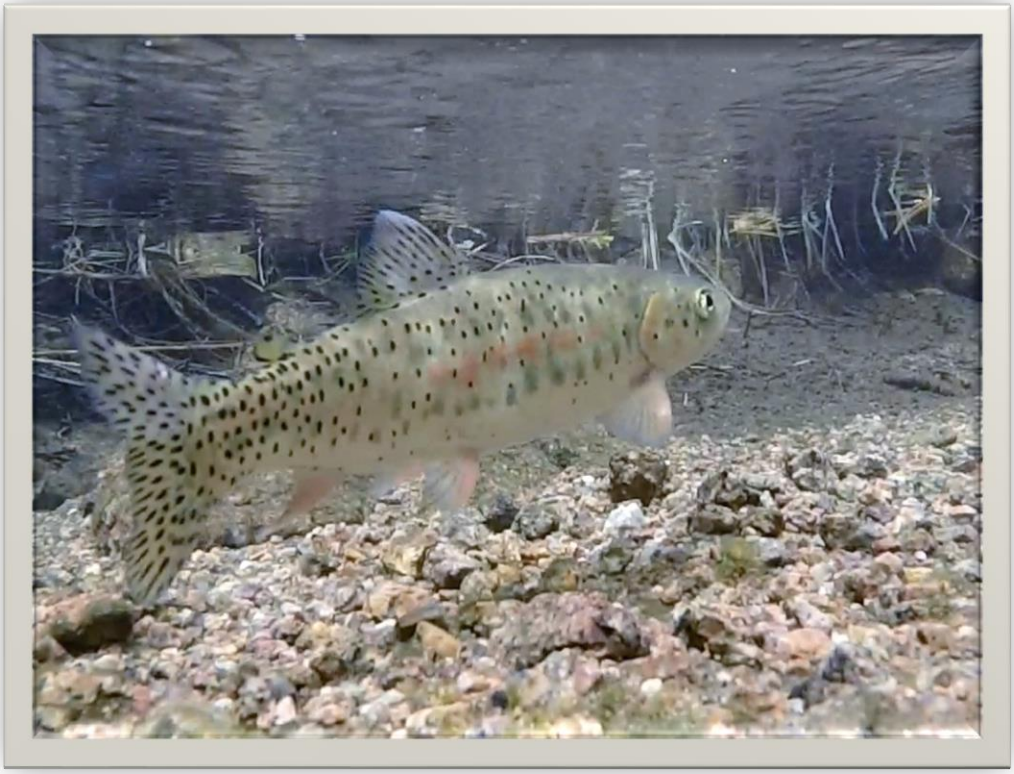
**United States Department of Agriculture**
Forest Service

# Bear Creek Watershed Restoration
## Environmental Assessment

**Pikes Peak Ranger District, Pike National Forest, Teller and El Paso Counties, Colorado**

**May 2015**



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*Cover Photo of Greenback Cutthroat Trout taken in Bear Creek in the fall of 2014 by Josh Nehring, Senior Aquatic Biologist, Colorado Parks and Wildlife

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# Chapter 1: Introduction

The greenback cutthroat trout (*Oncorhynchus clarkii stomais)* is Colorado's state fish. Historically, it was thought to have occupied the Arkansas and South Platte River watersheds; however, recent genetic analysis indicates it naturally occurred only in the South Platte River watershed (Metcalf et al. 2012). Greenback cutthroat trout is a Federally-listed threatened species under the Endangered Species Act. Extensive surveys failed to identify any surviving greenback cutthroat trout populations in the South Platte River watershed. At present, the sole known remaining naturally reproducing population of genetically pure greenback cutthroat trout inhabits Bear Creek, a tributary of Fountain Creek, itself a tributary of the Arkansas River (Metcalf et al. 2012).

In order to better manage the Bear Creek watershed, the Forest Service initiated the Bear Creek Watershed Restoration Project. The analysis area for the Bear Creek Watershed Restoration Project environmental assessment (EA) is located four to eight miles west-southwest of downtown Colorado Springs, Colorado, on the east flank of Pikes Peak. Analysis area land ownership is divided between the Forest Service (8,152 acres), El Paso County (1,148 acres), City of Colorado Springs (805 acres), Colorado Springs Utilities (173), and private landowners (72 acres). At the beginning of this environmental assessment, all land owners agreed that to meet the project's purpose and need, the solution (proposed action) needed to consider effects on all land ownerships.

While this document looks at the analysis area as a whole, regardless of land ownership, the Forest Service only has the ability to make management decisions on National Forest System lands. Decisions and implementation on lands owned by the City of Colorado Springs and El Paso County will require decisions by these agencies and will be independent of any decisions made by the Forest Service. The City of Colorado Springs is responsible for restoration on City owned property and El Paso County is responsible for restoration on County owned properties. The Forest Service has been and continues to be committed to working closely with the City of Colorado Springs and El Paso County to implement a variety of mutually agreeable management actions that protect the Bear Creek watershed and the greenback cutthroat trout population, while allowing for compatible human use. The project area includes private lands and lands managed by Colorado Springs Utilities. No project alternative includes implementation actions by the Forest Service on either private or Colorado Springs Utilities lands. See Figure 1 for land ownership.

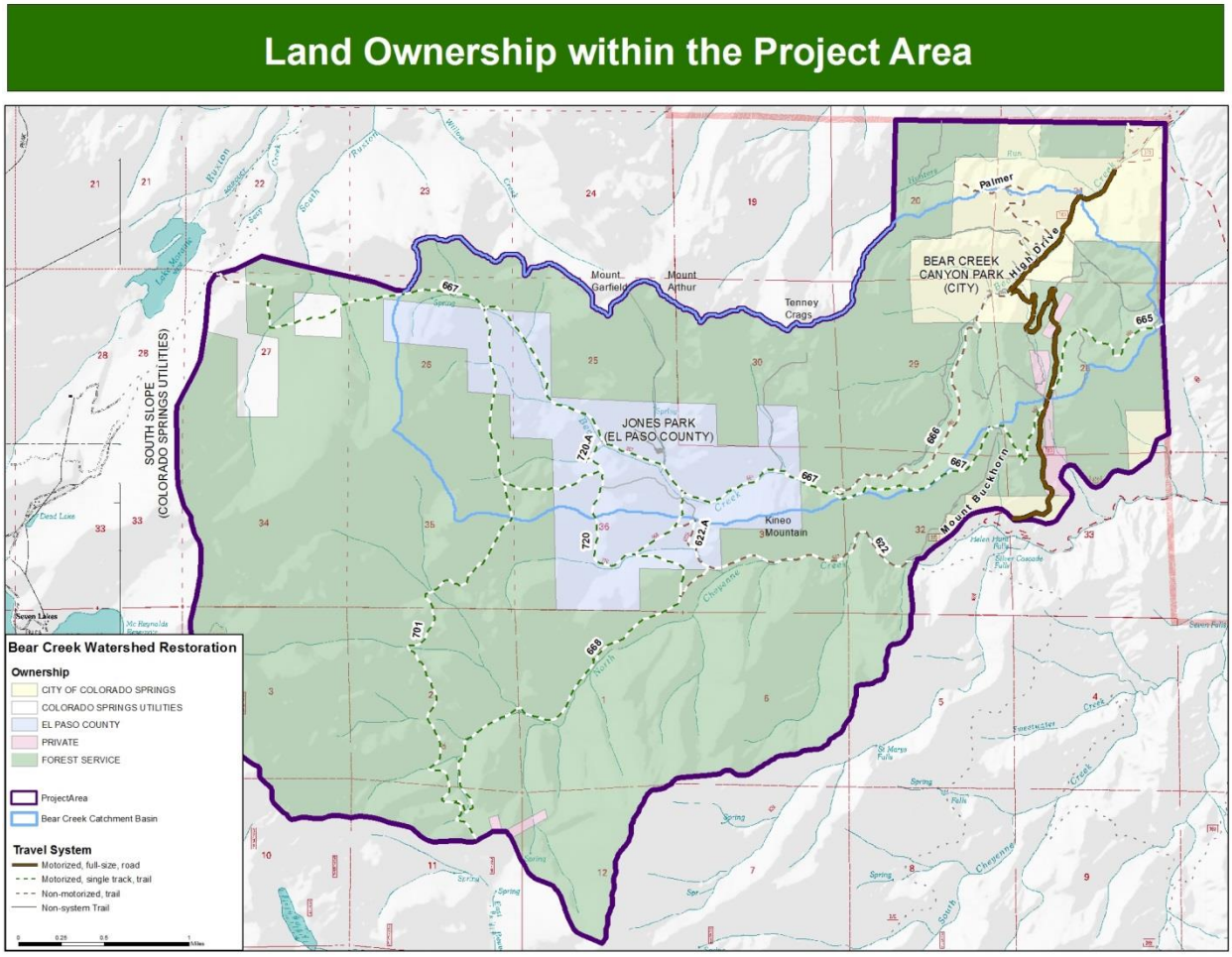


**Figure 1: Land Ownership within the Project Area**

## 1.1 Document Structure

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) of 1969, (40 CFR 1508.9) as amended, and other relevant federal and state laws and regulations. We prepared this EA to determine whether implementation of the proposed action may significantly affect the quality of the human environment and thereby require the preparation of an environmental impact statement. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four parts:

- Introduction (Chapter 1): This section includes a brief history of the project proposal, the agency's proposal (proposed action) as it relates to the Forest Plan and existing agreements, and the purpose of and need for the project as it relates to the proposed action. This section also details how the Forest Service informed the public of the proposal and how the public responded.

- Comparison of Alternatives (Chapter 2), including the Proposed Action: This section provides a more detailed description of the agency's proposed action, as well as the alternatives to the proposed action (i.e., the no-action alternative and another alternative) in trying to achieve the stated purpose and need of the project. The alternatives were developed based on important issues raised by the agency specialists, the public and other agencies. This section provides a summary comparison of the alternatives in Table 4 and 5.

- Environmental Consequences (Chapter 3): This section describes the environmental effects of implementing the proposed action and other alternatives (i.e., the no-action alternative and the other-action alternative). This analysis is organized by resource area and/or important issues. Finally, this section provides a summary of the effects of implementing each alternative, focusing on issues raised through scoping, in Tables 9, 11, 12 and 17.

- Agencies and Persons Consulted (Chapter 4): This section provides a list of preparers and agencies consulted during the development of the environmental assessment.

- Appendices: The appendices provide more detailed information to support the analyses presented in the environmental assessment. Appendix A contains Design Criteria, Mitigation Measures and Best Management Practices. Appendix B contains Monitoring Requirements. Appendix C contains the Response to Comments.

## 1.2 Land Management Direction

Over time, a framework of laws, regulation, and guiding legislation that works to guide the management of National Forest System lands has been enacted. Legal mandates governing national forest management date back to the Organic Act of 1897, which provided that national forests would be managed for the dual purpose of protecting water flows and providing a continuous supply of timber for the American public. The Multiple-use Sustained Yield Act (1960) provides for the sustainability of the multiple uses of natural resources in ways that best meet the needs of the public while maintaining the long-term productivity of the land for multiple uses and in such a manner that these lands are available to future generations. The magnitude and intensity of any effects are disclosed to the public, and the public has the opportunity to comment on the actions proposed. The National Forest Management Act 1976 and its accompanying legislation guides the creation, revision, and amendment of National Forest Land Management Plans, and the Forest and Rangeland Renewal Resources Planning Act of 1974 directs that the suitability of lands for resource management be identified and a process for the revision of land and resource management plans established.

The National Environmental Policy Act (NEPA) of 1969 requires that all major Federal actions significantly affecting the human environment be analyzed, and the consequences to the quality of the human environment from proposed management actions are to be considered. The regulations implementing the NEPA further require that agencies prepare environmental impact statements concurrent and integrated with environmental analysis and related surveys and

studies required by such laws as the Endangered Species Act of 1973, the National Historic Preservation Act of 1966, the Wilderness Act of 1964, and the Wild and Scenic Rivers Act of 1968. Other environmental review laws and executive orders, such as the Clean Air Act of 1977 and the Clean Water Act of 1948 are also considered.

The Bear Creek Watershed Restoration project will continue to honor American Indian reserved rights through consultation and coordination, and will maintain a government-to-government relationship with federally recognized tribal governments.

Additional direction for managing National Forest System lands comes from a variety of sources, including Executive Orders (EOs), the Code of Federal Regulations (CFRs) and the Forest Service directive system, which includes the Forest Service Manual (FSM) and the Forest Service Handbook (FSH). This management direction is generally not repeated in the environmental assessment.

There are two identified agreements in place that guide management of use and activities in the analysis area. The first, an Act of Congress on February 27, 1913, designated approximately 14,843 acres in the Pike National Forest to be “reserved from all forms of location or entry and set aside as a municipal water supply reserve for the benefit of the City of Colorado Springs…” This agreement covers a small portion of the western end of the Bear Creek watershed. The second is an agreement, dated January 9, 1924, for the purposes of conserving and protecting the water supply of the City of Colorado Springs. This agreement covers the remainder of National Forest System lands in the Bear Creek watershed not covered by the 1913 act.

In addition, the Pike and San Isabel National Forest Resource Management Plan, as amended, provides programmatic management direction for National Forest System lands. Through its Goals, Standards and Guidelines, and Management Area direction, the Forest Plan provides the overall guidance for management of National Forest System land within the Pike and San Isabel, Cimarron and Comanche’s borders.

The Forest Plan Standards and Guidelines that apply to this project area are those addressing Cultural Resources, Recreation, Fish and Wildlife, Water Resources, Rights-of-Way and Lands, Soil Resources, Transportation, and Fire and Fuels and are hereby incorporated by reference. The Forest Plan divides the Pike and San Isabel National Forest into individual Management Areas and designates specific direction; goals, standards, and guidelines to be used in the management of each area to meet its emphasis more completely. Applicable direction for the five Management Areas within the analysis area is summarized below.

**Semi-primitive Motorized Recreation (Management Area 2A):** This Management Area covers 4,067 acres (50 percent) of National Forest System lands in the analysis area. Management Area 2A emphasizes semi-primitive motorized recreation opportunities, such as snowmobiling, four-wheel driving, and motorcycling, both on and off roads and trails. Motorized travel may be restricted or seasonally prohibited to protect physical and biological resources. General direction for dispersed recreation management is to prohibit motorized vehicle use off roads and trails where needed to protect soils, vegetation, or special wildlife habitat (page III-109).

Standards and guidelines for Management Area 2A are found in the Forest Plan on pages III-107 to III-115.

**Rural and Roaded-Natural Recreation (Management Area 2B):** This Management Area covers 277 acres (3 percent) of National Forest System lands in the analysis area. Management Area 2B emphasizes rural and roaded-natural recreation opportunities. Motorized and non-motorized recreation activities such as driving for pleasure, viewing scenery, picnicking, fishing, snowmobiling and cross-country skiing are possible. Motorized travel may be restricted or seasonally prohibited to protect physical and biological resources. General direction for visual resources is to manage activities to maintain or improve the quality of recreation opportunities. Management activities are not evident, remain visually subordinate, or may dominate, but harmonize and blend with the natural setting. Standards and guidelines for Management Area 2B are found in the Forest Plan on pages III-116 to III-124.

**Riparian Area Management (Management Area 9A):** This Management Area covers 396 acres (5 percent) of National Forest System lands in the analysis area. The management of all component ecosystems of riparian areas is emphasized. These components include the aquatic ecosystem, the riparian ecosystem, and adjacent ecosystems within 100 feet of perennial streams, lakes, and other water bodies. Each of these components is managed together as an integrated riparian area. The 9A management areas were not mapped at the time of the Forest Plan release. For this project the 9A management area was mapped as 100 feet from all 2nd, 3rd and 4$^{th}$ order streams. The goals of this management area are to provide healthy self-perpetuating plant communities, meet water quality standards, provide habitats for viable populations of wildlife and fish, and provide stable stream channels. General direction for transportation system management is to locate roads and trails outside riparian areas unless alternative routes have been reviewed and rejected as being more environmentally damaging (III-214). Standards and guidelines for Management Area 9A are found in the Forest Plan on pages III-204 to III-215.

**Aspen Management (Management Area 4D):** This Management Area covers 78 acres (1 percent) of National Forest System lands in the analysis area. This management area emphasizes maintaining and improving aspen sites. Other tree species, if present, are de-emphasized. Aspen is managed to produce wildlife habitat, wood products, visual quality, and plant and animal diversity. A variety of age, size and shapes of aspen are maintained. Recreation opportunities are semi primitive non-motorized and motorized or roaded natural. Some temporary or seasonal road and area use restrictions are implemented to prevent disturbance of wildlife or improve hunting and fishing quality. Standards and guidelines for Management Area 4D are found in the Forest Plan on pages III-144 to III-148

**Municipal Watershed (Management Area 10E):** This Management Area covers 3,339 acres (41 percent) of National Forest System lands in the analysis area. Management Area 10E emphasizes protecting or improving the quality and quantity of municipal water supplies. Management practices vary from use restrictions to water resource improvement practices, with the primary objective of meeting water quality standards established for the individual watershed. A secondary objective is to manage the watersheds to improve the yield and timing

of water flows, consistent with water quality requirements. General direction for dispersed recreation management is to allow motorized travel only on established roads and trails. Close the watershed to all travel when the road or trail surfaces could be damaged to the degree that water quality could be degraded (III-234). Standards and guidelines for Management Area 10E are found in the Forest Plan on pages III-233 to III-241.

## 1.3 PROPOSED ACTION

### WHO?

In response to agency and public concerns about the vulnerability of the Bear Creek greenback cutthroat trout population of the greenback cutthroat trout, the Pikes Peak Ranger District of the Pike National Forest, City of Colorado Springs, and El Paso County proposes to:

### WHAT?

- Design and implement stream, riparian, and hill slope improvements.
- Maintain, reconstruct or realign 3.4 miles of road and 15.5 miles of system[1] trails.
- Close and decommission 7.2 miles of trail, 1.1 miles of which are within the water influence zone of Bear Creek and 0.6 miles are within the Water Influence Zone[2] of tributaries of Bear Creek. Decommissioning trails will also eliminate 20 stream crossings within the Bear Creek Basin.
- Build 6.4 miles of sustainable system trail
- Incorporate Buckhorn and Palmer non-system[3] trails into the National Forest Trail System.
- Decommission 9.3 miles of non-system trails.
- Implement the recommendations of the High Drive Report (CH2MHill 2013) and further refined in the High Drive preliminary plans developed by the City of Colorado Springs to

[1] A system trail is a trail that is part of the official National Forest Trail System or is Authorized or Designated by the City of Colorado Springs or El Paso County.

[2] The Water Influence Zone includes the geomorphic floodplain (valley bottom), riparian ecosystem, and inner gorge of perennial and intermittent streams. Its minimum horizontal width (from top of each bank) is the greater of 100 feet or the mean height of mature dominant late-seral vegetation. In the analysis area, the Water Influence Zone is set at 100 feet from 2, 3 and 4th order streams because the mature dominant late-seral vegetation does not reach this height.

[3] A non-system trail is a “user created” trail that is not part of the National Forest Trail System or not Authorized or Designated as part of the official trail system of The City of Colorado Springs or El Paso County.

reduce sedimentation from High Drive into Bear Creek on the portion of the road that runs parallel to Bear Creek.

- Convert High Drive to administrative use only for motorized traffic.
- Install interpretive signs
- Institute a Forest Order and Rule/Regulation to prohibit public access off system routes, over-snow vehicles, and camping in the Bear Creek Basin.
- Institute a Forest Order and Rule/Regulation to prohibit open fires and recreational shooting within the project analysis area.
- Institute a Forest Order and Rule/Regulation banning people and domestic animals (i.e. dogs, horses, pack animals, etc.) from entering or being in Bear Creek.
- Institute a Forest Order and Rule/Regulation requiring domestic animals to be leashed or harnessed on Trail 666 (Bear Creek) and the proposed “New Mount Buckhorn” Trail.
- Eliminate four military helicopter landing zones.

## WHERE?

The analysis area is located in El Paso and Teller Counties, about five miles southwest of Colorado Springs (Figure 2).

The general legal description of the analysis area is all or portions of T14S, R67W Sections 20-22, 27, 29, 30-33; T14S, 68W Sections 23-26 and 34-36; T15S, R67W Sections 5 and 6; T15S R68W Sections 1-3 and 10-12 of the 6th P.M.

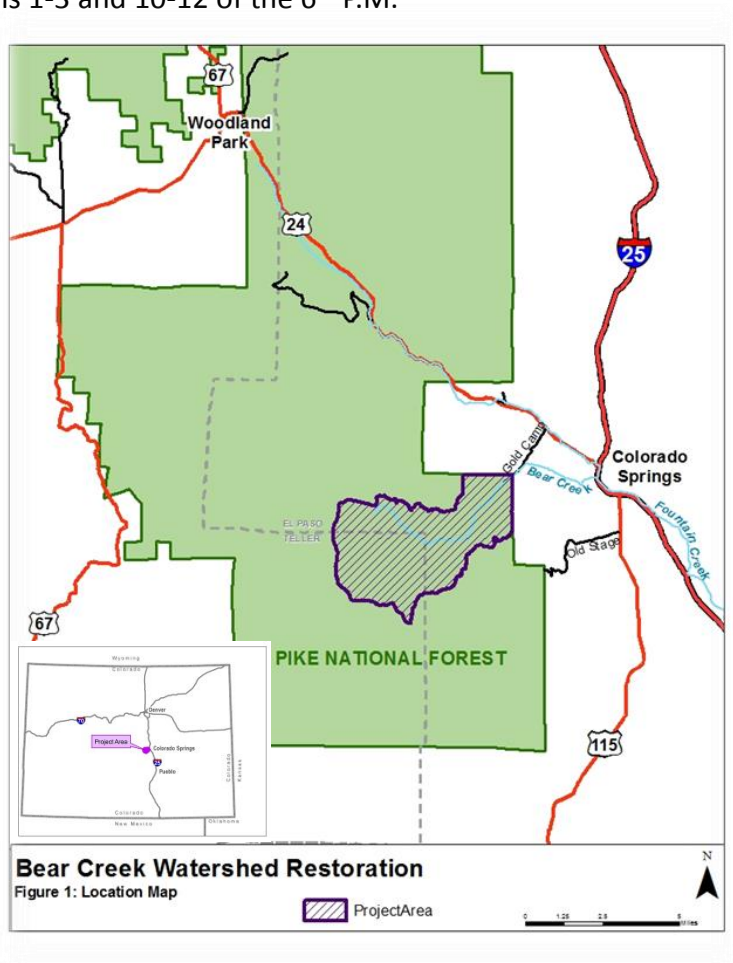


**Figure 2: Vicinity Map**

## WHEN?

The District Ranger, who is the Responsible Official, will decide which actions, if any, to implement on National Forest System lands. The City of Colorado Springs and El Paso County will decide which actions, if any, to implement on their lands. This decision will be based on:

- Whether the proposed activities and alternative address the issues, are responsive to national policy/guidance and direction in the Forest Plan, as amended, and meet the purpose of and need for action in the Bear Creek Watershed Restoration Project.
- Whether the information in this analysis is sufficient to implement proposed activities.

- Whether the proposed activities would have significant effects and therefore require the preparation of an Environmental Impact Statement.

A final decision is expected in the fall of 2015. If a final decision is reached in the fall of 2015, and weather conditions allow, implementation may begin in the fall of 2015. Full implementation may take up to 10 years. Building of new trails, decommissioning of closed trails and stream habitat work is expected to begin in the first year. Total decommissioning is expected to take many steps, to be completed in phases, and take several years. Some trails are deeply incised and it will take multiple efforts to rehabilitate them to a point where erosion and sediment transport will be substantially reduced or slowed.

## 1.4 Purpose and Need for the Action

### *WHY HERE AND WHY NOW?*

With new genetic information showing that at present, the sole known remaining population of self-sustaining genetically pure greenback cutthroat trout inhabits Bear Creek (Metcalf et al. 2012), there is an urgent need to improve and protect the habitat of this population. This population is of critical importance to the recovery of this species as it is the most genetically diverse (Krieger, pers. comm. 2014). To improve the habitat the proposed action considers appropriate instream and upland restoration.

The main source of fish habitat degradation in Bear Creek is excess sedimentation. Sediment measurements (i.e., V*) were collected in 2014 in Bear Creek and from a nearby reference stream, South Ruxton Creek. The V* methodology provides a measure of sediment deposited in a pool feature compared to the total residual capacity of the pool. In South Ruxton Creek, the residual pool volume that was filled with sediment varied from 7.1 to 14.2 percent. In Bear Creek, the measurements ranged from 36.6 to 82.7 percent.

As a pool feature fills with sediment, pool depth and pool area are reduced, limiting available habitat for fish. Cutthroat favor pool habitats over other portions of the stream channel in nearly all seasons. Pools provide cover from predators, refuge from streamflow and inclement conditions including floods and winter ice formations. Pool habitat is particularly important for survival during the harsh winters found at mid to high elevation ranges.

Protecting the habitat into the future requires looking at the sources of habitat degradation and other risks such as the possible introduction of whirling disease. The vector or parasite that causes whirling disease can be carried from an infected stream into Bear Creek via humans, animals or equipment. To prevent the introduction of whirling disease the proposed action includes reducing human and animal contact with the waters of Bear Creek.

To protect fish habitat it was necessary to thoroughly assess the watershed and transportation system within and leading into the watershed. This was done in the context of a Watershed Assessment completed in August of 2013 (USDA FS, 2013) and the recommendations from the Bear Creek Watershed Assessment served as the starting point for the current proposal. In addition to the Watershed Assessment, internal and external scoping was conducted to identify issues and solicit recommendations for future management. The Watershed Assessment and

scoping resulted in the development of a draft proposed action. Changes were made based on internal and external scoping to bring us to the current proposed action.

The purpose and need of the project is to protect the greenback cutthroat trout while allowing for appropriate and sustainable recreation in this very popular area.

### *DESIRED CONDITIONS*

Desired conditions lay out the condition we seek to attain. They describe how the land will function and appear, and what experiences will be provided, rather than what actions will be taken. They describe the long-term future rather than existing conditions.

Desired conditions are linked to the purpose and need of the project.

**Botany**

The desired future condition for plant resources in the project area is:

- Populations of golden columbine would be robust and expanding, while being protected from trail users.
- Habitat for other Regional Forester Sensitive Species would be stable, allowing for the potential colonization by these species.
- Plants would not be damaged by altered hydrology due to trail location.
- Noxious weeds do not compete for resources with the Regional Forester Sensitive Species plants.
- Ecological site appropriate plant communities are present and healthy across the watershed.

**Cultural**

The effects of land management decisions or actions on cultural resources need to be addressed at the site-specific level. Management activities can influence site disturbance or discovery, improve or restrict access to sites, or provide opportunities for conducting surveys and recording sites.

The desired future condition for the cultural resources in the project area is:

- Lands are inventoried and cultural resources of significance are identified
- Damage to historic properties caused by the transportation system, recreational use of the area, or natural sedimentation are mitigated
- Cultural sites of significance are interpreted for public appreciation and awareness
- The historic aesthetic and natural scenic appeal of the cultural landscape is retained

- Adverse effects to historic properties are avoided and/or mitigated

**Hydrology and Soils**

Erosion and sedimentation is a natural process, but acceleration of this natural process leads to a water quality impairment, stream channel instability, land loss, habitat loss and other adverse effects. Many land use activities can affect these components. Implementing mitigation measures and making management changes that will balance sediment supply and improve channel stability will improve beneficial water uses. The desired future condition for water and soils in the project area is:

- To improve water quality to meet Colorado Department of Public Health and Environment and Forest Plan water quality standards.
- To manage the transportation system to reduce road/trail hydrologic connectivity and minimize soil erosion and sedimentation and maximize riparian vegetation.
- To restore Bear Creek to a stable stream dimension, with a pattern and profile that transports sediment without aggrading or degrading.
- To reduce sedimentation from disturbed tributaries.
- To reduce contributing hillslope/rill/gully erosion from disturbed areas.

In similar soil types in the Trail Creek watershed, the Pike National Forest has been effective at improving fish habitat. The Trail Creek watershed area was severely affected by the 2002 Hayman Fire. Recent efforts to relocate roads and trails and improve habitat have resulted in an increase in the number of fish in Trail Creek (Trail Creek Watershed Assessment and Conceptual Restoration Plan, Rosgen 2011).

**Recreation**

The desired future condition for recreation in the project area is to continue providing opportunities for sustainable motorized and non-motorized recreation while protecting the greenback cutthroat trout in Bear Creek watershed.

**Fish and Wildlife**

The Desired Future Conditions for fish and wildlife is:

- Sedimentation is reduced and habitat conditions are improved for the greenback cutthroat trout by:
    - Improving stream habitat complexity (i.e. variety of shelters available for fish and other aquatic species in a river or waterbody) and quality.
    - Improving spawning habitat, overwintering pool habitat, and velocity shelters (i.e. places of slower velocity, where fish will often rest).

  - Improving species resiliency to disturbance events.
  - Promoting the recovery and enhancement of riparian vegetation.
- Reduced risk to aquatic and riparian systems by reducing length of roads/trails in the Water Influence Zone.
- Reducing the risk of aquatic invasive species being established in the watershed.
- Increased amount, availability, and quality of habitat for wildlife species in the project area through reduced density of travel routes.

## 1.5 Public Involvement and Tribal Consultation

The scoping process was initiated with the publication of an opportunity to comment in the newspaper of record, the Colorado Springs Gazette, on March 29, 2013. A public open house was held the evening of April 4, 2013 and 160 people signed in at the open house. The scoping period ended April 30, 2013. Additional scoping was initiated by notice published in the Colorado Springs Gazette on February 23, 2014. This scoping was initiated to provide the public an opportunity to comment on changes to the proposed action based on comments from the previous 2013 scoping. In support of the second announced scoping period, a second public open house was held the evening of February 25, 2014 and 167 people signed in at the open house. This scoping period ended March 27, 2014. Concurrent with the publication of the notice in area newspapers, the scoping letters and invitations to the open house were mailed to approximately 354 interested publics, including private citizens, non-government organizations, and government agencies (a list of all parties that were contacted during scoping is available as part of the project record.) Scoping letters were mailed on March 29, 2013 and February 22, 2014.

During the scoping process, 969 letters, emails, faxes, or comment forms (collectively referred to as comment letters) were submitted to the Pike National Forest, Pikes Peak Ranger District. All comment letters were reviewed and individual comments within each letter were identified and categorized for analysis. Consideration of issues raised in these comments, in addition to issues raised by the Interdisciplinary Team prompted changes to the proposed action and were used to develop potential alternative actions. A summary of all comments received and response from the team is included in Appendix C.

The Forest Service contacted the following tribes during the development of this EA: Cheyenne and Arapaho Tribes of Oklahoma, Comanche Nation of Oklahoma, Jicarilla Apache Nation, Jicarilla Apache Tribe, Kiowa Tribe of Oklahoma, Northern Arapaho Tribe, Northern Cheyenne Tribe, Southern Ute Indian Tribe, Ute Mountain Ute Tribe, Ute Indian Tribe (Uintah & Ouray Reservation).

Local agencies contacted include the City of Colorado Springs, Colorado Springs Utilities, and Colorado Parks and Wildlife.

## 1.6 ITERATIVE NEPA

In 2008 the U.S. Forest Service and the U.S. Department of the Interior updated their existing National Environmental Policy Act procedures (36 CFR 220; 43 CFR 46) to permit a more open, transparent and collaborative approach to carrying out the NEPA mandate. Dubbed "iterative NEPA," or iNEPA by Forest Service practitioners, this approach reflects the incremental stages in which proposed actions and alternatives are improved throughout the NEPA process with stakeholders in order to meet diverse interests. This means a group of external and agency stakeholders can maximize their time and efforts and reduce the chance of developing alternatives that are ultimately not used because they meet only a particular stakeholder's viewpoint. Iterative NEPA can therefore provide for a more effective and meaningful decision-making process.

Iterative NEPA was utilized for this Environmental Assessment and allowed for a better proposed action to be developed. Comments received that met the purpose and need of the project were incorporated into the proposed action instead of developing many new alternatives.

The project was initially scoped in April 2013. In response to public comments and input from the interdisciplinary team the proposed action was changed. Changes included:

- Removal of seasonal trail closures
- Designing a new trail to connect 622 to 701 instead of using the existing route (Trail 720) because it was found to be unsustainable
- Revising the off-trail travel restriction boundary to allow access to popular peaks around the edge of the Bear Creek watershed
- Incorporating, non-system trails, Palmer and Buckhorn into the official National Forest trail system
- Restricting public access to High Drive to non-motorized use

The revised proposed action, based on public comment, was scoped for a second time in February 2014. In response to public comments and input from the interdisciplinary team the proposed action was changed again. Changes included:

- Access to Jones Park
- Designing a new trail to connect 622 (Seven Bridges) to 701 (Foresters). Through the second round of scoping we heard from users that although the current alignment of 720 was unsustainable users desired a reroute that stayed closer to the current alignment than the reroute previously proposed.
- Designing a new alignment for the reroute of 667 (Jones Park) that did not intersect with 622 (Seven Bridges).

## 1.7 SCOPING ISSUES

Issues are points of concern about effects that may occur as a result of implementing the proposed action. Some are generated by the public and are in response to the proposed action; others were identified by the interdisciplinary team based on local and specific scientific knowledge to disclose and compare the effects of each alternative.

Issues identified during scoping can either be addressed by developing alternatives to the proposed action or by adjusting the proposed action to resolve conflicts [36 CFR 220.7(b)(2)(i)]. Many issues and concerns were already addressed as part of the project design, while others were outside the scope of the project or already decided by law or regulation.

See Tables 9, 11, 12 and 17 for a comparison of impacts between alternatives of scoping issues.

## Issues Identified For This Analysis:

**Cultural Resources**

Decommissioning of trails and improvements to the transportation system proposed to protect the greenback cutthroat will impact cultural resources.

Cultural Resource Indicators (Measures):

- *Amount of Analysis Area Surveyed for cultural resources*
- *Number of cultural resources in the Analysis Area*
- *Number of Native American traditional use, religious or sacred sites within the Area of Potential Effect.*
- *Miles of historic trail that qualify as historic properties which are adversely affected by decommissioning activities*
- *Number of historic properties adversely affected by proposed activities*
- *Change to public and administrative access to historic sites of significance*
- *Change to Native American access to traditional use sites*
- *Number of historic sites interpreted*

**Erosion and Sedimentation**

The location, design, and use of the trail system and High Drive Road cause erosion and sedimentation that impacts soil, water resources, and greenback cutthroat trout habitat in Bear Creek.

Erosion and Sedimentation Indicators (Measures):

- *Miles of system roads and trails in the project area*
- *Miles of road and trail in the Water Influence Zone*
- *Miles of trail to be decommissioned (System and Non-System)*
- *Number of stream crossings in Bear Creek Basin*
- *Transportation system improvements and future maintenance needs*
- *Acres of bare ground disturbed in the Bear Creek Water Influence Zone*
- *Miles of stream habitat improvement*

**Recreation Experience**

Protection measures for the greenback cutthroat will impact recreation opportunities.

Indicators (Measures):

- *Miles of roads and trails (System and Non-System)*
- *Transportation system improvements*
- *Access to peaks surrounding the Project Area*
- *Acres available for off-trail recreation in the Project Area*
- *Changes to types of dispersed recreation*
- *Changes to recreation experience*

**Economic and Social**

Limiting access into the project area may cause economic impacts or disproportionately effect minority, low income populations (Environmental Justice) or persons with disabilities (ADA).

Indicators (Measures):

- *Miles of system roads and trails in the project area*
- *Changes of access disproportionately affecting minority, low income populations (Environmental Justice) or persons with disabilities (ADA).*

# Chapter 2: Proposed Action and Alternatives

The following alternatives were considered:

## 2.1 Alternative A (No Action Alternative)

If chosen, management of the project area would remain the same as it is currently being managed and the following conditions would exist:

### *Aquatic Species / Riparian Habitat / Watershed Health*

- Stream habitat conditions would not be improved for the greenback cutthroat trout.

### *Existing System Trails*

- Existing system trails would continue to be utilized with routine maintenance being performed.

### *New Trails and Reroutes*

- New trails or trail reroutes would not be constructed.

### *Non-system Trails to be Converted to National Forest System Trails*

- Non-system trails, Palmer and Buckhorn, would not be integrated into the official trail system.

### *Non-system Trails to be Decommissioned*

- Existing non-system routes would continue to be utilized.

### *High Drive*

- High Drive would remain seasonally open to motorized traffic with routine maintenance being performed. Repair work lead by the City of Colorado Springs through FEMA funding would continue.

### *Education/Information*

- Educational and interpretive signs would not be installed.

### *Regulations*

- Off-trail travel on National Forest System lands and El Paso County lands would continue in the Bear Creek basin. The existing ban of off- trail travel on Colorado Springs Utilities and City of Colorado Springs lands would continue.

- Over-snow vehicle use would continue on National Forest System lands in the Bear Creek Basin. The existing ban of over-snow vehicle use on City of Colorado Springs lands and El Paso County lands would continue.

- Camping on National Forest System lands would continue in the Bear Creek Basin. The existing ban on camping on City of Colorado Springs and El Paso County lands would continue.
- Open fires would be allowed on National Forest System lands in the project area. The existing ban on open fires on City of Colorado Springs and El Paso County lands would continue.
- Recreational shooting on National Forest System lands in the project area would continue. The existing ban on recreational shooting on City of Colorado Springs and El Paso County lands would continue.
- People and domestic animals (e.g., dogs, horses, pack animals, etc.) would continue to enter Bear Creek on National Forest System lands and City of Colorado Springs lands. The existing ban on swimming, bathing, or wading in any waters or waterways in any El Paso County park would continue.
- Domestic animals will continue to be off leash/unharnessed on Trail 666 on National Forest System land. The existing requirement for dogs to be on leash on City of Colorado Springs and El Paso County lands would continue.

### *Special Uses*

- Military helicopter landing zones would remain within the Bear Creek basin.

**Table 1: Proposed Transportation System: Alternative A.**

| Trail or Road | Miles |
|---|---|
| **380 (High Drive)** | **3.4** |
| **Motorized, full-size** | **3.4** |
| THE CITY OF COLORADO SPRINGS | 3.4 |
| **622 (Seven Bridges)** | **1.7** |
| **Non-motorized** | **1.7** |
| El PASO COUNTY | 0.1 |
| FOREST SERVICE | 1.6 |
| **622.A (Seven Bridges North Spur)** | **0.5** |
| **Non-motorized** | **0.5** |
| EL PASO COUNTY | 0.5 |
| **665 (Penrose)** | **1.1** |
| **Multiple-use, single track** | **1.1** |
| FOREST SERVICE | 1.1 |
| **666 (Bear Creek)** | **2.0** |
| **Non-motorized** | **2.0** |
| CITY OF COLORADO SPRINGS | 0.3 |
| FOREST SERVICE | 1.7 |
| **667 (Jones Park)** | **6.8** |
| **Multiple-use, single track** | **6.5** |
| EL PASO COUNTY | 2.5 |
| COLORADO SPRINGS UTILITIES | 0.3 |
| FOREST SERVICE | 3.8 |
| **Non-motorized** | **0.3** |
| COLORADO SPRINGS UTILITIES | 0.2 |
| FOREST SERVICE | 0.1 |
| **668 (Pipeline)** | **3.3** |
| **Multiple-use, single track** | **3.3** |
| EL PASO COUNTY | 0.8 |
| USDA FOREST SERVICE | 2.5 |
| **701 (Forester's)** | **4.0** |
| **Motorized, single track** | **4.0** |
| EL PASO COUNTY | 0.5 |
| FOREST SERVICE | 3.5 |
| **720 (Forester's Cutoff)** | **1.5** |
| **Multiple-use, single track** | **1.5** |
| EL PASO COUNTY | 1.2 |
| FOREST SERVICE | 0.3 |
| **720.A (Forester's Cutoff North Spur)** | **0.3** |
| **Multiple-use, single track** | **0.3** |
| EL PASO COUNTY | 0.3 |
| **Intemann** | **0.1** |
| **Non-motorized** | **0.1** |
| CITY OF COLORADO SPRINGS | 0.1 |
| **Palmer** | **1.5** |
| **Non-motorized** | **1.5** |
| CITY OF COLORADO SPRINGS | 1.5 |
| **Non-system** | **9.6** |
| **Multiple-use, Non-system** | **0.6** |
| EL PASO COUNTY | 0.6 |
| FOREST SERVICE | 0.0 |
| **Non-motorized, Non-system** | **9.0** |
| CITY OF COLORADO SPRINGS | 1.5 |
| EL PASO COUNTY | 1.8 |
| PRIVATE | 0.4 |
| FOREST SERVICE | 5.2 |

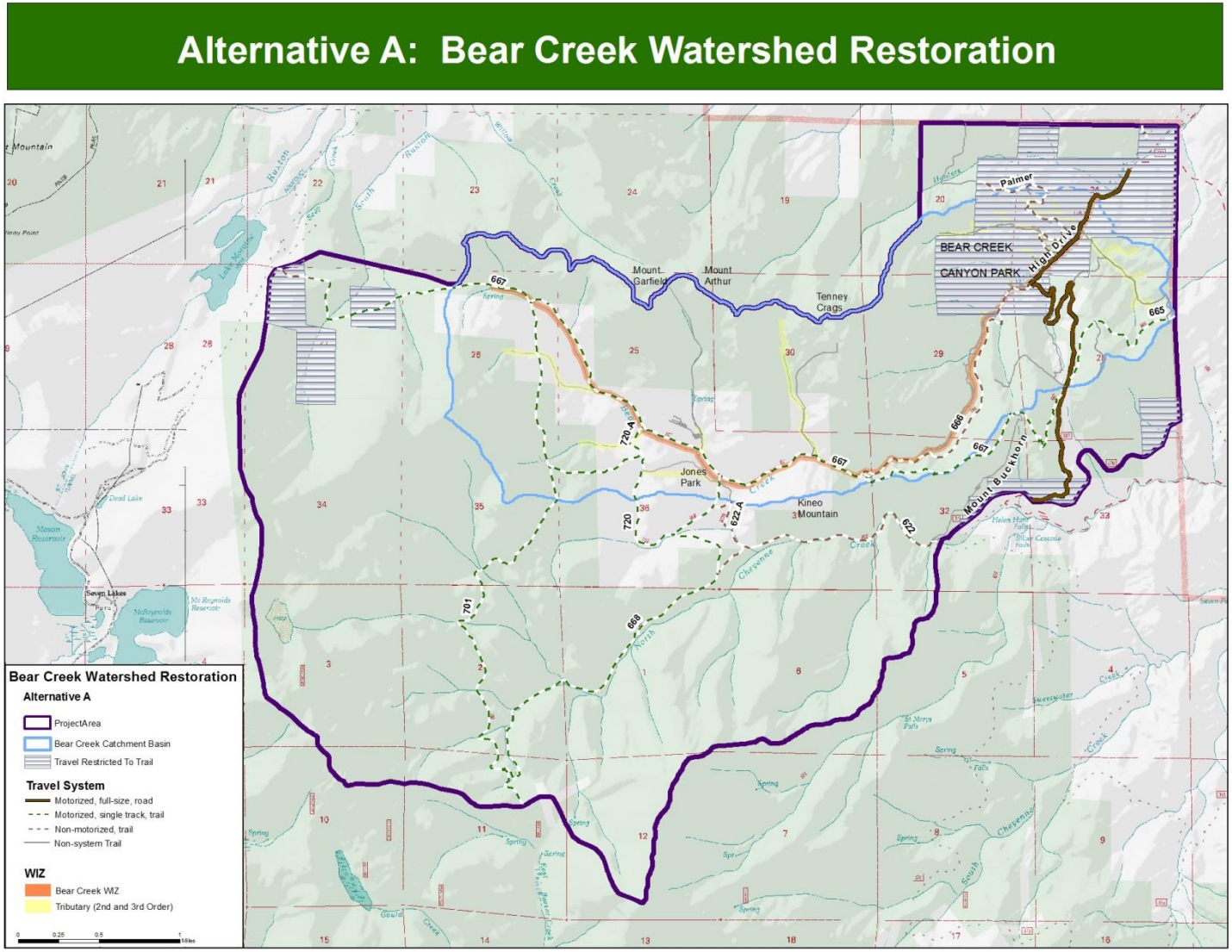


**Figure 3: Alternative A**

## 2.2 ALTERNATIVE B (PROPOSED ACTION)

If chosen, Alternative B would improve habitat for the greenback cutthroat trout and increase the sustainability of the trail system within and leading into the Bear Creek basin.

### *AQUATIC SPECIES / RIPARIAN HABITAT / WATERSHED HEALTH*

Design and implement stream, riparian, and hill slope improvement projects, including portions of the stream above and below the reaches currently occupied by greenback cutthroat trout. Alternative B objectives will be achieved by implementing proven instream and upland restoration techniques. Existing on-site rock and logs will be utilized where available. Up to 100 trees per mile will be cut on site or nearby to use for stream and trail rehabilitation work. Trees to be cut will generally be between 10 to 14 inches diameter at breast height. Stream habitat improvements will occur within 2.11 miles of stream on National Forest System, 1.70 miles on City of Colorado Springs and 2.45 miles on El Paso County lands.

The main objectives will be to:

- Improve spawning habitat, overwintering pool habitat, and velocity shelters for greenback cutthroat trout
- Re-establish a stable stream dimension, pattern and profile that transports sediment
- Improve water quality (sediment and temperature)
- Reduce sedimentation from tributaries
- Reduce contributing sediment from hillslope/rill/gully erosion
- Reduce road/trail stream hydrologic connectivity
- Decommission and rehabilitate unauthorized campsites and mining activities
- Utilize locally collected native plant seeds as available

Instream - Restoration techniques include:

- *Below the 666 (Bear Creek) Trailhead, in the lower 0.7 miles of Bear Creek, on City of Colorado Springs lands: Construction of habitat structures and improvements construction will utilize a backhoe, excavator, front-end loader, various trucks for hauling material and other heavy equipment. Structures might include rock/log vanes, j-hooks, rock/log cross vanes, toe wood structures, sod mats, woody transplants, and rock/log step pool structures.*
- *From the intersection of Trails 720.A (Forester's Cutoff North Spur) and 667 (Jones Park) to the 666 (Bear Creek) Trailhead: Construction of habitat structure and improvements will mostly be completed by manual methods. Where accessible, small mechanized*

*equipment, such as mini excavators, or similar type of equipment may be used to move rock and log material.*

- *Creating a riparian buffer and bankfull bench to reduce hillslope and trail sediment delivery into Bear Creek.*
- *Deepening existing pool habitats, remove excess sediment, and reconstruct pool habitat to maintain pool depth comparable to reference stream conditions.*
- *Increasing the number of pools to provide overwintering habitat for trout.*
- *Realigning existing rocks and logs or place rock or logs to aid in the formation of plunge pool habitat.*
- *Stabilizing eroding stream banks and reducing lateral stream migration with nearby trees, rocks, sod mats and other native riparian vegetation.*
- *Utilizing rocks and trees to mimic reference stream features, including a series of small vanes, J-hooks and cross vanes.*
- *Reducing the width to depth ratios to align with reference stream conditions.*
- *Providing floodplain access for flood flows.*
- *Reestablishing vegetated bankfull benches and toe slope stabilization.*
- *Improving the fish barrier (the lower barrier that prevents other fish species from moving upstream) in Bear Creek on City of Colorado Springs lands and constructing additional barriers, as needed.*

Upland - Restoration techniques include:

- *Stabilizing hill slopes with erosion control matting, re-vegetation, sills, log erosion barriers or similar techniques.*
- *Stabilizing ephemeral drainages with emphasis on the treatment of head cuts with revegetation, sediment catchments, and boulder and tree placement.*

### *EXISTING SYSTEM TRAILS*

- For existing system trails that remain open, perform maintenance, reconstruction, storm water drainage improvements or re-alignment as needed to minimize erosion risk and sediment production.

- For existing trails that will be closed, physically block access and decommission[4] the trail surface, cut, and fill slopes to minimize erosion risk and sediment production.
- Install bridges on trails at stream crossings that span bankfull flows
- Improve ground based trail signage.
- Trail 622 (Seven Bridges)
    - *Maintain entire length for non-motorized use (0.1 miles on El Paso County and 1.6 miles on National Forest System lands).*
- Trail 622.A (Seven Bridges North Spur)
    - *Convert 0.2 miles of trail on El Paso County land from non-motorized to authorize multiple-use from the 667 (Jones Park) re-route (along south side of Kineo) to 668 (Pipeline).*
    - *Decommission 0.3 miles of trail on El Paso County land from the 667 (Jones Park) reroute (along south side of Kineo) to the connection with 622 (Seven Bridges).*
- Trail 665 (Penrose)
    - *Maintain entire length of 1.1 miles for multiple-use between High Drive and the National Forest System boundary (1.1 miles on National Forest System lands).*
- Trail 666 (Bear Creek)
    - *Maintain 1.5 miles for non-motorized use from High Drive to the waterfall viewing point moving the trail out of the Water Influence Zone to the extent practical. (0.3 miles on City of Colorado Springs lands and 1.2 miles on National Forest System lands).*
    - *Decommission 0.55 miles of trail on National Forest System lands from the waterfall viewing point to Trail 667 (Jones Park).*
- Trail 667 (Jones Park)
    - *Maintain 2.8 miles for multiple-use from High Drive to the 667 (Jones Park) re-route near Kineo Mountain and from the re-route of 667 (west portion) to the Colorado Springs Utilities South Slope property (0.3 miles on Colorado Springs Utilities and 2.5 miles on National Forest System lands).*

[4] Management actions may include reestablishing natural drainage patterns and stream channels, out-sloping and filling down cut trail surfaces, scattering debris on the trail, ripping the soil and planting vegetation on the trail bed, blocking the entrance to a trail, and posting closure signs. Complete decommissioning may require several efforts over multiple years.

- *Maintain 0.3 miles for non-motorized use from the gate at the western end of the trail to the Colorado Springs Utilities proposed Lake Moraine Trail (0.2 miles on Colorado Springs Utilities and 0.1 on National Forest System lands).*
- *Decommission 3.7 miles from the 667 re-route (near Kineo Mountain) to the re-route of Trail 667 (west portion) (2.5 miles on El Paso County and 1.2 miles on National Forest System lands).*

- Trail 668 (Pipeline)
  - *Maintain 3.1 miles for multiple-use just north of the Frosty Park trailhead (at the intersection with 701) to the intersection with the 667 (Jones Park) reroute (middle portion), moving the trail out of the Water Influence Zone to the extent practical (0.6 miles on El Paso County and 2.5 miles on National Forest System lands).*
  - *Decommission 0.2 miles on El Paso County land from the new re-route of 667 (middle portion) to the decommissioned section of 667 (Jones Park) near Bear Creek.*

- Trail 701 (Forester's)
  - *Maintain 2.9 miles for multiple-use on National Forest System lands from the Frosty Park trailhead to the re-route of Trail 667 (near Trail 720.A).*
  - *Maintain 0.3 miles from re-route of Trail 667 (near Trail 720 heading SE) to new reroute of 667 (Jones Park) heading NW. Re-number this section as 667 (Jones Park).*
  - *Decommission 0.7 miles from the re-route of Trail 667 (Jones Park) to the existing 667 (west portion) (0.5 miles on El Paso County and 0.2 miles on National Forest System lands).*

- Trail 720 (Forester's Cutoff)
  - *Decommission the entire length of 1.5 miles. (1.2 miles on El Paso County and 0.3 miles on National Forest System lands).*

- Trail 720.A (Forester's Cutoff North Spur)
  - *Decommission the entire 0.3 miles of the trail on El Paso County land.*

- Intemann Trail
  - *Maintain entire length of 0.1 miles of trail on City of Colorado Springs lands for non-motorized use between the project boundary and Gold Camp Road.*

- Palmer Trail
  - *Maintain entire length of 1.5 miles of the trail on City of Colorado Springs lands for non-motorized use.*

### *NEW TRAILS AND REROUTES*[5]

- Install new trail signs where needed.

- New Trail 667 (Jones Park)
    - *Construct 1.2 miles of trail reroute for multiple-use from Trail 667 (Jones Park) to Trail 622.A (Seven Bridges North Spur) (0.3 on El Paso County and 0 .9 on National Forest System lands).*
    - *Construct 2.5 miles of trail reroute for multiple-use from Trail 668 (Pipeline) to Trail 701. (1.8 miles on El Paso County and 0.7 miles on National Forest System lands).*
    - *Construct 1.4 miles of trail reroute for multiple-use from Trail 701 (Forester's) to original existing western portion of Trail 667. (1.0 miles on El Paso County and 0.4 miles on National Forest System lands).*

- New Mount Buckhorn Trail
    - *Construct 0.5 miles of trail on National Forest System lands for non-motorized use from Trail 666 (Bear Creek) to Trail 667 (Jones Park).*

- Jones Park Trail
    - *Construct 0.7 miles of trail on El Paso County land for non-motorized use from Trail 668 (Pipeline) to Loud's Cabin.*

### *NON-SYSTEM TRAILS TO BE CONVERTED TO NATIONAL FOREST SYSTEM TRAILS*

- Convert Buckhorn and Palmer non-system trails to National Forest System Trails.

    - *Mount Buckhorn Trail (from trail 667 to trail 622): Include 1.2 miles of existing trail on National Forest System lands in official trail system for non-motorized use.*

    - *Palmer Trail: Include 0.7 miles of existing trail on National Forest System lands in official trail system for non-motorized use between the authorized sections of the Palmer trail on City of Colorado Springs lands.*

[5] Although new trail and reroute locations have been ground-truthed, it may be determined during implementation that site-specific modifications are warranted to meet the main objectives of the project. These site-specific modifications fall within the effects considered and covered under this decision and may require further consultation by project specialists.

### *NON-SYSTEM TRAILS TO BE DECOMMISSIONED*

- Close, decommission, and physically block access to all non-system routes within the Bear Creek basin and those that lead into the basin.
    - *9.3 miles of non-system GPS recorded trails are located in the Bear Creek basin. Any additional non-inventoried non-system trails found during project implementation will also be decommissioned. The decommissioning of additional non-inventoried trails is within the scope of this decision, but depending on decommissioning locations, it may require additional surveys and coordination with the project engineer, hydrologist, wildlife biologist, or archeologist. (1.5 miles on City of Colorado Springs lands, 2.5 miles on El Paso County and 5.3 miles on National Forest System lands)*

### *HIGH DRIVE*

- Convert High Drive to administrative use only for motorized traffic. Non-motorized use will continue to be allowed.
- Implement the recommendations of the High Drive Report (CH2MHill 2013) as further refined in the High Drive preliminary plans developed by the City of Colorado Springs (2015) to reduce sedimentation from High Drive into Bear Creek on the portion of the road that runs parallel to Bear Creek.

    *• Identify missing/buried culverts.*

    *• Repair or install new culverts where missing/buried culverts are found.*

    *• Place roadside markers on each side of the road to identify culvert locations and alignments.*

    *• Remove sediment from all culverts, and modify to minimize future sediment deposition.*

    *• Redefine roadside ditches and increase the ditch capacity at roadway transition areas to minimize flow across the road.*

    *• Remove sediment berms along the road shoulders, install guardrail if needed for safety.*

    *• Install local sediment traps.*

    *• Increase culvert sizes, as needed, to minimize bypass flows at strategic locations (such as at switchbacks).*

*• Install additional culverts or steepen existing culverts if culvert plugging continues to occur.*

*• Install stabilized ditches and stabilized rundown channels where needed, such as to convey combined flows into a regional sediment trap. Utilize concrete, riprap, and other features where determined necessary and capable of withstanding the impacts from ditch grading equipment.*

*• Stabilize erosive upland areas on National Forest System lands via use of erosion control features and seeding using local native plants from approved seed mixes or from future plantings. Non-native plant mixes may be necessary for short term stabilization, but must be approved by weed and botany specialists prior to use.*

• Stabilize erosive gullies where needed to coincide with, the improved drainage system and corresponding flows.

*• Decrease the road width where determined necessary and feasible and re-establish natural vegetation over the disturbed areas of the roadway shoulder.*

*• Create new ditches to facilitate movement of water off the road surface.*

*• The overall project intent is to reduce stream sedimentation from High Drive run-off. Should the recommendations provided by CH2MHill not provide an acceptable decrease in High Drive sediment transport, additional infrastructure beyond CH2MHill's recommendations may be necessary to decrease current sedimentation from High Drive. This work is considered within the scope of this analysis but may require additional surveys and coordination with the project engineer, hydrologist, wildlife biologist, and archeologist.*

### *EDUCATION/INFORMATION*

- Install eight interpretive and regulation signs at four sites on National Forest System, two on El Paso County, and two on City of Colorado Springs lands (Figure 4).

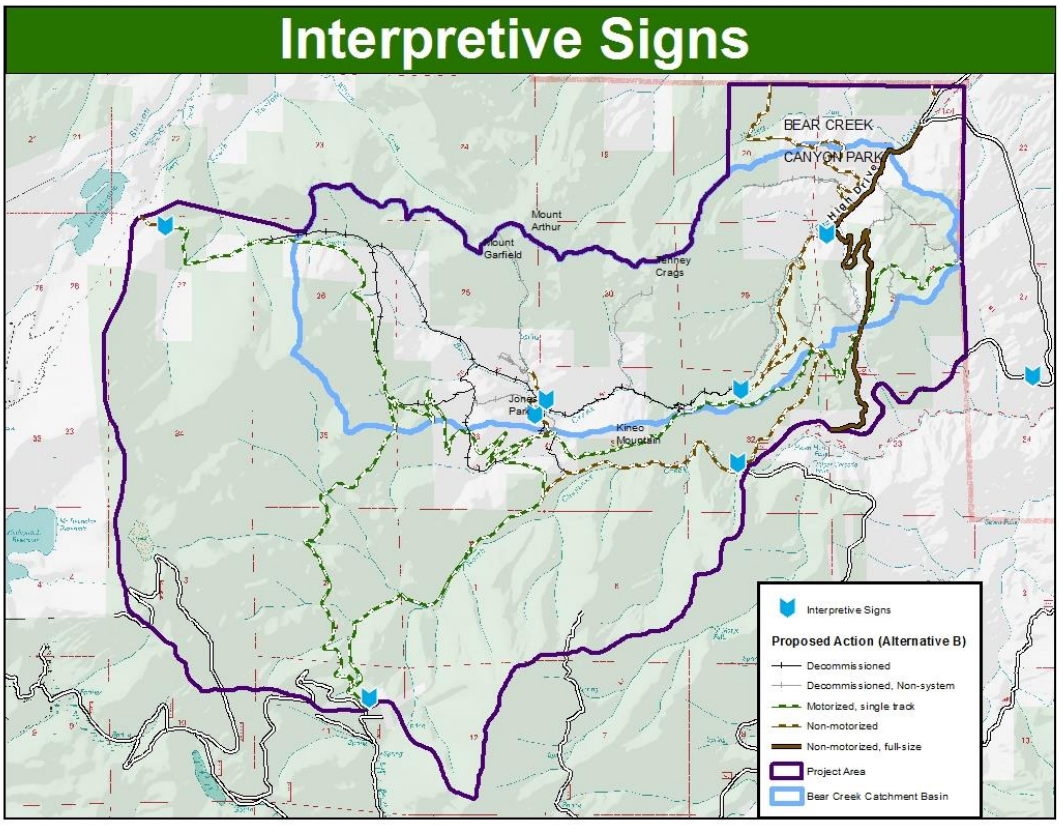


**Figure 4: Interpretive Sign Locations**

### *REGULATIONS*

- Institute a Forest Order/rule[6] prohibiting public access off system routes in the Bear Creek Basin on National Forest System and El Paso County lands, with the exception of small areas surrounding the summit of peaks on the northern and southern boundary of the basin (Figure 5). Continue the existing ban of off-trail travel on City of Colorado Springs lands.

- Institute a Forest Order prohibiting over-snow vehicle use on National Forest System lands in the Bear Creek Basin. Continue existing ban of over-snow vehicle use on City of Colorado Springs and El Paso County lands

- Institute a Forest Order prohibiting camping on National Forest System lands in the Bear Creek Basin. Continue the existing ban on camping on City of Colorado Springs lands and El Paso County lands.

[6] The Forest Service utilizes Forest Orders to institute regulations on National Forest System Lands, while rules are used to institute regulations on the City of Colorado Springs and El Paso County jurisdictions.

- Institute a Forest Order prohibiting open fires on National Forest System lands in the project area. Continue the existing ban on open fires on City of Colorado Springs lands and El Paso County lands.
- Institute a Forest Order prohibiting recreational shooting on National Forest System lands to extend to the entire project area. Continue the existing ban on recreational shooting on City of Colorado Springs lands and El Paso County lands.
- Institute a Forest Order/rule banning people and domestic animals (i.e. dogs, horses, pack animals, etc.) from entering or being in Bear Creek and its tributaries on National Forest System lands and City of Colorado Springs lands. Continue the existing ban on being in Bear Creek on El Paso County lands.
- Institute a Forest Order requiring domestic animals be leashed or harnessed on Trail 666 (Bear Creek) and the proposed new Mount Buckhorn Trail within the Bear Creek Basin on National Forest System lands. Continue the requirement for dogs to be on leash on City of Colorado Springs lands and El Paso County lands.

### *Special Uses*

- Eliminate the four military helicopter landing zones in the Bear Creek Watershed.

## Table 2: Proposed Transportation System: Alternative B

| Road or Trail | Miles | | Road or Trail | Miles |
|---|---|---|---|---|
| **380 (High Drive)** | **3.4** | | **720 (Forester's Cutoff)** | **1.5** |
| **Non-Motorized, full-size** | **3.4** | | **Decommissioned** | **1.5** |
| CITY OF COLORADO SPRINGS | 3.4 | | EL PASO COUNTY | 1.2 |
| **622 (Seven Bridges)** | **1.7** | | FOREST SERVICE | 0.3 |
| **Non-motorized** | **1.7** | | **720.A (Forester's Cutoff North Spur)** | **0.3** |
| EL PASO COUNTY | 0.1 | | **Decommissioned** | **0.3** |
| FOREST SERVICE | 1.6 | | EL PASO COUNTY | 0.3 |
| **622.A (Seven Bridges North Spur)** | **0.5** | | **Intemann** | **0.1** |
| **Decommissioned** | **0.3** | | **Non-motorized** | **0.1** |
| EL PASO COUNTY | 0.3 | | CITY OF COLORADO SPRINGS | 0.1 |
| **Multiple-use, single track** | **0.2** | | **Palmer** | **1.5** |
| EL PASO COUNTY | 0.2 | | **Non-motorized** | **1.5** |
| **665 (Penrose)** | **1.1** | | CITY OF COLORADO SPRINGS | 1.5 |
| **Multiple-use, single track** | **1.1** | | **(Non-System) Palmer** | **0.7** |
| FOREST SERVICE | 1.1 | | **Non-motorized** | **0.7** |
| **666 (Bear Creek)** | **2.0** | | FOREST SERVICE | 0.7 |
| **Decommissioned** | **0.5** | | **(New) 667 Reroute,** *Close to 720* | **2.5** |
| FOREST SERVICE | 0.5 | | **Multiple-use, single track** | **2.5** |
| **Non-motorized** | **1.5** | | EL PASO COUNTY | 1.8 |
| CITY OF COLORADO SPRINGS | 0.3 | | FOREST SERVICE | 0.7 |
| FOREST SERVICE | 1.2 | | **(New) 667 Reroute,** *Close to 701* | **1.4** |
| **667 (Jones Park)** | **6.8** | | **Multiple-use, single track** | **1.4** |
| **Decommissioned** | **3.7** | | EL PASO COUNTY | 1.0 |
| EL PASO COUNTY | 2.5 | | FOREST SERVICE | 0.5 |
| FOREST SERVICE | 1.2 | | **(New) 667 Reroute,** *Kineo Highline* | **1.2** |
| **Multiple-use, single track** | **2.8** | | **Multiple-use, single track** | **1.2** |
| COLORADO SPRINGS UTILITIES | 0.3 | | EL PASO COUNTY | 0.3 |
| FOREST SERVICE | 2.5 | | FOREST SERVICE | 0.9 |
| **Non-motorized** | **0.3** | | **(New) Jones Park** | **0.7** |
| COLORADO SPRINGS UTILITIES | 0.2 | | **Non-motorized** | **0.7** |
| FOREST SERVICE | 0.1 | | EL PASO COUNTY | 0.7 |
| **668 (Pipeline)** | **3.3** | | **(New) Mount Buckhorn** | **0.5** |
| **Decommissioned** | **0.2** | | **Non-motorized** | **0.5** |
| EL PASO COUNTY | 0.2 | | FOREST SERVICE | 0.5 |
| **Multiple-use, single track** | 3.1 | | **(Non-System) Mount Buckhorn** | **1.2** |
| EL PASO COUNTY | **0.6** | | **Non-motorized** | **1.2** |
| FOREST SERVICE | 2.5 | | FOREST SERVICE | 1.2 |
| **701 (Forester's)** | **4.0** | | **Non-system** | **9.6** |
| **Decommissioned** | **0.7** | | **Decommissioned, Non-system** | **9.6** |
| EL PASO COUNTY | 0.5 | | CITY OF COLORADO SPRINGS | 1.5 |
| FOREST SERVICE | 0.2 | | EL PASO COUNTY | 2.4 |
| **Multiple-use, single track** | **3.2** | | PRIVATE | 0.4 |
| FOREST SERVICE | 3.2 | | FOREST SERVICE | 5.3 |

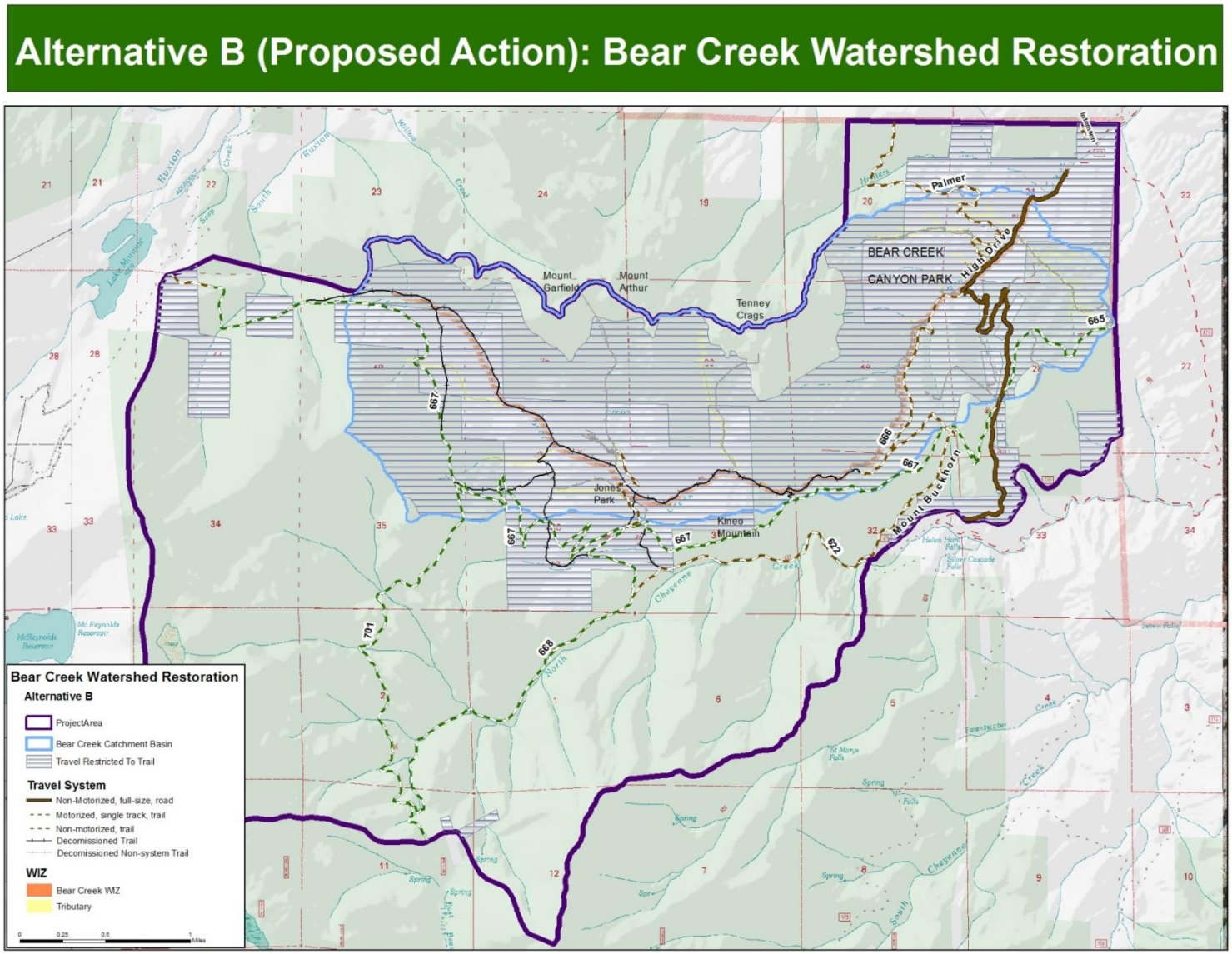


**Figure 5: Alternative B (Proposed Action)**

## 2.3 ALTERNATIVE C

In addition to actions proposed in Alternative B, Alternative C proposes:

- On National Forest System lands, limit public access in the Bear Creek Basin to designated routes. Continue the existing ban of off-trail travel on City of Colorado Springs and Colorado Springs Utilities lands.
- Decommission the entire length of Trail 666 (Bear Creek) (0.3 miles on City of Colorado Springs lands and 1.7 miles on National Forest System lands).
- Do not build the new Mount Buckhorn trail or the new trail into Jones Park.

## 2.4 ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

Many alternative trail options were submitted. Trail options were explored by the interdisciplinary team and with several professional trail builders. The alternate trail options submitted, but not incorporated were dismissed because they did not meet the purpose and need of the project based on unsustainability, because they would cause sedimentation within the Bear Creek Watershed or would result in a trail density that was undesirable. The trail density and locations in the proposed action best meet the objective of protecting the greenback cutthroat trout, while allowing for appropriate and sustainable recreation in this very popular area. Trail options submitted are listed below. For more detailed information on each option see the Response to Comments in Appendix C.

- Parallel trails for motorized and non-motorized users
- Build a new trail or reroute 666 (Bear Creek) and 667 (Jones Park) outside the Bear Creek water influence zone but still within the Bear Creek watershed
- Keep Trails 720 (Forester's Cutoff), 622 (Seven Bridges), 622.A (Seven Bridges North Spur), 667 (Jones Park), 668 (Pipeline), and 701 (Forester's) open
- Reroute of 667 (Jones Park) on the north side of Kineo
- Eliminate the reroute of Trail 667 (Jones Park) over Kineo
- Eliminate the reroute of Trail 701
- Incorporate the non-system trails, Sesame Canyon, Mays Peak, Hunters Run, Scout Camp, the trail at the base of Josephine Falls, and St. Mary's Trails into official trail system
- A new trail from the intersection of Trail 667 (Jones Park) and Buckhorn down to the Bear Creek gate on High Drive (to allow non-motorized loop)
- A new trail going east from the intersection with Trail 622.A (Seven Bridges North Spur) higher up on the Kineo slope
- A new trail connecting Trail 720 (Forester's Cutoff) and Trail 668 (Pipeline)
- A new trail that parallels Trail 622 (Seven Bridges) and Trail 668 (Pipeline) closer to North Cheyenne Creek

- A new trail that would mirror the existing Trail 665 (Penrose) Trail in function; however, the trails would be one-way trails, either up or down
- Alternate reroute options for Trail 720
- A new connection from Trail 622 (Seven Bridges) across Bear Creek and up over to Palmer trail.
- A trail to the top of Mays Peak
- A new trail connection from lower Captain Jacks to Stephanie's upper trailhead
- A new trail to access Mt. Kineo from the new Trail 667
- A new trail from the Palmer Trail to access Tenney Crags
- A new trail from the Palmer Trail to a point north of Mt Garfield, which would then connect to the new Trail 667 (Jones Park)
- A different trail alignment for the new Mount Buckhorn Trail
- A new trail to the North Peaks (Garfield, Arthur, Tenney, and Tuckaway)
- Many less specific trail options were submitted

Many commenters suggested different trails should be multiple-use or non-motorized. All trails within and leading into Bear Creek were explored for sustainability and appropriate use by the interdisciplinary team and with several professional trail builders. The alternate trail uses submitted, but not incorporated were dismissed because they did not meet the purpose and need of the project based on unsustainability or public safety concerns. The action alternatives (i.e., B and C) represent the most appropriate uses for each trail. Trail use options submitted are listed below. For more detailed information on each option see the Response to Comments in Appendix C.

- Trails closed to motorized traffic, not bikers or hikers
- Trails closed to non-motorized use
- Close trails to wheeled vehicles
- Close trails to horses
- Designation of trails as wheeled or non-wheeled
- Pave some trails for use by disabled persons
- Keep Trails 666 (Bear Creek) and 667 (Jones Park) open to non-motorized use
- Exclude all motorized traffic from the Bear Creek watershed
- Multiple-use on Buckhorn Trail

Several commenters suggested that High Drive should closed to all users, decommissioned, paved or closed to full size vehicles while being left open to motorcycles. Closing High Drive to all use would eliminate access to Trail 666 (Bear Creek) and the Palmer Trail. It was included in the analysis and was withdrawn from further consideration because access to these trails meets the purpose and need of the project. Paving of High Drive is not desirable at this time. The proposed drainage improvements and sediment basins are expected to alleviate sediment transport from High Drive into Bear Creek. Paving of High Drive was included in the analysis and was withdrawn from further consideration because it does not meet the purpose and need of the project. Allowing Off-Highway Vehicles on High Drive (license plated or plate less) was considered and explored by the interdisciplinary team. It was included in the analysis and was

withdrawn from further consideration because of concerns for public safety. It is desirable to keep High Drive maintained and open for non-motorized recreation, historic enjoyment, and interpretive purposes.

A few commenters suggested that the off-trail travel restriction was not necessary. The necessity of this restriction was discussed by the interdisciplinary team and it was determined to be necessary to meet the purpose and need. Restrictions to off-trail travel would serve several purposes in this area. A prohibition of off-trail travel on National Forest Service lands will allow for consistent management and less confusion for the public. On City and El Paso County lands, off-trail travel is prohibited. Within the Bear Creek watershed you can travel between the three landowners in less than 2 miles. It also serves to keep non-system trails from being unintentionally created. Due to the steep nature of this canyon many people who travel off-trail within the watershed are likely to follow the stream. This traffic would eventually lead to the unintentional development of a non-system trail which would have negative impacts on the greenback cutthroat trout. The restriction also discourages reopening of the closed portion of Trail 666 (Bear Creek). Removal of the off-trail travel restriction was included in the analysis and was withdrawn from further consideration because it would cause sedimentation in the Bear Creek Watershed and does not meet the purpose and need of the project.

## Table 3: Proposed Transportation System: Alternative C

| | |
|---|---|
| **380 (High Drive)** | **3.4** |
| **Non-Motorized, full-size** | **3.4** |
| CITY OF COLORADO SPRINGS | 3.4 |
| **622 (Seven Bridges)** | **1.7** |
| **Non-motorized** | **1.7** |
| EL PASO COUNTY | 0.1 |
| FOREST SERVICE | 1.6 |
| **622.A (Seven Bridges North Spur)** | **0.5** |
| **Decommissioned** | **0.3** |
| EL PASO COUNTY | 0.3 |
| **Multiple-use, single track** | **0.2** |
| EL PASO COUNTY | 0.2 |
| **665 (Penrose)** | **1.1** |
| **Multiple-use, single track** | **1.1** |
| FOREST SERVICE | 1.1 |
| **666 (Bear Creek)** | **2.0** |
| **Decommissioned** | **2.0** |
| CITY OF COLORADO SPRINGS | 0.3 |
| FOREST SERVICE | 1.7 |
| **667 (Jones Park)** | **6.8** |
| **Decommissioned** | **3.7** |
| EL PASO COUNTY | 2.5 |
| FOREST SERVICE | 1.2 |
| **Multiple-use, single track** | **2.8** |
| COLORADO SPRINGS UTILITIES | 0.3 |
| FOREST SERVICE | 2.5 |
| **Non-motorized** | 0.3 |
| COLORADO SPRINGS UTILITIES | **0.2** |
| FOREST SERVICE | 0.1 |
| **668 (Pipeline)** | **3.3** |
| **Decommissioned** | **0.2** |
| EL PASO COUNTY | 0.2 |
| **Multiple-use, single track** | 3.1 |
| EL PASO COUNTY | **0.6** |
| FOREST SERVICE | 2.5 |
| **701 (Forester's)** | **4.0** |
| **Decommissioned** | **0.7** |
| EL PASO COUNTY | 0.5 |
| FOREST SERVICE | 0.2 |
| **Multiple-use, single track** | **3.2** |
| FOREST SERVICE | 3.2 |

| | |
|---|---|
| **720 (Forester's Cutoff)** | **1.5** |
| **Decommissioned** | **1.5** |
| EL PASO COUNTY | 1.2 |
| FOREST SERVICE | 0.3 |
| **720.A (Forester's Cutoff North Spur)** | **0.3** |
| **Decommissioned** | **0.3** |
| EL PASO COUNTY | 0.3 |
| **Intemann** | **0.1** |
| **Non-motorized** | **0.1** |
| CITY OF COLORADO SPRINGS | 0.1 |
| **Palmer** | **1.5** |
| **Non-motorized** | **1.5** |
| CITY OF COLORADO SPRINGS | 1.5 |
| **(Non-System) Palmer** | **0.7** |
| **Non-motorized** | **0.7** |
| FOREST SERVICE | 0.7 |
| **(New) 667 Reroute,** *Close to 720* | **2.5** |
| **Multiple-use, single track** | **2.5** |
| EL PASO COUNTY | 1.8 |
| FOREST SERVICE | 0.7 |
| **(New) 667 Reroute,** *Close to 701* | **1.4** |
| **Multiple-use, single track** | **1.4** |
| EL PASO COUNTY | 1.0 |
| FOREST SERVICE | 0.5 |
| | |
| **(New) 667 Reroute,** *Kineo Highline* | **1.2** |
| **Multiple-use, single track** | **1.2** |
| EL PASO COUNTY | 0.3 |
| FOREST SERVICE | 0.9 |
| **(Non-System) Mount Buckhorn** | **1.2** |
| **Non-motorized** | **1.2** |
| FOREST SERVICE | 1.2 |
| **Non-system** | **9.6** |
| **Decommissioned, Non-system** | **9.6** |
| CITY OF COLORADO SPRINGS | 1.5 |
| EL PASO COUNTY | 2.4 |
| PRIVATE | 0.4 |
| FOREST SERVICE | 5.3 |

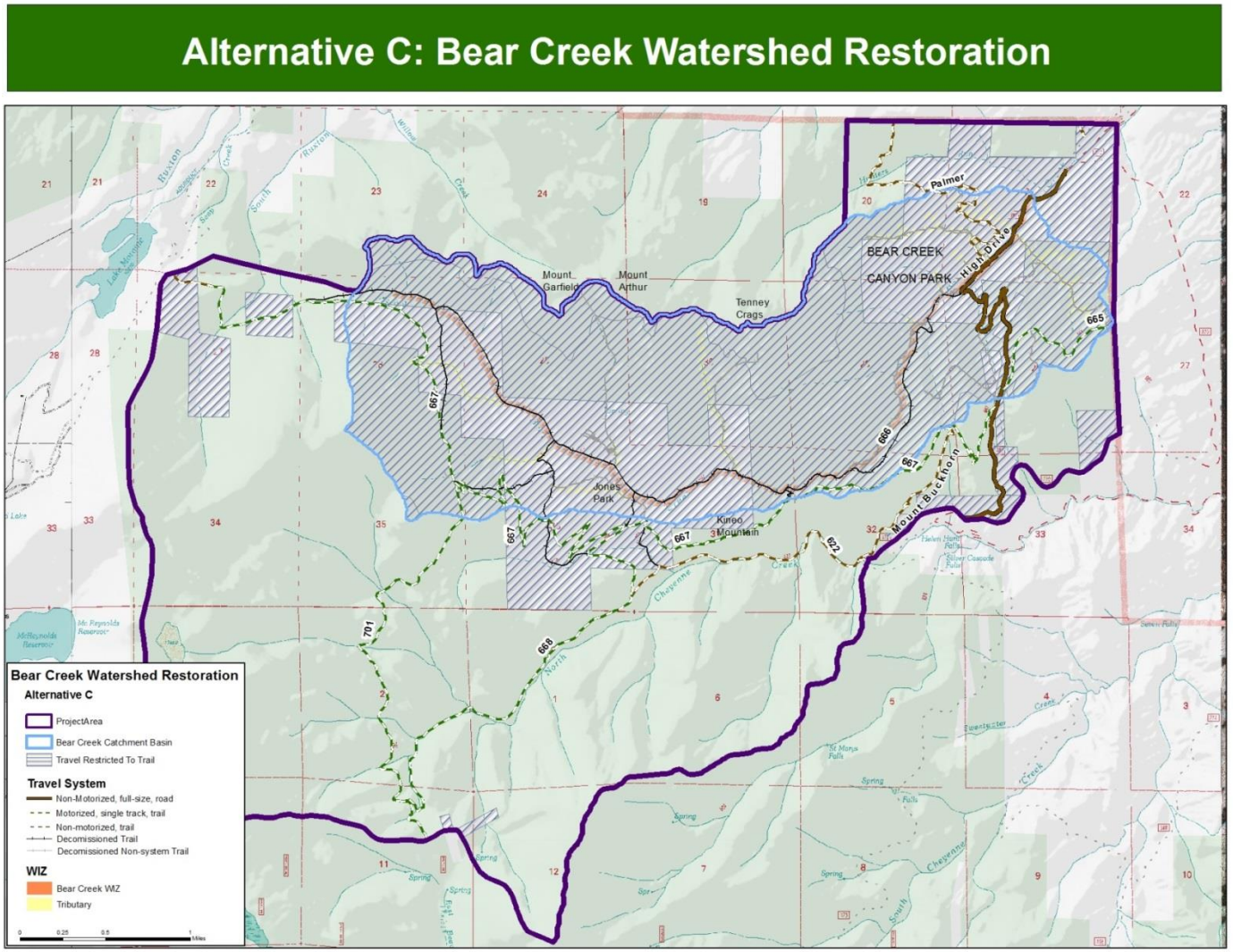


**Figure 6: Alternative C**

## 2.5 COMPARISON OF ALTERNATIVES

### Table 4: Comparison of Miles of System Travels Under Each Alternative

| Inside Bear Creek Basin | | | | Outside Bear Creek Basin | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | Alt A | Alt B | Alt C | Alt A | Alt B | Alt C | Alt A | Alt B | Alt C |
| **THE CITY OF COLORADO SPRINGS** | | | | | | | | | |
| Motorized Road | 2.2 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 | 3.4 | 0.0 | 0.0 |
| Non-motorized Road | 0.0 | 2.2 | 2.2 | 0.0 | 1.2 | 1.2 | 0.0 | 3.4 | 3.4 |
| Non-motorized Trail | 1.4 | 1.4 | 1.1 | 0.5 | 0.5 | 0.5 | 1.9 | 1.9 | 1.6 |
| **COLORADO SPRINGS UTILITIES** | | | | | | | | | |
| Multiple-use Single Track Trail | 0.0 | 0.0 | 0.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Non-motorized Trail | 0.0 | 0.0 | 0.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| **EL PASO COUNTY** | | | | | | | | | |
| Multiple-use Single Track Trail | 4.1 | 1.1 | 1.1 | 1.2 | 2.7 | 2.7 | 5.3 | 3.8 | 3.8 |
| Non-motorized Trail | 1.8 | 0.7 | 0.0 | 0.5 | 0.1 | 0.1 | 2.3 | 0.8 | 0.1 |
| **FOREST SERVICE** | | | | | | | | | |
| Multiple-use Single Track Trail | 3.8 | 3.3 | 3.3 | 7.3 | 8.1 | 8.1 | 11.1 | 11.4 | 11.4 |
| Non-motorized Trail | 1.7 | 1.7 | 0.0 | 1.7 | 3.6 | 3.6 | 3.4 | 5.3 | 3.6 |
| **TOTAL** | **14.9** | **10.4** | **7.7** | **12.9** | **16.7** | **16.7** | **27.8** | **27.0** | **24.3** |

**Table 5: Comparison of Regulations**

| | Alternative A | Alternative B | Alternative C |
|---|---|---|---|
| Non-motorized travel allowed off system trails on the City of Colorado Springs Lands within the Bear Creek basin | **No** | **No** | **No** |
| Motorized travel allowed off system trails on the City of Colorado Springs Lands within the Bear Creek basin | **No** | **No** | **No** |
| Non-motorized travel allowed off system trails on El Paso County Lands (See Figures 3, 5 and 6) within the Bear Creek basin | **Yes** | **No** (summits of peaks surrounding the basin excluded) | **No** |
| Motorized travel allowed off system trails on El Paso County Lands within the Bear Creek basin | **No** | **No** | **No** |
| Non-motorized travel allowed off system trails on National Forest System lands within the Bear Creek basin (See Figures 3, 5 and 6) | **Yes** | **No** (summits of peaks surrounding the basin excluded) | **No** |
| Motorized travel allowed off system trails on National Forest System lands within the Bear Creek basin | **No** | **No** | **No** |
| Over-snow vehicles allowed on the City of Colorado Springs and El Paso County lands within the Bear Creek Watershed or project area | **No** | **No** | **No** |
| Over-snow vehicles allowed on National Forest Lands within the Bear Creek Watershed | **Yes** | **No** | **No** |
| Camping allowed on the City of Colorado Springs and El Paso County lands within the Bear Creek Watershed or project area | **No** | **No** | **No** |
| Camping allowed on National Forest Lands within the Bear Creek Watershed | **Yes** | **No** | **No** |

| | | | |
|---|---|---|---|
| Open fires allowed on the City of Colorado Springs and El Paso County lands within the project area | **No** | **No** | **No** |
| Open fires allowed on National Forest lands within the project area | **Yes** | **No** | **No** |
| Recreational shooting allowed on the City of Colorado Springs and El Paso County lands within the project area | **No** | **No** | **No** |
| Recreational shooting allowed on National Forest lands within the project area | **Yes**[7] | **No** | **No** |
| People and domestic animals can enter or be in Bear Creek and it's tributaries | **Yes** (on National Forest and City of Colorado Springs) **No** (on El Paso County) | **No** | **No** |
| Dogs allowed to be off leash on the City of Colorado Springs and El Paso County lands | **No** | **No** | **No** |
| Domestic animals allowed to be off leash or un harnessed on Trail 666 (Bear Creek) and the proposed new Mount Buckhorn Trail within the Bear Creek Basin on National Forest System lands. | **Yes** | **No** | **No** |

# Chapter 3: Environmental Impacts of the Proposed Action and Alternatives

## 3.1 Analysis Area Description

The analysis area for the Bear Creek Watershed Restoration Environmental Assessment is located four to eight miles southwest of downtown Colorado Springs, Colorado, on the east flank of Pikes Peak (Figure 2). About 60% of the project area is in El Paso County, and 40% is in Teller County. The project area contains 10,350 acres, of which 8,152 acres are managed by the Pikes Peak Ranger District of the Pike National Forest. Other ownership includes El Paso County (1,148 acres), the City of Colorado Springs (805 acres), Colorado Springs Utilities (173 acres) and private landowners (72 acres).

[7] Part of the project area is closed to recreational shooting through the existing Front Country Closure Order.

Existing Physical Environment

Elevation in the analysis area ranges from 12,200 feet on Almagre Mountain at the southwest end of the watershed to 6,800 feet along Bear Creek at the east end. More than 85 percent of the slopes in the project area are greater than 20 percent. The watershed is composed primarily of Pikes Peak granite, a coarse-grained biotite and hornblend-biotite granite, which is very susceptible to weathering.

The Pikes Peak granite forms very erosive, granitic soils, interspersed with areas of exposed bedrock. The soils are rocky, shallow, and course textured with thin organic layers. These soils are particularly vulnerable to rill and gully erosion if protective ground cover is removed. Erosion potential is higher on steep slopes and adjacent to less permeable surfaces such as rock outcrops or compacted areas.

The project area includes two named streams, Bear Creek and North Cheyenne Creek. Bear Creek begins as a series of small tributaries above Jones Park. From Jones Park, it descends steeply through a rocky canyon for one mile before a steep, narrow, and rocky section "Josephine Falls" is encountered. Downstream of the falls, the stream maintains a relatively constant gradient until it exits the canyon near Gold Camp Road in Colorado Springs. The stream eventually flows into Fountain Creek near the Martin Drake Power Plant. North Cheyenne Creek begins as a series of tributaries coming off the east side of Almagre Mountain. It is a small stream with many cascades and waterfalls. It exits the project area at Gold Camp road and also eventually flows into Fountain Creek, which is a tributary of the Arkansas River.

The composition and structure of vegetation and fuels in the project area have also been highly altered from a natural range. Most of the project area is at risk from large-scale, high-intensity wildfire due to increases in tree density, encroachment of shade tolerant tree species, or loss of shade intolerant tree species caused primarily by fire exclusion. About 90 to 95 percent of the project area is considered to be in Fire Regime Condition Class 3, which entails a 35 to 100 + year fire frequency and high (i.e., stand replacement) burn severity.

Existing Biological Environment

The Project Area contains a diverse mix of vegetation. At the higher, western end, subalpine species such as bristlecone pine, Engelmann spruce, limber pine, and aspen, are dominant. Farther east, the montane zone consists of sapling, pole, and mature stands of ponderosa pine, Douglas-fir, white fir, limber pine, and quaking aspen. At the lower, east end of the watershed, montane species are still dominant, but Gambel oak becomes an important component of many stands. Non-forested cover types comprise about five percent of the watershed and include rock outcrops or barren areas. Stream courses are dominated by stands of quaking aspen or mixed conifer species, with an understory of riparian plants, including some willows.

There is a current and ongoing outbreak of the native Douglas-Fir Tussock Moth (*Orgyia pseudotsugata*) in the project area. Populations of this defoliating caterpillar continue to expand and are impacting Douglas Fir and White Fir. The severity of the effects of the outbreak can't be determined until the tussock moth cycle has run its course.

The diverse mix of vegetative and non-vegetative cover within the project area is reflective of the varied geography, geologic formation, soils, elevation, aspect, and hydrology found throughout the project area. These environmental conditions provide diverse habitat types for an assortment of species. The federally threatened greenback cutthroat trout occurs in both Bear Creek and North Cheyenne Creek, but the sole known remaining population of genetically pure greenback cutthroat trout is confined to Bear Creek. Greenback cutthroat trout are also considered an aquatic Management Indicator Species (MIS) for the Pike National Forest. The population occupies about 4.1 miles of Bear Creek of which 3.4 miles are considered fully occupied and the remaining stream is considered transitional habitat. No other fish species are present in the watershed.

The eastern portion of the project area contains habitat that may be occupied by the federally threatened Mexican spotted owl. Suitable habitat is also present for the following Forest Service Region 2 sensitive species; fringed myotis, hoary bat, olive-sided flycatcher, flammulated owl, northern goshawk, and peregrine falcon .

There are 15 Regional Forester's Sensitive Species (RFSS) known to occur in the Pikes Peak-Rampart Range ecological subsection. One of these, golden columbine, occurs in the watershed. There is appropriate habitat for five others in the project area. Only one of these, lesser yellow lady's-slipper, has been seen in the vicinity, most recently in 1978.

Greenback Cutthroat Trout

The greenback cutthroat trout (i.e., greenback) was once presumably distributed throughout the colder waters of the South Platte and Arkansas River basins in Colorado and southeastern Wyoming (Young 2009). Greenback cutthroat trout populations declined rapidly following immigration and settlement of the Front Range of Colorado in the mid- to late 1800s. Mining pollution, stream dewatering for agriculture, commercial harvest, and introduction of non-native salmonids decimated populations. Introductions and invasions by nonnative trout eliminated greenback cutthroat trout from most of their historical range (Young and Harig 2001). Greenbacks readily hybridize with rainbow trout (*Oncorhynchus mykiss*) and typically cannot persist in sympatry with brook trout (*Salvelinus fontinalis*) or brown trout (*Salmo trutta*). Their decline occurred so rapidly that their distribution was not well known (USDI FWS 1998b).

This species was federally listed as an endangered species with the enactment of the Endangered Species Act of 1973, but was subsequently downlisted to threatened in 1978. The original recovery plan for greenback cutthroat trout was completed in 1977 and revisions were adopted in 1983 and 1998 (USDI FWS 1998b). The Pikes Peak Ranger District presently contains populations of protected greenback cutthroat trout in Severy Creek, Bear Creek, and North Cheyenne Creek. However, phylogenetic analysis by Metcalf (2007) revealed that several populations previously thought to be greenback cutthroat trout were Colorado River cutthroat trout. These populations were found to be more similar to populations west of the Continental Divide in the Colorado River basin than to greenback populations in the Arkansas or South Platte rivers.

A study by Metcalf et al. (2012) concluded that the sole known remaining population of genetically pure greenback cutthroat trout inhabited Bear Creek. A meristic (counting quantitative features of fish, such as the number of fins or scales) study performed by Bestgen et al. (2013) was consistent with the

results of this study. The Bear Creek population is believed to be a remnant of fish stocked into this originally fishless creek by a settler in the late 19th century (Metcalf et al. 2012). Metcalf noted that the population harbors little genetic variation, probably because of the small number of founding fish or a subsequent population bottleneck. Fish population sampling was conducted in Bear Creek in 2008, 2012, and 2014 (Nehring 2015). Population levels were highly variable over the sampling period. However, population trend is a more appropriate indicator of habitat quality. Additional sampling is necessary to detect trends in the Bear Creek population.

North Cheyenne Creek was surveyed for greenback in 2003 and found to provide excellent habitat according to Doug Krieger, Colorado Parks and Wildlife Area Fisheries Manager. The stream was barren due to the presence of several waterfalls that had precluded upstream migration of fish. In 2004, CPW stocked fish from Graneros Creek into a 2.5 mile section of North Cheyenne Creek. According to CPW, genetic testing has confirmed that these fish are Colorado River cutthroat. CPW has found that the population is now self-sustaining, but management emphasis is on protecting the habitat rather than the fish population.

Greenback cutthroat trout tend to spawn during or after snowmelt-driven peaks in discharge (Quinlan 1980, Jespersen 1981, Thurow and King 1994, Schmetterling 2000, 2001, De Rito 2004, in Young 2009), which probably evolved as a mechanism to avoid egg and fry incubation during channel-scouring flows. The spawning period for greenback in Bear Creek may begin in early June and conclude as late as August in response to elevational gradients in flow and temperature (Krieger, pers. comm. 2014). The successful hatchery spawning of greenback removed from Bear Creek was achieved in state and federal facilities in 2013. In August of 2014, Colorado Parks and Wildlife stocked 1,200 hatchery reared greenback in Zimmerman Lake in northern Colorado, which became the first re-introduction of the greenback to their native range. Additional greenback introductions into the South Platte River basin are planned over the next five years.

Threats to the species include non-native fishes and degradation of riparian and stream habitat. Also, lack of connectivity to other populations renders them vulnerable in the short-term to extirpation from natural disturbances such as fire, post-fire debris torrents, or floods, and in the long-term to loss of genetic variability and the potential for evolving in response to changing environmental conditions (Young 2009).

Presently, eight populations on the Pike and San Isabel National Forests are protected under the Endangered Species Act and have been managed to contribute to recovery and delisting goals and objectives. The U.S. Fish & Wildlife Service and the Greenback Recovery Team are in the process of examining the current classification, threats, and risks to greenback cutthroat trout populations in order to determine the need for a change to the listing status of this species in Colorado (USDI FWS 2012, USDI FWS 2014). Pending a new status determination, all populations on the Pike & San Isabel National Forests will continue to be federally listed and managed as threatened species. This species is also managed as an aquatic Management Indicator Species (MIS) on the Pike and San Isabel National Forest / Cimarron and Comanche National Grasslands (PSICC).

Existing Human Environment

The majority of people who use the Bear Creek area are residents of Colorado Springs and surrounding communities in El Paso and Teller counties. Several multiple-use trails provide the primary focus for recreational activities. Most are open to motorcycle use and all are open to non-motorized use. The area is also popular for mountain biking. The amount of non-wheeled use is limited because of the high volume of motorcycles and mountain bikes. The area receives very little hunting or fishing pressure and Bear Creek is currently closed to fishing to protect the greenback cutthroat trout. Colorado Springs Utilities and Colorado Springs Park, Recreation, and Cultural Services have completed a Master Plan for opening and developing the south slope of Pikes Peak to day-use activities. The west side of the project area is adjacent to the South Slope Master Plan area.

The trail system is desirable for events and guided trips because of its proximity to Colorado Springs. Special use permits have been issued in the past for guided hunting, hiking, foot races, horse trail rides, mountain bike clinics and races, and to access mountain climbing areas. The U.S. Army is authorized to use 16 landing zones on National Forest System lands under special use permit, including four landing zones in the Bear Creek watershed.

General William J. Palmer granted ownership of multiple properties including roads and trails to the City of Colorado Springs in 1907. High Drive in its' entirety along with portions of Bear Creek and Cheyenne Canon Parks (currently known as North Cheyenne Canon Park) were included in the deed conveyed to the City of Colorado Springs. All deeds were dated and recorded in the County of El Paso, State of Colorado on March 29, 1907.

Historically the property known as Jones Park was managed by Colorado Spring Utilities. Colorado Springs Utilities has been involved with improvements and sediment mitigation in the Bear Creek watershed from 2008-2014. Colorado Springs Utilities desired to transfer Jones Park to a more appropriate land management agency, as it no longer had an operational need for the property. In February of 2015 ownership of the land in Jones Park was transferred to El Paso County.

Existing Cultural Resources

Three cultural resource surveys have been undertaken to identify the cultural resources present in the areas potentially affected by the proposed activities (APE):

- *Cultural Resource Survey Fiscal Year 2011 Hazardous Fuels Project-Pikes Peak, South Park,* and *South Platte Ranger Districts* (Briggs et. al. 2013), undertaken by ERO Resources Group (ERO) in support of a proposed forest hazardous fuels reduction project. During this previous survey effort one segment of the historic High Drive road (5EP6996.1) was documented in the Bear Creek Watershed analysis area. It was subsequently concurred eligible for listing on the National Register of Historic Places (NRHP) by the Colorado State Historic Preservation Officer (CO-SHPO). Another previously recorded resource that intersects the analysis area is North Cheyenne Canon Park (5EP5968), listed on the National Register of Historic Places.
- *Cultural Resources Investigation for the High Drive Road Assessment in the Bear Creek Watershed* (Riefkohl and Dalton 2015), conducted by the Forest Service (USFS). It focused on the potential effects of the sediment control proposals along the historic High Drive road. This survey effort identified a total of eight new historical resources (sites and segments of linear resources) and five new historic isolated finds.

- *Cultural Resource Survey Bear Creek Watershed Trails Project-Pike San Isabel National Forest* (Gilmore et.al. 2015), conducted by ERO. It focused on the potential effects of the proposals along the existing and proposed recreational trail system. The investigation resulted in the documentation of a total of 37 new historical sites and segments of linear resources, which in a number of cases overlap both the El Paso – Teller county line and property ownership. Twenty historic isolated finds were also documented. Various High Drive road segments recorded by the USFS and ERO overlap.

These investigations identified various cultural resources within the APE that relate to historic homesteading, recreation, prospecting, transportation, and water conveyance. They include roads, trails, cabins, pipelines and ditches, artifact scatters and mining complexes. High Drive and almost all of the trails in the analysis area were determined to be historic resources. In addition, a potential district was identified in the Jones Park area, where sites such as habitations and trails exhibit continuity in their use of the land for historical recreation during the late 1800s and early 1900s. Two potential cultural landscapes were also identified; one in the area surrounding the High Drive Road and another along the length of the Bear Creek Trail (Gilmore et.al. 2015). No prehistoric sites have been identified.

The Forest Service has consulted with the Colorado State Historic Preservation Officer regarding the National Register eligibility of the cultural resource sites identified in the aforementioned cultural resource investigations. Of the 76 cultural resources recorded within the analysis area, 22 that appear to meet one or more of the criteria for listing on the National Register of Historic Places. Table 6 lists the historic properties within the analysis area that are either listed or recommended eligible for listing on the NRHP.

**Table 6: Historic Properties**

| Smithsonian Number | Site Type/Name | Field NRHP Eligibility | County |
|---|---|---|---|
| 5EP385.2 | Gold Camp Road segment | Eligible / Supporting | El Paso |
| 5EP5968 | North Cheyenne Canon Park, Colorado College Park, Cheyenne Park | Listed | El Paso |
| 5EP6996.1-.2 | High Drive Road segments | Eligible / Supporting | El Paso |
| 5EP6996.4-.5 | High Drive Road segments | Eligible / Supporting | El Paso |
| 5EP7296 / 5TL4002 | Loud Homestead | Eligible | El Paso / Teller |
| 5EP7298 / 5TL4004 | Corliss-Giles Homestead/Bear Creek Inn/Godfrey Cabin | Eligible | El Paso / Teller |
| 5EP7300 | Camp Vessey/Scout Camp | Eligible | El Paso |
| 5EP7317.1 / 5TL4009.1 | Jones Park Pipe Line/Jones Park Ditch segment | Needs data / Supporting | El Paso / Teller |

| Smithsonian Number | Site Type/Name | Field NRHP Eligibility | County |
|---|---|---|---|
| 5EP7319.1-.2 / 5TL4010.1 | Bear Creek and Pikes Peak Trail segments | Eligible / Supporting | El Paso / Teller |
| 5EP7548 / 5TL4105 | North Cheyenne Creek Trail/Seven Bridges Trail (662/668) | Eligible | El Paso / Teller |
| 5EP7550.1 / 5TL4107.1 | Louds cabin Trail segment | Needs data / Supporting | El Paso / Teller |
| 5EP7551.1 | Palmer Trail segment | Needs data / Supporting | El Paso |
| 5TL4003 | Jones/Henry/Pebbles Homestead | Eligible | Teller |

Today the Jones Park cabins are in ruins and the Bear Creek trail no longer serves as the main route to the summit of Pikes Peak. The cultural resource investigations highlighted the current condition of the sites within the analysis area. It became evident that sites are not only undergoing loss from natural processes, but modern recreation uses combined with an unstable/erosive environment and a lack of cultural resource protection and maintenance actions on behalf of the landowners, have all adversely affected the integrity of the archaeological resources in the analysis area. It is evident that the cultural resources within the non-federal lands have been neglected, causing historic sites and features of significance to be damaged or completely obliterated by actions undertaken on behalf of other resource areas, particularly road and trail management activities. Unmanaged dispersed recreation has created more non-system user trails, off-road vehicle damage, artifact damage and displacement, as well as devegetation, which increases the erosion of sites. However, the High Drive and Bear Creek watershed area never stopped being a popular recreation destination. People from all over the state and nation continue to visit the Bear Creek and North Cheyenne Cañon parks to enjoy the scenery and hike or ride the historic trails. The continued use of the historic trail and road alignments has influenced the survival of the historic trail network, which otherwise could have been lost to the erosive landscape.

Existing Native American Traditional Cultural Properties

To date, no concerns or traditional cultural properties have been identified within the Bear Creek Watershed analysis area. A traditional cultural property can be a site, a structure, an object, a landscape, or a natural resource feature assigned traditional, legendary, religious, subsistence, or other significance by a cultural group.

Existing Roadless Areas and Wilderness

There are no designated wildernesses or roadless areas (per the 2012 Colorado Roadless Rule) in the analysis area.

Existing Transportation System

The existing transportation system considered in this analysis is summarized in Table 7 and is described in detail in Table 8. The transportation system, particularly the trail system, was not so much constructed as developed in place based on historic and possibly prehistoric travel routes. Many of the routes do not meet modern standards in terms of gradient, drainage, or proximity to streams.

One road, High Drive, is considered in this analysis. This road is owned and maintained by the City of Colorado Springs. In recent years, this road was open seasonally to all vehicles and yearlong to non-motorized use; however, it has been closed to motorized use since sustaining significant damage during a storm event in June 2012. It received further damage in the September 2013 flooding. The upper section of High Drive qualified for repair through the Federal Emergency Management Agency (FEMA). Repairs to the upper section of the road began in the fall of 2014 and are expected to be complete in 2015. The portion of High Drive that runs parallel to Bear Creek was not eligible for emergency repair funding. Sediment mitigation on this portion of the road is included in the Proposed Action.

Eleven system trails are considered in this analysis. Five (622, 622.A, 666, Palmer and Intemann[8]) are open yearlong to all non-motorized uses, such as hiking, mountain biking, and horseback riding. The remaining six (665, 667, 668, 701, 720, and 720.A) are open to both motorized and non-motorized uses. Motorized use is limited to licensed and unlicensed motorcycles. ATVs and larger motorized vehicles are not allowed. Throughout this analysis, these trails are referred to as multiple-use trails because they are open to both motorized and non-motorized use. There is one exception on the western end of Trail 667 (Jones Park) where 0.3 miles is not open to motorized use.

Trails 665 (Penrose), 667 (Jones Park), 668 (Pipeline), 701 (Forester's), 720 (Forester's Cutoff), and 720.A (Forester's Cutoff North Spur) were closed to motorized use in November of 2012 to comply with the Center for Biological Diversity settlement agreement. In the spring of 2013, Trail 720 (Forester's Cutoff) and the southern portions of 668 (Pipeline) and 701 (Forester's) were reopened to motorized use in the spring of 2013 following consultation with Fish and Wildlife Service in accordance with the Center for Biological Diversity settlement agreement.

Portions of High Drive and Trails 666 (Bear Creek) and 667 (Jones Park) are within the Bear Creek Water Influence Zone and are contributing sediment directly into the stream.

Table 7 summarizes the existing transportation system by route type and location in or out of the Bear Creek watershed. Table 8 contains additional information on each trail including land ownership.

**Table 7: Existing Transportation System – Summary**

| Route Type | In Bear Creek Basin (miles) | Out of Bear Creek Basin (miles) | Total (miles) |
|---|---|---|---|
| Road | 2.2 | 1.2 | 3.4 |
| Multiple-use trail | 7.8 | 8.8 | 16.6 |

[8] Palmer and Intemann trails are on City of Colorado Springs lands. The Forest Service uses a trail numbering system and the City uses a naming system.

**Table 7: Existing Transportation System – Summary**

| Route Type | In Bear Creek Basin (miles) | Out of Bear Creek Basin (miles) | Total (miles) |
|---|---|---|---|
| Non-motorized trail | 4.9 | 2.9 | 7.8 |
| Total | 14.9 | 12.9 | 27.8 |

## Table 8: Existing Transportation System – Detail

| Route Number | Route Name | Ownership | Length (miles)* | Access | Notes |
|---|---|---|---|---|---|
| **Roads** | | | | | |
| 380 | High Drive | City of Colorado Springs | 3.4 | Seasonal, multiple-use, all vehicles. Yearlong non-motorized. | High Drive has been closed to motorized use (other than administrative) continuously since a severe rainstorm caused damage in June 2012. |
| | | Road Subtotal | 3.40 | | |
| | | Roads Total | 3.40 | | |
| **Trails** | | | | | |
| 622 | Seven Bridges | El Paso County | 0.1 | Non-motorized | |
| | | Forest Service | 1.6 | | |
| | | Trail Subtotal | 1.7 | | |
| 622.A | Seven Bridges – North Spur | El Paso County | 0.5 | Non-motorized | |
| | | Trail Subtotal | 0.5 | | |
| 665 | Penrose | Forest Service | 1.1 | Multiple-use, single track | |
| | | Trail Subtotal | 1.1 | | |
| 666 | Bear Creek | City of Colorado Springs | 0.3 | Non-motorized | |
| | | Forest Service | 1.7 | | |
| | | Trail Subtotal | 2.0 | | |
| 667 | Jones Park | Colorado Springs Utilities | 0.2 | Non-motorized | Also known as the “Captain Jacks” or “Buckhorn” trail |
| | | Forest Service | 0.1 | | |
| | | Non-motorized Subtotal | 0.3 | | |
| | | Colorado Springs Utilities | 0.3 | Multiple-use, single track | |
| | | El Paso County | 2.5 | | |
| | | U. S. Forest Service | 3.8 | | |

## Table 8: Existing Transportation System – Detail

| Route Number | Route Name | Ownership | Length (miles)* | Access | Notes |
|---|---|---|---|---|---|
| | | Multiple-use Subtotal | 6.6 | | |
| | | Trail Subtotal | 6.8 | | |
| 668 | Pipeline | El Paso County | 0.8 | Multiple-use, single track | |
| | | U. S. Forest Service | 2.5 | | |
| | | Trail Subtotal | 3.3 | | |
| 701 | Foresters | El Paso County | 0.5 | Multiple-use, single track | |
| | | U. S. Forest Service | 3.5 | | |
| | | Trail Subtotal | 4.0 | | |
| 720 | Foresters Cutoff | El Paso County | 1.2 | Multiple-use, single track | |
| | | U. S. Forest Service | 0.3 | | |
| | | Trail Subtotal | 1.5 | | |
| 720.A | Foresters Cutoff – North Spur | El Paso County | 0.3 | Multiple-use, single track | |
| | | Trail Subtotal | 0.3 | | |
| | Intemann | City of Colorado Springs | 0.1 | Non-motorized | |
| | | Trail Subtotal | 0.3 | | |
| | Palmer | City of Colorado Springs | 1.5 | Non-motorized | |
| | | Trail Subtotal | 1.5 | | |
| | | Trails Total | 22.6 | | |
| | | Roads and Trails Total | 26.0 | | |

## 3.2 Environmental Impacts

The project record contains all specialist reports including Botany, Cultural, Fire and Fuels, Hydrology and Soils, Recreation, Fish and Wildlife, Environmental Justice, Civil Rights, and Americans with Disabilities Act. Detailed background information and impacts of alternatives can be found in these reports and are available upon request.

## 3.3 Cultural

The criteria for characterizing the severity or intensity of impacts to cultural resources is in accordance with the determinations of effect (no historic properties affected, no historic properties adversely effected, as defined in Section 106 of the National Historic Preservation Act (36 CFR 800). Any actions that could destroy, damage, alter, or remove a historic property, or its contributing characteristics, places it at risk of adverse effects.

All the alternatives were evaluated in terms of whether impacts would be beneficial or adverse to cultural resources. Beneficial impacts would help preserve or enhance the character-defining qualities that cause the property to meet one or more National Register criteria. Adverse impacts would deplete or negatively alter those qualities.

Mitigation could reduce the negative impacts of a particular alternative. Any resultant reduction in intensity of impact due to mitigation, is an estimate of the effectiveness of mitigation under NEPA only. Under Section 106 of the National Historic Preservation Act adverse effects may be mitigated, but the effects remain adverse.

Potential impacts to historic properties were evaluated by:

- Determining the area of potential effects, as defined by the locations where the proposed actions could directly or indirectly affect cultural resources
- Identifying resources present in the area of potential effects that are National Register listed or eligible for listing
- Applying the criteria of adverse effect to the affected historic properties
- Considering ways to avoid, minimize or mitigate adverse effects
- Consulting with and seeking concurrence from the Colorado State Historic Preservation Office (CO-SHPO) regarding the identification of historic properties within the project area of potential effect and regarding how potential adverse effects to historic properties could be mitigated.
- Mitigation would reduce the negative impacts of a particular alternative. Any resultant reduction in intensity of impact due to mitigation is an estimate of the effectiveness of mitigation under NEPA only. Under Section 106 of the National Historic Preservation Act adverse effects may be mitigated, but the effects remain adverse.

Cultural resource management differs substantially between the no action and action alternatives. The action alternatives would require inventory, analysis, protection, and public interpretation of cultural resources within and outside of federal lands. This is significant because most of the historic properties within the analysis area are located within City of Colorado Springs and El Paso County lands.

There is a higher likelihood that important cultural resources occur on the City of Colorado Springs and El Paso County lands, due to historic settlement patterns and a more favorable environment. However, inventory and evaluation of these lands is typically not conducted unless there is federal involvement. Implementation of either of the action alternatives would require cultural resource inventory of all proposed action locations with the potential to affect cultural resources.

Under all alternatives the potential exists for undiscovered sites to be exposed and/or damaged by surface disturbance or other events. Natural erosion and depositional processes degrade cultural resources.

Inadvertent damage during project implementation may also occur. This risk to unavoidable damage is common to both action alternatives.

Historic properties could be affected by the action alternatives. Project design criteria and mitigation measures can be implemented to avoid or mitigate adverse effects to these sites. These are included in Appendix A.

## Alternative A – No Action

The No Action Alternative maintains the status quo on all landownerships. The No Action alternative does not implement any greenback cutthroat trout or resource mitigations. Under this alternative there would be no change to the current management and use of the project area.

**Direct and Indirect Effects**

Under the No Action Alternative public access to cultural resources would remain unchanged. Cultural resource land management practices would remain unchanged. Actions to conduct cultural inventories and identify historic properties as a result of proposed activities would halt. No cultural resources would be interpreted to the public.

Retention of the existing multiple-use trail system, on occasion cutting through sites and archaeological deposits, would continue to directly impact site integrity and the historic feel of the natural cultural landscape. On the other hand, continued public use of the historic trail and road network would have the beneficial effect of supporting its longevity.

Unregulated dispersed recreation would continue to affect sites through trampling, erosion damage, and overall loss of site integrity.

Under the No Action Alternative there would be no inadvertent discoveries or unintentional damage to cultural resources as a result of proposed activities.

Natural erosion and depositional processes would continue to degrade historic trails and cultural resources.

Unmanaged runoff and erosion on the High Drive road would continue to degrade and damage contributing road features, such as historic culverts and rock retaining walls.

Retention of system and non-system trail access to sites of historic interest could increase the possibility of vandalism and looting, particularly in areas that are somewhat isolated. On the other hand, retaining roads and trails near sites could allow for greater surveillance and easier capture of illegal activity, as well as provide firefighters with access for suppression and protection of flammable features such as historic cabins.

The fire ban will not be implemented and there will continue to be elevated risk from catastrophic wildfire which would put flammable features such as cabin remains at greater risk.

**Cumulative Effects**

This alternative could potentially result in the loss of federal protection of cultural resources on the City of Colorado Springs and El Paso County lands. Construction and development of activities on private lands may damage or destroy cultural resources without providing an opportunity for mitigation of effects, thus, causing an incremental loss of the integrity of cultural resources and loss of interpretive values over time.

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## Alternative B – Proposed Action

**Direct and Indirect Effects**

This alternative would require management of cultural resources, irrespective of landownership. Lands would continue to be inventoried prior to proposed ground-disturbing activities. Site protection and mitigation measures would be developed in consultation with the CO-SHPO.

Installation of interpretive signage would have a beneficial effect on cultural resources, promoting public education and appreciation for the sites, influencing a sense of ownership for their retention and protection.

Cultural resources can be at direct risk from in-stream and upland restoration work as a result of ground-disturbing activities that could potentially damage archaeological deposits, features, or the historic setting and feel. Although a good faith effort was made to survey potential treatment locations, because specific project locations have not been identified, some areas remain to be inventoried for the presence of cultural resources. Thus, the possibility exists for unforeseen effects.

Cultural resources can be at direct risk from road and trail use, maintenance, construction, closures, and decommissioning activities. Changes in use, such as from non-motorized to motorized use, can increase ground disturbance, erosion and auditory effects. Where trails have bisected sites and affected their integrity, remnant deposits of sites could be preserved, such as by stabilizing eroding surfaces, avoiding deposits, or burying deposits.

Most adverse effects to historic properties can be avoided through implementation of design criteria and mitigation measures. However, project implementation under the proposed action alternative would permanently alter segments of the Bear Creek trail (5EP7319.1/5TL4010.1) and a segment of the Loud's Cabin trail system (5EP7550.1/5TL4107.1), historically significant properties that are eligible for listing on the National Register of Historic Places (NRHP).

In addition, new erosion control measures along the High Drive road, another historically significant property that is eligible for listing on the National Register of Historic Places, may damage features that contribute to site significance. Historic culverts with integrity could be removed and replaced with modern versions and new construction may affect the natural look and feel of the road's setting.

Restricting off-trail use limits public access to cultural resources of interest. On the other hand, it controls the unregulated use of the area and decreases the possibility of damage from ground disturbance, looting or vandalism.

Retaining a trail through the Jones Park area allows for public access to the historic sites of greatest significance. It also provides for site condition monitoring and the potential capture of illegal activity.

Construction of the Jones Park trail would have a beneficial effect in that it provides for public education and increased sensitivity to cultural resources.

Retaining non-motorized use of Trail 666 (Bear Creek Trail) and restricting the new Jones Park Trail to non-motorized use would have the beneficial effect of retaining the historic feel of the cultural landscape.

A reduction in sediment accumulation and transport into and over High Drive reduces the risk of natural degradation of the road's contributing historic features.

A change in width of the High Drive to one that is narrower in itself would not adversely affect the historic quality of the road, but would indirectly put contributing features at an increased risk of natural degradation and damage caused by disuse and abandonment.

The Forest Orders prohibiting certain off-trail access, over-snow vehicle use, camping, and recreational shooting would reduce the risk of damage to cultural resources.

The fire ban would reduce the risk from catastrophic wildfire which would put flammable cultural features such as cabin remains at less risk of destruction.

**Cumulative Effects**

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## ALTERNATIVE C

In addition to the management actions proposed in Alternative B, Alternative C proposes: (1) public access in the entire Bear Creek basin would be limited to system routes, (2) the entire length of Trail 666 (Bear Creek) would be decommissioned, and (3) the new Mount Buckhorn Trail and new interpretive trail through Jones Park would not be built.

Only the effects of activities that differ from Alternative B will be discussed below.

**Direct and Indirect Effects**

Under Alternative C decommissioning the entire length of Trail 666 (Bear Creek) would destroy an additional segment of the Bear Creek Trail (5EP.7319.2), a historically significant property, eligible for listing on the National Register of Historic Places.

By not providing trail access through the Jones Park, public access to multiple sites of historic significance would be eliminated and their interpretive potential lessened.

Restricting public use of the Bear Creek basin to system routes would lower the risk of damage to cultural resources by lowering the risk of newly created non-system trails, site trampling, artifact displacement, vandalism, and erosion.

The elimination of all routes through the Jones Park would hinder site management and protection activities, such as wildfire response, site surveillance, and condition assessments.

**Cumulative Effects**

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## ISSUES

Information in Table 9 focuses on issues, relevant to cultural resources, identified through scoping and where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

## Table 9: Issues Comparison: Cultural Resources

| Issue Indicators | Alternative A – No Action | Alternative B –Proposed Action | Alternative C |
|---|---|---|---|
| **Amount of Analysis Area Surveyed for cultural resources** | No change to current condition | Acreage would increase as projects get further refined and Memorandum Of Agreement stipulations are followed | Acreage would increase as projects get further refined and Memorandum of Agreement stipulations are followed |
| **Number of cultural resources in the Analysis Area** | No change to current condition | Known cultural resources would likely increase as additional inventory takes place | Known cultural resources would likely increase as additional inventory takes place |
| **Number of Native American traditional use, religious or sacred sites within the Area of Potential Effect** | None | None | None |
| **Miles of historic trail that qualify as historic properties adversely affected by decommissioning activities** | 0 miles | 4.66 miles | 6.11 miles |
| **Number of historic properties adversely affected by proposed activities** | None: | Nine:<br>Four segments of the High Drive road; three segments of the Bear Creek Trail; and two segments of the Loud's cabin trail | Nine:<br>Four segments of the High Drive road; three segments of the Bear Creek Trail; and two segments of the Loud's cabin trail |
| **Change to public and administrative access to historic sites of significance** | Access to historic properties in Jones Park area remains open and unmanaged<br><br>Access to Camp Vessey, North Cheyenne Creek/Seven Bridges Trail, and High Drive remains open and unmanaged | Access to historic properties in Jones Park area would be more restricted, but retained<br><br>Access to Camp Vessey, North Cheyenne Creek/Seven Bridges Trail, and the High Drive remains open but with use restrictions | Access to historic properties in Jones Park area would be eliminated<br><br>Access to Camp Vessey, North Cheyenne Creek/Seven Bridges Trail, and the High Drive remains open but restricted to established trail system |
| **Change to Native American access to traditional use sites** | None | None | None |
| **Number of historic sites interpreted** | None | Multiple culturally significant sites would be available for on-site interpretation | Public interpretation would still occur, but on-site interpretation of the Jones Park area sites would be eliminated |

## 3.4 HYDROLOGY AND SOILS

The most discernible source of human-caused soil disturbance in the project area is the transportation system. The detrimental impacts of the transportation system on soils include the loss of surface organic horizons, loss of productivity, and changes in local hydrology through the compaction of mineral soil, reductions in infiltration rates, rutting, and increases in soil erosion (Cole and Landres 1995, p.184; Douglass et al. 1999, p.9.5). Roads and trails alter the surface and subsurface hydrology by intercepting, concentrating, and diverting flows from their natural flow paths (Wemple et al. 1996). These features also alter the timing of storm runoff, the duration of storm flow, and the magnitude of peak flows in Bear Creek.

Native road and trail surfaces, cut slopes, fill slopes, and associated drainage structures are susceptible to erosion as soils derived from parent materials (e.g., granitic soils) easily erode when organic layers or vegetative cover are removed (Douglass et al. 1999, p.9.5). Ground disturbance, the loss of vegetation, and topographic alteration increase the erodibility of forest soils and, consequently, alter both the amount of soil available for transport and the likelihood of transport downslope and into streams. Rates of erosion vary depending on the slope, soil porosity, and the erosive characteristics of the exposed surfaces, as well as on the quantity and energy of accumulated storm flows. The energy of storm flows is strongly influenced by topography, geology, and local surface soil conditions, organic litter levels, and vegetative cover. Storm flows of increased magnitude are capable of detaching and moving sediment from road and trail surfaces into stream channels.

The travel route portions that are located in the Water Influence Zone are the main sources of sediment as these features have hydrologic connectivity with the stream system (Table 10). This is evident along the lower mile of High Drive, in which the road parallels Bear Creek. Sections of the creek are buffered from the road by up to 10 feet of overbank with adequate vegetation to impede sediment transport into the creek. However, other sections are located much closer to the road, including four locations in which the creek passes under this feature. Road material readily enters the creek at these locations as a vegetative buffer is non-existent (CH2MHill 2013, p.6).

**Table 10: Travel routes (miles) located in the Water Influence Zone[9] of Bear Creek**

| Travel Route Type | | National Forest | | | El Paso County | | | The City of Colorado Springs | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Alt. A | Alt. B | Alt. C | Alt. A | Alt. B | Alt. C | Alt. A | Alt. B | Alt. C |
| Non-Motorized | System Trail | 0.7 | 0.2 | 0 | 0 | 0.2 | 0 | 0.5 | 0.5 | 0.2 |
| | Non-system | 1.7 | 0 | 0 | 0.6 | 0 | 0 | 1.4 | 0 | 0 |
| Multiple-use | Trail - Single Track | 0.5 | 0.1 | 0.1 | 1.9 | 0 | 0 | 0 | 0 | 0 |
| | Non-system | 0 | 0 | 0 | 0.2 | 0 | 0 | 0 | 0 | 0 |
| | Road | 0 | 0 | 0 | 0 | 0 | 0 | 0.8 | 0.8 | 0.8 |
| **Total** | | **2.9** | **0.3** | **0.1** | **2.7** | **0.2** | **0** | **2.7** | **1.3** | **1** |
| **Percent Reduction** | | | **90%** | **97%** | | **93%** | **100%** | | **52%** | **63%** |

## ALTERNATIVE A – NO ACTION

### Direct and Indirect Effects

Roads and Trails

There would be no improvements to the transportation system to mitigate road and trail derived sediment. Stormwater flow, with elevated turbidity and energy, would continue to be directly routed into Bear Creek. There would be no reduction in transportation system derived shear stress.

The trail system outside of the Water Influence Zone and farther away from Bear Creek would continue to degrade. This degradation could cause greater impacts to Bear Creek over time. Leaving trails in their

[9] The Water Influence Zone includes the geomorphic floodplain (valley bottom), riparian ecosystem, and inner gorge of perennial and intermittent streams. Its minimum horizontal width (from top of each bank) is the greater of 100 feet or the mean height of mature dominant late-seral vegetation. In the analysis area, the Water Influence Zone is set at 100 feet from 2, 3 and 4th order streams because the mature dominant late-seral vegetation does not reach this height.

current entrenched condition will lead also to an increase in trail maintenance complexity and decreased user experience.

Trails

- 0 acre reduction of multiple-use single track trail routes located within the Water Influence Zone of Bear Creek
- 0 acre reduction of non-motorized trail routes located within the Water Influence Zone of Bear Creek

Stream Channel

- 0 miles of in-stream habitat improvement, resulting in zero water quality improvements.

High Drive

- Emergency restoration actions on the upper portion of High Drive associated with the 2013 storm event are currently being implemented.
- Road drainage improvements on the portion of High Drive parallel to Bear Creek would not be implemented.
- 0 acre reduction of multiple-use road located within the Water Influence Zone of Bear Creek

Hillslope

- Non-system routes will not be rehabilitated. Bare, eroding hillslopes, rills and other anthropogenic (human caused) erosion that is further away from Bear Creek, but still within the project area, will not be mitigated. Continued erosion may cause decline in the habitat and number of greenback cutthroat trout.
- Side tributaries that are affected by the trail system, often causing headcuts at intersections, will not be rehabilitated.
- Non-system trails, dispersed campsites, and unauthorized mining activities will not be rehabilitated.

With no mitigation and corrective action being taken the transportation system, hillslopes, stream channel, water quality and habitat will continue to degrade. The fire ban will not be implemented and there will continue to be elevated risk of human caused fire. Catastrophic wildfires can lead to erosion and flooding. Effects from the 2013 thunder storm event on hillslopes on Forest Service lands will not be mitigated.

**Cumulative Effects**

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## ALTERNATIVE B – PROPOSED ACTION

**Direct and Indirect Effects**

Hillslope

- Restoration and mitigation will increase ground cover/surface protection and break-up continuous slope length across the bare hillslope and reduces the erosive overland flow energy.
- Restoration and mitigation on bare soils will reduce erosion, sediment transport and sediment delivery into Bear Creek.
- Restoration and mitigation will reduce overland flow impacts on High Drive and downstream trails.

Trails

- The rehabilitation of 2.42[10] acres of multiple-use single track trail routes located within the Water Influence Zone[11] of Bear Creek will reduce the area of bare ground available for erosion and sedimentation into Bear Creek by 96%.
- The rehabilitation of 3.88 acres of non- motorized trail routes located within the Water Influence Zone of Bear Creek will reduce the area of bare ground available for erosion and sedimentation into Bear Creek by 82%. (The Water Influence Zone is defined here as the water influence zone of the perennial main stem of Bear Creek)
- Erosion and sediment production from existing trails will be reduced.
- Erosion and sediment production from closed trails will be reduced.
- Hydraulic energy in Bear Creek during storm flows will be reduced by installing bridges that span bankfull flows at stream crossings.
- Buckhorn and Palmer non-system trails will be converted to National Forest System Trails and maintained to minimize erosion and sediment production.
- All other non-system routes within the Bear Creek basin and those that lead into the basin will be fully decommissioned to minimize erosion and sediment production back to natural, pre-disturbance, conditions.

[10] Trail length is converted to bare ground erosional area by assuming an 8 foot width for the effective footprint of the trail and the cut/fill.
[11] The Water Influence Zone is defined here as the water influence zone of the perennial main stem of Bear Creek

High Drive

- Recommendations of the High Drive road assessment (CH2M Hill, January 2013) as further refined in the High Drive preliminary plans developed by the City of Colorado Springs will be implemented to manage storm water flows, improve drainage structures and reduce road derived sediment.
- Road improvements and erosion mitigations will result in less sedimentation into Bear Creek and will reduce shear stress and reduce channel degradation.

Stream Channel

- 1.7 miles of in-stream habitat improvement will stabilize the stream channel and reduce sediment contributions from the streambed and stream banks.
- Ephemeral drainages and head cuts will be stabilized reducing sediment contributions into Bear Creek.
- A riparian buffer and vegetated bankfull bench will reduce hillslope and road/trail derived sediment delivery into Bear Creek.
- Existing pool habitats will be deepened, excess sediment will be removed, and pool habitat will be reconstructed to transport sediment and maintain pool depth comparable to reference stream conditions.
- Eroding stream banks and lateral stream migration will be stabilized with nearby trees, rocks, sod mats and other native riparian vegetation.
- The width to depth ratios will be reduced to increase stream power, improve sediment transport and align with reference stream conditions.
- Stream channel incision will be reduced and floodplain access will be increased to spread high energy flood flows across the valley bottom.
- Water contact by users has the potential to spread aquatic diseases and to serve as a route for introduction of pollutants. Re-routing trails out of the Water Influence Zone, reducing the number of water crossings, restricting human and domestic animal contact with Bear Creek, and developing educational materials and signs will help minimize water contact will reduce risk of contamination.
- Rehabilitating dispersed/disturbed campsites will reduce offsite sediment transport and sediment delivery into Bear Creek.
- Rehabilitating unauthorized mining activities will reduce hillslope erosion and downstream impacts.

### Cumulative Effects

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## ALTERNATIVE C

### Direct and Indirect Effects

- Direct effects from Alternative B apply to Alternative C.
- The rehabilitation of an additional 0.7 acres (4.56 acres total) of bare ground due to the decommissioning of all of Trail 666 (Bear Creek) decreases the area of bare ground available for erosion and sedimentation into Bear Creek.
- Less access and a lower risk of newly created non-system trails will reduce potential erosion in Bear Creek Watershed.
- Increased restoration and reduced access result in less erosion in the Bear Creek watershed.
- If all of National Forest System Trail 666 (Bear Creek) is rehabilitated, the bare ground restored, and the channel is improved, than the water quality and fish habitat will improve in Bear Creek.

### Cumulative Effects

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## ISSUES

Information in Table 11 focuses on issues, relevant to erosion and sedimentation, identified through scoping and where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

**Table 11: Issue Comparison: Erosion and Sedimentation**

| | Alternative A | Alternative B | Alternative C |
|---|---|---|---|
| Mile of System Roads and Trails | 27.7 | 26.9 | 24.2 |
| Miles of Road or Trail in The Water Influence Zone (System) | 8.6 | 1.7 | 1 |
| Miles of Trail to be Decommissioned (System and Non-system) | 0 | 16.8 | 18 |
| Number of Stream Crossings in Bear Creek<br><br>Bear Creek Crossings/ Tributary Crossings | 22/25 | 7/20 | 4/17 |
| Transportation System Improvements and Future Maintenance Needs | High need for trail improvements on existing trails. Future maintenance needs are high. | Moderate need for trail improvements on existing trails. Future maintenance needs are moderate to low. | Moderate need for trail improvements on existing trails. Future maintenance needs are moderate to low. |
| Acres of Bare Ground Disturbance In the Bear Creek WIZ | 13.07 acres | 6.77 acres | 6.09 acres |
| Miles of Stream Habitat Improvement | 0 miles | 1.7 miles | 1.7 miles |

# 3.5 RECREATION

## ALTERNATIVE A – NO ACTION

### Direct and Indirect Effects

Miles of Multiple-use, Non-motorized and Non-system Trails

Under Alternative A, High Drive would be open to all motorized vehicles seasonally (summer), and open to non-motorized use yearlong.

Approximately 16.8 miles of system trails would be open to motorized and non-motorized use on single track trails, and approximately 6.1 miles of system trails would be open to non-motorized use in the project area. Additionally, approximately 0.6 miles of multiple-use, non-system trails and 10.8 miles of non-motorized, non-system trails would remain. No new trails are proposed to be constructed or added to the trail system, and no existing system or non-system trails are proposed to be decommissioned.

Transportation System Improvements

Construction work on High Drive in 2014 and 2015 has repaired damage to the road, above the 666 (Bear Creek) Trailhead, from the September 2013 flooding event. Routine maintenance on the road would continue to occur in the future to maintain drainage structures and to minimize erosion.

The trails in the project area would remain in their current condition, although routine trail maintenance would likely occur as funding and personnel become available. Currently, maintenance needs on trails in the project area are high. Reroutes are needed where trails are too steep or poorly placed to be sustainable trails. If Alternative A is implemented, future trail reroutes or substantial trail improvements would require a separate environmental analysis.

Access Routes to Peaks

Access to Mount Garfield, Mount Arthur, Runs Down Fast Mountain, Mays Peak and Tenny Crags would remain the same as is presently. Currently, the peaks in the project area are accessible by cross-country travel and non-system routes. Under Alternative A, there would be no restrictions on off-trail travel to reach the peaks.

Acres Available for Off-Trail Recreation in the Bear Creek Watershed

Currently, 9,374 acres are open to hiking off-trail on National Forest System and El Paso County lands in the Bear Creek Project Area. Under Alternative A, there would continue to be no restrictions to off-trail dispersed recreation on National Forest System and El Paso County lands in the watershed. National Forest System lands would remain open to hiking, mountain biking and horse travel on and off system trails. El Paso County lands would remain open to hiking off system trails. Motorized travel would continue to be restricted to system trails on National Forest System and El Paso County lands.

Colorado Springs and Colorado Springs Utilities' lands would remain open to hiking, mountain biking and horse travel on authorized trails. All off-trail travel would continue to be prohibited on City of Colorado Springs and Colorado Springs Utilities' lands.

Changes to Types of Dispersed Recreation

Under Alternative A, dispersed recreation use on National Forest System lands in the project area will continue to occur as it is presently. Camping, campfires, snowshoeing, snowmobiling, cross country skiing, off-trail non-motorized travel, recreational shooting, where currently legal, or dogs off-leash would not be restricted on National Forest lands. There would be no restrictions for people or domestic animals entering Bear Creek. Multiple-use trails would remain open to licensed and unlicensed motorcycles. No non-system trails would be added to the Forest Service trail inventory. No non-system trails would be closed or decommissioned. The Forest Supervisor's Order that prohibits a portion of the project area on both sides of Lower Gold Camp Road to recreational shooting that has been in place since 1991 would remain in effect.

El Paso County lands would remain open to off-trail hiking. Multiple-use trails would remain open to licensed and unlicensed motorcycles. No new trails would be constructed and no trails would be closed or decommissioned. The existing ban on swimming, bathing, or wading in any El Paso County park would continue. Camping, campfires, over-snow vehicles, domestic animals off-leash and recreational shooting would continue to be prohibited on El Paso County lands.

City of Colorado Springs lands would remain open to hiking on authorized trails and there would be no restrictions on swimming, bathing or wading in Bear Creek. Camping, campfires, over-snow vehicles, off-trail travel, domestic animals off-leash and recreational shooting would continue to be prohibited on City of Colorado Springs lands.

Changes to the Recreation Experience

Under Alternative A, the recreation experience would not change. Bear Creek Trail and Jones Park Trail would generally follow Bear Creek and the opportunities for loop trails would be unchanged. As trails continue to erode and become more difficult to use, the recreational experience may degrade.

**Cumulative Effects**

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## Alternative B – Proposed Action

Under Alternative B, multiple-use and non-motorized trail opportunities would continue to be provided in the project area, utilizing the existing trailheads.

**Direct and Indirect Effects**

Miles of Multiple-use, Non-motorized and Non-system Trails

Under Alternative B, High Drive would be open to non-motorized use yearlong.

Approximately 15.4 miles of trail would be open to motorized and non-motorized use on single track trails, and approximately 8.4 miles of trail would be open to non-motorized use on single track trails. Approximately 7.2 miles of system trails in the Bear Creek Watershed would be closed and decommissioned, including portions of Trails 622.A (Seven Bridges North Spur), 666 (Bear Creek), 667

(Jones Park), 668 (Pipeline), and 701 (Forester's). Trails 720 (Forester's Cutoff) and 720.A (Forester's Cutoff North Spur) would be closed entirely and would be decommissioned. A new trail would be constructed to maintain a multiple-use connection from Trail 665 (Penrose) to roads and trails in the Frosty Park area and a non-motorized connection to the South Slope Watershed.

The new multiple-use trail would be constructed with an adequate width to accommodate motorcycles, mountain bikes, hikers and horses. Two non-system routes (Mount Buckhorn and Palmer) would be added to the Forest Service trail system. Other non-system routes that are in or lead into the Bear Creek Watershed would be closed and decommissioned. Maintenance and minor reroutes would be completed on existing trails that would remain open to reduce erosion and sediment production. A new trail would provide non-motorized access to a historic cabin in Jones Park.

Additionally, approximately 9.6 miles of non-system trails would be decommissioned under Alternative B. Any un-inventoried non-system trails found during project implementation will also be decommissioned.

Transportation System Improvements

Alternative B proposes further improvements, above basic maintenance, on High Drive to reduce erosion and sediment production on the road surface. The work would improve the sustainability of the road and would provide an improved road surface for non-motorized recreation uses.

Alternative B also proposes that maintenance, reconstruction or re-alignment (re-routes) would be performed on existing system multiple-use and non-motorized trails to reduce erosion and sediment production. Most of the trails that have been identified as moderately to most severely damaged would be closed and rehabilitated. Trail maintenance needs on existing trails that will remain open under Alternative B would be considered moderate. Where new trails would be constructed, non-system trails added to the trail system, or where reroutes would be completed, trails would be maintained and constructed to Forest Service standards, which would improve sustainability of the trail system and provide an improved trail surface for trail users.

Access Routes to Peaks

Alternative B would close most of the land in the Bear Creek Watershed to off-trail travel. Since no system trails currently access or are proposed to access Mount Garfield, Mount Arthur, or Tenny Crags, these peaks could only be reached from outside the Bear Creek Watershed from the north. The off-trail travel restriction would not include the summit or lands just south of the summit of the three peaks. The summits of Mays Peak and Runs Down Fast Mountain on the southern edge of the project area are excluded from the off-trail travel restricted area, but because the lands to the north of these two peaks are in the off-trail travel restricted area these two peaks would only be accessible from outside the Bear Creek Watershed from the south. An existing non-system trail to the summit of Mays Peak would be closed and decommissioned.

Acres Available for Off-Trail Recreation in the Bear Creek Watershed

Under Alternative B, new rules/regulations would be implemented that would restrict off-trail recreation on most National Forest System lands and all El Paso County lands in the Bear Creek Watershed. The new regulation would prohibit off-trail travel in the Bear Creek Watershed, except in small areas surrounding the summits of peaks on the northern and southern project area boundary. Approximately, 6,271 acres would remain open to off-trail hiking on National Forest System and El Paso County lands within the Bear Creek Project Area. Off-trail non-motorized recreation would continue to be permissible on National Forest System outside the Bear Creek Watershed, in the project area. Off-trail hiking would continue to be permissible on El Paso County lands outside the Bear Creek Watershed in the project area.

Off-trail recreation would continue to be prohibited on all City of Colorado Springs and Colorado Springs Utilities lands.

Changes to Types of Dispersed Recreation

Under Alternative B, new Forest Service regulations would be implemented to prohibit camping, dogs off leash, off-trail travel, and use of over-snow vehicles on National Forest lands in the Bear Creek Watershed. Additionally, the new regulations would prohibit people, dogs and livestock from entering Bear Creek. Campfires and recreational shooting would be prohibited in the entire project area. Off-trail travel, camping and over-snow vehicles would continue to be permitted on National Forest lands outside the Bear Creek Watershed in the project area.

A new rule/regulation would be implemented on City of Colorado Springs' land that would prohibit dogs or people entering Bear Creek. Existing restrictions on all City of Colorado Springs and Colorado Springs Utilities' lands that prohibit camping, campfires, dogs off leash, over-snow vehicles, and recreational shooting would remain in effect.

On El Paso County lands, a new rule/regulation would be implemented to prohibit off-trail hiking in the Bear Creek Watershed. Existing restrictions on all El Paso County lands that prohibit off-trail motorized travel, camping, campfires, dogs off leash, over-snow vehicles, dogs or people entering Bear Creek, and recreational shooting would remain in effect. Off-trail hiking would continue to be permitted on El Paso County lands outside the Bear Creek Watershed in the project area.

An enforcement plan would be developed to identify a variety of methods to implement the new restrictions.

Changes to the Recreation Experience

Under Alternative B, the recreation experience for motorized users would likely not be as desirable as is presently on Trail 667 (Jones Park). The new multiple-use trail would be constructed in a dry forest environment and not along a creek, as a portion of the trail is currently. However, the new multiple-use Trail 667 (Jones Park) would primarily have a south facing aspect and would likely be ride-able longer in the year than the current Trail 667 (Jones Park), which tends to ice up with snow thaw and re-freeze. The new multiple-use trail would also be more sustainable than the current Trail 667 (Jones Park), because it would be engineered and constructed to Forest Service standards. The new multiple-use trail

would also provide better opportunities for scenic views from a higher alignment on the hillside. Conversely, the new trail may not provide as challenging an experience as the existing trail and may be less desirable for more experienced motorcycle and mountain bike riders.

Alternative B would retain a portion of the non-motorized Trail 666 (Bear Creek) adjacent to Bear Creek from High Drive to the Josephine Falls overlook. The trail would dead end at the overlook and non-motorized users would have to return on Trail 666 (Bear Creek) to High Drive, or users could take the new 0.5 mile Mount Buckhorn Trail and the existing section of Mount Buckhorn Trail to connect to Trail 622 (Seven Bridges). The Mount Buckhorn Trail would likely not be as desirable a recreation experience as Trail 666 (Bear Creek) because the trail would be steeper and would be constructed in a dry forest environment and not along a creek.

Constructing the new multiple-use Trail 667 (Jones Park) above Trail 622 (Seven Bridges) may result in hikers on Trail 622 (Seven Bridges) being able to hear the sound of motorcycles above them in areas where the sound of North Cheyenne Canyon Creek can't be heard.

Alternative B would maintain a multiple-use connection for motorcycles between Lower Gold Camp Road and Frosty Park. Alternative B would also provide non-motorized access to a historic cabin in Jones Park, but would close the remainder of Jones Park to off-trail travel and the existing ban on camping and campfires in Jones Park would remain in effect.

Non-motorized users desiring a trail along the creek or a trail with a gentler grade may use other trails in the area, such as Trail 622 (Seven Bridges) or trails on non-National Forest lands, which may increase use on these other trails.

Recreationists desiring or to take dogs off leash on the trails may use other trails outside the project area and use may increase on those trails. It is not likely that recreational shooting or over-the snow vehicles would increase outside the project area, as there is currently limited shooting and snowmobiling occurring that would be displaced.

As non-system trails are decommissioned and are no longer useable, use on system trails in the area may increase. New non-system trails may develop if users disregard trail closures to access closed areas.

**Cumulative Effects**

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## ALTERNATIVE C

**Direct and Indirect Effects**

Miles of Multiple-use, Non-motorized and Non-system Trails

Under Alternative C, High Drive would be open to non-motorized use yearlong.

Approximately 15.5 miles of trail would be open to motorized and non-motorized use on single track trails, and approximately 5.7 miles of trail would be open to non-motorized use on single track trails.

Approximately 8.7 miles of system trails in the Bear Creek Watershed would be closed and decommissioned, including portions of trails 622.A (Seven Bridges North Spur), 667 (Jones Park), 668 (Pipeline), and 701 (Forester's); and trails 666 (Bear Creek), 720 (Forester's Cutoff) and 720.A (Forester's Cutoff North Spur) would be closed entirely and would be decommissioned. A new trail would be constructed to maintain a multiple-use connection from Trail 665 (Penrose) to roads and trails in the Frosty Park area and a non-motorized connection to the South Slope Watershed. The new multiple-use trail would be constructed with an adequate width to accommodate motorcycles, mountain bikes, hikers and horses. Two non-system routes (Mount Buckhorn and Palmer) would be added to the Forest Service trail system. Other non-system routes that are in or lead into the Bear Creek Watershed would be closed and decommissioned. Maintenance and minor reroutes would be completed on existing trails to reduce erosion and sediment production. No trails would access Jones Park.

Additionally, approximately 9.6 miles of non-system trails would be decommissioned under Alternative C. Any un-inventoried non-system trails found during project implementation will also be decommissioned.

Transportation System Improvements

Alternative C proposes the same transportation system improvements as Alternative B.

Access Routes to Peaks

Alternative C would close all lands in the Bear Creek Watershed to off-trail travel. Since no system trails currently access or are proposed to access Mount Garfield, Mount Arthur, or Tenny Crags, these three peaks could only be reached from outside the Bear Creek Watershed from the north. The off-trail travel restriction would extend to the south side of the summit of the three peaks. Mays Peak and Runs Down Fast Mountain off-trail travel and these two peaks would only be accessible from outside the Bear Creek Watershed from the south. An existing non-system trail to the summit of Mays Peak would be closed and decommissioned.

Acres Available for Off-Trail Recreation in the Bear Creek Watershed

Under Alternative C, new rules/regulations would be implemented to further restrict off-trail recreation on all National Forest System lands and all El Paso County lands in the Bear Creek Watershed. The new regulation would prohibit off-trail travel in the entire Bear Creek Watershed. Approximately 5,881 acres would remain open to dispersed recreation use on National Forest System lands and El Paso County lands within the Bear Creek project area, outside the watershed.

Off-trail recreation would continue to be prohibited on all City of Colorado Springs and Colorado Springs Utilities lands. Off-trail recreation would continue to be permissible on National Forest and El Paso County lands outside the Bear Creek Watershed in the project area.

Changes to Types of Dispersed Recreation

The changes to dispersed recreation proposed Alternative C are the same as under Alternative B.

Changes to the Recreation Experience

The direct effects for the recreation experience under Alternative C would be the same as for Alternative B, except that the entire length of Bear Creek Trail would be closed and decommissioned. If Alternative C is selected all use would be limited to system routes. With no system trail in the Bear Creek watershed, the watershed would be closed to all use year-round. Additionally, a new trail into Jones Park would not be built and the existing routes into Jones Park would be decommissioned. Alternative C would require that all use would be limited to system routes, so with no system trail constructed, Jones Park would be closed to all public access. Also, the new Mount Buckhorn Trail connecting 666 (Bear Creek) to 667 (Jones Park) and 622 (Seven Bridges) would not be built.

Alternative C would maintain a multiple-use connection for motorcycles between Lower Gold Camp Road and Frosty Park.

Non-motorized users desiring a trail along the creek or a trail with a gentler grade may use other trails in the area, such as Trail 622 (Seven Bridges) or trails on non-National Forest lands, which may increase use on these other trails.

Recreationists desiring to camp, have a campfire, use a trail along a creek, or to take dogs off leash on trails may use other trails outside the project area and use on those trails may increase. It is not likely that recreational shooting or over-the snow vehicles would increase outside the project area, as there is currently limited shooting and snowmobiling occurring that would be displaced.

As non-system trails are decommissioned and are no longer useable, use on system trails in the area or on non-National Forest lands may increase. New non-system trails may develop if users disregard trail closures to access closed areas.

Under Alternative C, trails outside the project area and on other public lands would likely see a slightly greater increase in non-motorized use than under Alternative B.

**Cumulative Effects**

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## ISSUES

Information in Table 12 focuses on issues, relevant to recreation, identified through scoping and where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

**Table 12: Issue Comparison: Recreation**

| | Alternative A | Alternative B | Alternative C |
|---|---|---|---|
| **Miles of System Non-motorized Trails** | 7.8 | 8.2 | 5.5 |
| **Miles of System Multiple-use Roads and Trails** | 16.7 | 15.5 | 15.5 |
| **Miles of Non-system Trails** | 9.6 | 0.0 | 0.0 |
| **Transportation System Improvements** | High need for trail improvements on existing trails | Moderate need for trail improvements on existing trails | Moderate need for trail improvements on existing trails |
| **Access to Peaks Surrounding the Project Area** | No change to current cross country or non-system trail access to Mt. Arthur, Mt. Garfield, Tenny Crags, Mays Peak, Runs Down Fast Mtn. | Access to summits and small areas around the summit of the peaks accessible from outside the Bear Creek watershed | Access restricted to portions of the peaks outside the Bear Creek watershed |
| **Acres Available for Off-trail Recreation in Project Area** | 9,374 acres | 6,271 acres<br>Off-trail travel permitted on National Forest System lands and El Paso County lands outside Bear Creek Watershed. | 5,881 acres<br>Off-trail travel permitted on National Forest System lands and El Paso County lands outside Bear Creek Watershed. |
| **Changes to Recreation Experience** | No change to current recreation experience. | Less desirable multiple-use and non-motorized experience. Trail 667 (Jones Park) may have longer riding season due to southern aspect. Trail 667 more sustainable. | Less desirable multiple-use and non-motorized experience. Trail 667 (Jones Park) may have longer riding season due to southern aspect. Trail 667 more sustainable. No access to Bear Creek watershed or |

| | | | |
|---|---|---|---|
| | | | Jones Park. |
| **Type of Dispersed Recreation Allowed on National Forest System lands** | **Permitted:**<br><br>Motorized and non-motorized use on system trails<br><br>Non-motorized off-trail travel<br><br>**C**amping, campfires, dogs off leash, shooting outside shooting closure, and people and domestic animals entering Bear Creek throughout the project area<br><br>**Prohibited:**<br><br>Shooting within area currently closed to shooting<br><br>Motorized off-trail travel | **Permitted:**<br><br>Motorized and non-motorized use on system trails.<br><br>Non-motorized off-trail travel outside the Bear Creek Watershed<br><br>Camping and over the snow vehicles outside the Bear Creek watershed<br><br>Dogs off leash on trails other than 666 and the new trail into Jones Park<br><br>**Prohibited:**<br><br>Non-motorized off-trail travel (excluding small areas around the peaks)<br><br>Camping, over-snow vehicles, and people or domestic animals entering Bear Creek in Bear Creek Watershed.<br><br>Campfires and recreational shooting in entire project area.<br><br>Dogs off leash on Trails 666 and the new trail into Jones Park<br><br>Motorized off-trail travel | **Permitted:**<br><br>Motorized and non-motorized use on system trails.<br><br>Non-motorized off-trail travel outside the Bear Creek Watershed<br><br>Camping and over the snow vehicles outside the Bear Creek watershed<br><br>Dogs off leash outside Bear Creek Watershed<br><br>**Prohibited:**<br><br>Non-motorized off-trail travel<br><br>Camping, over-snow vehicles, and people or domestic animals entering Bear Creek in Bear Creek Watershed.<br><br>Campfires and recreational shooting in entire project area.<br><br>Motorized off-trail travel |
| **Type of Dispersed Recreation Allowed on City** | **Permitted:**<br><br>Non-motorized use on | **Permitted:**<br><br>Non-motorized use on | **Permitted:**<br><br>Non-motorized use on |

| | | | |
|---|---|---|---|
| **of Colorado Springs lands** | system trails<br><br>Dogs and domestic animals entering Bear Creek<br><br>**Prohibited:**<br><br>Non-motorized off-trail travel<br><br>Motorized use<br><br>**C**amping, campfires, dogs off leash, and shooting, oversnow vehicles | system trails<br><br>**Prohibited:**<br><br>Non-motorized off-trail travel<br><br>Motorized Use<br><br>**C**amping, campfires, dogs off leash, shooting, and people and domestic animals entering Bear Creek, oversnow vehicles | system trails<br><br>**Prohibited:**<br><br>Non-motorized off-trail travel<br><br>Motorized Use<br><br>**C**amping, campfires, dogs off leash, shooting, and people and domestic animals entering Bear Creek, oversnow vehicles |
| **Type of Dispersed Recreation Allowed on El Paso County Lands** | **Permitted:**<br><br>Motorized and non-motorized use on system trails<br><br>Off-trail hiking<br><br>**Prohibited:**<br><br>**C**amping, campfires, dogs off leash, shooting, and people and domestic animals entering Bear Creek, oversnow vehicles | **Permitted:**<br><br>Motorized and non-motorized use on system trails.<br><br>**Prohibited:**<br><br>All non-motorized off-trail travel<br><br>**C**amping, campfires, dogs off leash, shooting, and people and domestic animals entering Bear Creek, oversnow vehicles | **Permitted:**<br><br>Motorized and non-motorized use on system trails.<br><br>**Prohibited:**<br><br>All non-motorized off-trail travel<br><br>**C**amping, campfires, dogs off leash, shooting, and people and domestic animals entering Bear Creek, oversnow vehicles |

## 3.6 FISH AND WILDLIFE

Lands within the project area are utilized for various forms of recreation, such as hiking, mountain biking, off-road motorcycle riding, trail running, hunting, dispersed camping, horseback riding, rock climbing, exploratory mining, nature viewing, and photography. These types of recreational activities have the potential to affect fish and wildlife species through the alteration of habitat as well as the prompting of species behavioral and physiological responses (Youmans 1999, p.1.8). The significance and magnitude of effects on species or habitat are dependent on the type, location, extent, intensity, duration, frequency, and timing of the activity (Cole and Landres 1995, p.183 and 187; Youmans 1999, p.1.9).

Aquatic Habitat

The effects of the transportation system on fish and their habitats are primarily related to increased sedimentation from land disturbance and the alteration of riparian communities. The amount of fine sediment increases on and within stream substrates when sediment production exceeds a stream's transport capacity. Once in streams, fine sediments may be transported further downstream or deposited in slow water areas and behind obstructions, locally altering fish habitat conditions. In particular, fine sediment can fill the interstitial spaces among larger streambed particles, which can eliminate the living space for various microorganisms, aquatic macroinvertebrates, and juvenile fish. Spawning area quality is also affected as egg deposition and survival are reduced when sediment fills the interstitial spaces between gravels, preventing the flow of oxygen and the flushing of metabolic wastes. Emerging fry and aquatic insects can be trapped and smothered by sediment deposition in the gravels. Sedimentation of deep pools and coarse substrate used for rearing is also diminished and available space for over-wintering becomes limited.

Stream channel habitat components are highly dependent upon the configuration of the bed and banks of the stream channel. Perpetuating the physical, vegetative, and biological processes that maintain stream channel configuration is a necessity. Human-induced disturbance and geoclimatic factors often produce different stream/riparian characteristics than would geoclimatic factors alone. The result can be a stream that no longer performs its physical functions of floodplain access, water table maintenance, and sediment transport. The aquatic habitat variables associated with the physical functioning of a stream (pool/riffle ratio, pool size, undercut, woody debris) may not be adequate to support viable fish populations (Heede 1980).

Riparian Habitat

According to Cole and Landres (1995, p.185) vegetation is characteristically less abundant (i.e., reduced density and cover) in areas with recreation. Vegetative cover may be crushed, bruised, sheared, and uprooted by recreational activities (Cole and Landres 1995, p.185). These disturbances to vegetation structure are evident, but less perceptible impacts include reduced species composition, vigor, and productivity. Habitat conditions within riparian areas, in particular, are vulnerable to the effects of human recreation as impacts to vegetation are often more pronounced in these wet environments.

Riparian areas are diverse ecological systems with vigorous plant growth and high species diversity. These areas are a component of functioning aquatic ecosystems that provide for the maintenance of

current and future sources of woody material, intact riparian vegetation communities, and functional ecological processes of temperature (water, air, and soil) regulation and buffer strip functioning. Riparian vegetation provides cover, large woody material for recruitment, and nutrients for aquatic and terrestrial fish food organisms. Riparian areas are also generally important habitats for wildlife species as these sites contain an abundance and variety of food sources, free standing water, and protection in the form of vegetative cover for escape, hiding, and nesting. The cover that riparian areas provide is also utilized by species as dispersal corridors.

Recreational activities have the potential to impact the vegetation and soils along riparian areas through the trampling of banks and emergent plants, reducing the amount of cover and facilitating erosion in the impacted areas. This potential loss of vegetation may reduce the suitability of these sites for use by wildlife species as well as disrupt habitat connectivity within the watershed. Various recreational activities have resulted in degraded habitat conditions or habitat loss and fragmentation within the project area. Consequently, these activities have also modified important features of wildlife habitat, such as food supply and availability, shelter, and living space. Impacts to these habitat components may induce changes in species behavior, as well as influence survival, reproduction, and distribution (Cole and Landres 1995, p.183).

Noise Disturbance

The behavioral responses of terrestrial species are influenced primarily by disturbance in the form of noise pollution and harassment. Human recreational use of roads and trails is the main source of noise disturbance in the project area. Noise disturbance is most pronounced on multiple-use trails. However, according to Barber and others (2009) animal responses most likely depend upon the intensity of perceived threats rather than on the intensity of noise. For example, Youmans (1999) noted that in circumstances where motorized use is predictable and localized (e.g., confined to routes); animal response to humans on foot may be more pronounced than it is to motorized vehicles. Wildlife response to noise causes physiological and behavioral responses that can reduce reproduction and survival. For instance, noise impedes or causes wildlife daily, seasonal, or dispersal movements. Adverse effects on wildlife include increases in energy expenditures, displacement in population distribution or habitat use, and a reduction in productivity.

Human presence and noise associated with recreation may cause a species to respond to the disturbance through avoidance of the specific activity. This may occur in the form of a defense response that is active (i.e., fight or flight) or passive (i.e., inhibition of activity). Avoidance of recreational activities may effectively reduce the amount of available habitat to wildlife species and exacerbates the problems posed by habitat fragmentation (Barber et al. 2009). Repeated displacement of species during feeding and resting periods may also cause increased energy expenditures through these avoidance behaviors. For instance, raptors may be incapable of becoming habituated to the existing level of human noise. Effects of raptors reacting to disturbance include increased energetic demands, nest abandonment, and avoidance flight and exposure to predators. In addition, wildlife species that are perceived as habituated to recreation related disturbances may endure subtle physiological responses, such as chronically elevated heart rates and changes in alertness and posture (Youmans 1999, p.1.9). Elevated heart rates, energy expended in response to disturbance, and reductions of energy input through disturbance may increase energy expenditures or decrease energy acquisition.

These factors may result in increased sickness, disease, and the potential death of individual wildlife species (Hickman et al. 1999, p.4.12).

Invasive Species

The introduction and spread of noxious weeds within the project area is derived from a variety of sources, but recreational use is the main human-related factor. Roads and trails are potential avenues for the introduction and spread of non-native plant species, including noxious weeds. These transportation corridors are the main sources of dispersal for various noxious weeds, with weeds usually colonizing disturbed or rocky areas along these features. The introduction or establishment of weeds and dispersal of weed seeds are generated from the various forms of human recreation. For instance, hay for pack animals and the resulting excrement can be sources of weed seeds. Backpackers may import seeds on their equipment, and motorized vehicles are capable of distributing weed seeds over large areas in a short period of time. The disturbance of soils by vehicles has long-term effects that favor the establishment of weedy species. Invasive species are often well adapted to periodic disturbance. Human activities that cause soil disturbance and the removal of vegetation can facilitate ground conditions for noxious weed establishment or expansion.

Invasive species introduction and spread has the potential to disrupt the ecological integrity of native plant communities. Noxious weeds, in particular, can compete with native plants for resources and change the structure of vegetative communities. The potential for the establishment or expansion of noxious weeds is greatly increased when environmental conditions are altered by disturbance, both natural and human, and when dispersal vectors are provided for the continued introduction of non-native plants into a given area. Species composition and vegetation structure can change because plants vary in their ability to resist being damaged, in their ability to recover from damage, and in their ability to flourish in the conditions that occur on disturbed sites. Noxious weed infestations are also difficult to eradicate or control due to limitations in treatment methods, cost, and effectiveness. In addition, noxious weeds that occur within or in proximity to water further complicate treatment due to difficulties with the application of chemical controls.

Aquatic Nuisance Species

Aquatic nuisance species are non-native plants, animals, and pathogens that can exist in lakes, streams, rivers, and wetlands. Colorado contains several aquatic nuisance species. These include animals such as the New Zealand mudsnails (*Potamopyrgus antipodarum*); pathogens such as those that cause whirling disease (*Myxobolus cerebralis*); and plants such as Eurasian water milfoil (*Myriophyllum spicatum*). The introduction of invasive species is considered a primary threat to native ecosystems, second only to direct habitat loss. The existing road and trail system facilitates human access to all stream reaches in the project area. There is a risk of introducing aquatic nuisance species to streams in the project area where humans, recreational equipment, and livestock or domestic animals come in contact with water. Within the Bear Creek basin, the trail system traverses the creek at 15 unbridged crossings in which this potential risk exists. Numerous non-system trails also contribute to this risk by providing connectivity with the creek. Introduced aquatic nuisance species would disrupt the diversity or abundance of native species, and affect the ecological stability of infested waters.

Wildland Fire

Roads and trails increase the risk for wildfire in the project area because these features allow access for human activities that are a potential ignition source. Unintentional ignitions may occur from recreational shooting, an escape from a prohibited campfire, or flammable debris from a motorcycle lacking a spark arrestor. Wildfire originating from the transportation system may have detrimental effects on the project area. The project area is in Fire Regime Condition Class 3 and is at risk from large-scale, high-intensity wildfire due to increases in tree density, encroachment of shade tolerant tree species, or loss of shade intolerant tree species caused primarily by fire exclusion. Wildfire that results in high (i.e., stand replacement) burn severity would remove vegetation that functions to stabilized soils in the project area.

## SPECIES FEDERALLY LISTED AS THREATENED

### *GREENBACK CUTTHROAT TROUT*

(*Oncorhynchus clarkii stomias*)

Habitat Assessment

The greenback population in Bear Creek basin occupies about 4.1 miles of stream, of which 3.4 miles are considered fully occupied and the remaining stream is considered transitional habitat. This occupied habitat consists of about 2 miles of the lower section of Bear Creek, which extends from a barrier to Josephine Falls, and an upper section of 1.42 miles from the falls to a transitional zone. The upper limit of occupied habitat extends an additional 0.67 miles from this transitional zone. According to Colorado Parks and Wildlife (Nehring 2015), two sampling sites located below the waterfall (i.e., lower section) contain an average of 440 fish per mile, of which, about 84 percent are adults (i.e., > 120mm). Above the waterfall (i.e., upper section), two sampling sites contain a higher average number of fish, at 461 fish per mile, but adults only comprise 62 percent of the population.

The transportation system facilitates human access to Bear Creek for recreational activities. This has resulted in the creation of about 3.1 miles of non-system trails (i.e., social trails) located in the Water Influence Zone of Bear Creek from the entrance of Bear Creek Canyon Park to the base of Josephine Falls. Repeated use of these features has denuded stream banks and short slopes between the road and stream. Small man-made rock dams and other in-stream modifications in Bear Creek are common, and have led to the over-widening of the stream channel and the direct disturbance of fish and spawning areas.

Although 4.1 miles of available stream habitat in Bear Creek is occupied by this species, habitat capability is reduced. Basin-wide assessments demonstrate that many features of aquatic habitat in the Bear Creek watershed have declined in 2011 when compared with 1994. Pool area, maximum pool depth, and average pool depth declined significantly. Glide habitat (i.e., shallow, gravel-filled features) also increased significantly because of sediment aggradation. These glides do not have deep water like pools, and do not have insect production typically found in riffles. The amount of large woody material had increased and the extent of eroding stream bank remained stable, but cover declined in each reach (Winters et al. 1994, Gallagher 2011). Stream channels are also over-widened at crossings, which could restrict movement of fish during low flow periods. Each of these changed conditions reflects the lack of

sufficient stream velocities to scour and transport the quantity of sediment in the channel and retain pool area and depth.

In 2014, Fin-Up Habitat Consultants, Inc. conducted an aquatic habitat analysis of South Ruxton Creek (Gallagher 2015). This creek is a small, headwater stream located immediately west of Bear Creek. The stream flows through dense forest into Big Tooth Reservoir. There is a single trail crossing perpendicular to the channel near the top of the headwaters that currently puts little sediment into the stream system. Because of the limited disturbance that has occurred upstream from the reservoir, and based on other geomorphic considerations, South Ruxton Creek was determined to be a suitable candidate for a reference stream for comparison with other streams on the Pikes Peak massif. Sediment measurements (i.e., V*) were collected in 2014 in South Ruxton Creek and Bear Creek. This method provides a measure of sediment deposited in a pool feature compared to the total residual capacity of the pool. The fraction of pool filling serves as an index of the supply of mobile sediment in gravel-bed channels. In South Ruxton Creek, the residual pool volume that was filled with sediment varied from 7.1 to 14.2 percent. In Bear Creek, the measurements ranged from 36.6 to 82.7 percent. As a pool feature fills with sediment, average pool depth, maximum pool depth, and pool area are reduced, limiting available habitat for fish.

No other fish species are present in occupied greenback habitat due to a downstream barrier that prevents brook trout from the lower portion of Bear Creek from moving upstream. Greenback that move downstream of this barrier are also prevented from reentering their occupied range. Although barriers are important to population persistence, barriers also fragment habitat and result in a lack of connectivity to other populations. A lack of connectivity renders this species vulnerable in the short-term to extirpation from natural disturbances such as fire, post-fire debris torrents, or floods, and in the long-term to loss of genetic variability and the potential for evolving in response to changing environmental conditions. This lack of connectivity also contributes to the greatest future threat to the persistence of this species, climate change. Model projections suggest some suitable habitats may shift to higher elevations and precipitation patterns imply there may be large declines in late summer flows (Young 2009).

#### ALTERNATIVE A (NO ACTION)

Direct and Indirect Effects

Under Alternative A, the existing transportation system would not have direct effects on the greenback cutthroat trout. However, forms of human recreation that result in direct contact with Bear Creek (e.g., mountain biking and horseback riding) have the potential, although improbable, of causing direct mortality to the eggs or fry of this species. The road and trails located in the Water Influence Zone of Bear Creek, and associated human uses, would also have indirect effects on this species. For instance, most of the unbridged stream crossings are over-widened and cause direct sediment delivery into Bear Creek. The transportation system, non-system routes, and other ground disturbance would continue to affect riparian areas, stream habitat, and fish populations primarily through soil erosion and sedimentation. The existing rates of sedimentation from these features exceed the capacity of the stream system to transport these materials. Routine maintenance of the transportation system would continue to be performed, but the effects of this increased sedimentation would not be remedied. This

alternative would result in continued degradation in the habitat quality of Bear Creek, thereby reducing the ability of the greenback population to endure environmental stressors.

In the absence of management actions that reduce the existing rates of erosion and sedimentation, habitat quality in Bear Creek would continue to be impacted through a reduction in residual pool depth, the frequency of riffles, and the extent of riparian vegetation. With a reduction in residual pool depth, thermal refugia for fish would decline during overwintering periods, as well as during periods of reduced flow and increased water temperatures due to drought. Areas of the creek with riffles would decline as fine sediment is deposited. This fine sediment may smother fish eggs and limit macro-invertebrate production by filling interstitial spaces between larger substrates. Riparian vegetation, which regulates temperature and provides cover, large woody material for recruitment, and nutrients for aquatic and terrestrial fish food organisms, would also continue to be denuded along disturbed portions of the creek.

Although genetic testing indicates that the greenback cutthroat trout in North Cheyenne Creek are Colorado River cutthroat, this population is currently federally protected pending a change in the listing status. However, this population is more robust than the Bear Creek population. North Cheyenne Creek is also less impacted by the transportation system and human recreation. Trail 622 (Seven Bridges) occurs in proximity to the creek, but this trail system is non-motorized and contains bridges at all crossings. Trail 668 (Pipeline) is multiple-use and crosses the creek at three locations. These crossings do not contain bridges, but are located more than 0.7 miles upstream of the upper limits of the trout population in this creek. Recreational activities would have the localized effects of increased erosion and sedimentation of the creek at these sites. However, since these crossings are located well upstream of this population, downstream impacts to this population are not anticipated.

Under this alternative, High Drive would remain seasonally open to motorized traffic and the lower portion of the road would only receive routine maintenance. The surface of this road is mostly unpaved aggregate material that erodes from vehicle wear, rain, snow, and freeze/thaw conditions. Much of the drainage system is currently not functional due to accumulated sediment (CH2MHill 2013, p.7). Many culverts are buried or non-functioning, ditch capacity is reduced, and upland areas are eroding. Routine maintenance would not improve the overall drainage system. For instance, maintenance would entail sediment removal from culverts inlets, but sediment retained inside of culverts would persist and continue to reduce the efficiency of these features. Obstructed culverts and filled roadside ditches form a pathway for sediment transport to stream channels. These culverts prevent flows in the roadside ditch from being conveyed under the road at regular intervals. This results in combined flows that continue to increase in the roadside ditch until the flow reaches an open culvert or a roadway runout. These combined flows exceed the capacity of the drainage infrastructure, resulting in erosive forces that cause additional erosion and sediment buildup in the ditches. The culverts in the lower reach also discharge onto the Bear Creek overbank, and any sediment conveyed by these features enters directly into the creek (CH2MHill 2013, p. 8). Without improvement to the drainage system, this road system would continue to be a major source of sediment to Bear Creek.

Unrestricted human access to the Bear Creek basin would increase the risk of aquatic nuisance species (ANS) becoming established in occupied greenback habitat. Humans and domestic animals, in particular, would have the highest potential to come in contact with Bear Creek, and are a source for

the introduction or spread of ANS. Once established, ANS are unlikely to be eradicated. The greenback population would be most impacted by whirling disease (*Myxobolus cerebralis*), which damages cartilage and compromises the nervous system of trout. The presence of *Tubifex tubifex* worms in Bear Creek, which are the invertebrate host of this parasite, is unknown. However, the greenback population does not show sign of infection by this parasite. If introduced, whirling disease would cause spinal deformities and decrease the ability of greenback to feed and avoid predators, and may cause the mortality of fingerlings. A reduction in the vigor of the population would make this species more susceptible to habitat degradation or environmental disturbances.

Cumulative Effects

Although greenback cutthroat trout have been reintroduced into Zimmerman Lake, the long-term success of these fish is uncertain as isolation in this type of environment can alter the genetic structure of the population. Greenbacks have occupied Bear Creek for over 100 years and have likely adapted to the specific habitat conditions within the stream. This population is of critical importance to the recovery of this species as it is the most genetically diverse (Krieger, pers. comm. 2014). The success of reintroduction efforts to its native range, and ultimately the recovery of the species, depends on the persistence of the Bear Creek population.

Ongoing and planned sediment mitigation projects would continue to be implemented in the Bear Creek Basin). These projects are designed to mitigate sediment movement generated from the trail system. However, these actions only target various problematic locations and do not address the overall and long-term sustainability of the trail system. In-stream habitat quality would continue to degrade in the absence of trail rehabilitation, or rain or snowmelt events capable of moving sediment from, and within, the stream system. However, these rain or snowmelt events may also cause damage to the transportation system, as evidenced by severe damage to High Drive and various trails that occurred during rain events in September of 2013 (RMFI 2013; CH2MHill 2013). These features experienced significant soil erosion that was transported into Bear Creek due to inadequate drainage systems and the proximity of these features to the creek. Portions of the trail system and the road base and drainage system along the upper portion of High Drive were repaired as a result of emergency restoration efforts. However, the drainage system along the lower portion of High Drive remains non-functional and continues to transport sediment into Bear Creek.

Maintaining the existing travel system and associated human uses in the Bear Creek basin would perpetuate the risk of expiration of this population during periods of drought and high water temperatures, or from natural or human-caused events that may cause extensive erosion and sedimentation. Large-scale wildfire events, for example, have the potential to result in the widespread destabilization of slopes in the project area. Potential sources of human-caused ignition, such as open fires and recreational shooting activities, would be permitted under this alternative on National Forest System lands. The effects of a large scale wildfire event in the project area would depend on soil burn severity and the occurrence of storm events in which rainfall intensity exceeds soil infiltration capacity. The resulting sedimentation would degrade stream habitats conditions, possibly rendering the stream systems uninhabitable by the greenback cutthroat trout.

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

### ALTERNATIVE B AND ALTERNATIVE C

Direct and Indirect Effects

Management actions that reduce sediment delivery to stream systems, enhance riparian vegetation, stabilize stream banks, and improve in-stream habitat features, would enhance the ecological function of Bear Creek. Under Alternatives B and C, various sources of erosion and sedimentation to Bear Creek would be eliminated or reduced. This would be achieved through trail realignment, improved road and trail drainage, and system and non-system trail rehabilitation. The number of stream crossings, the length of trails, and the extent of ground disturbance in the Water Influence Zone of the creek would be reduced. These changes are expected to result in a substantial reduction in the amount of surface erosion and sediment delivery to Bear Creek. Under these alternatives, about 6.5 (i.e., 78%) and 7.2 miles (i.e., 87%) of the routes in the Water Influence Zone of Bear Creek, respectively, would be decommissioned. Alternative B would result in a reduction of 2.5 miles (i.e., 96%) of multiple-use trails, 0.3 miles (i.e., 25%) of non-motorized system trails, and 3.7 miles (i.e., 100%) of non-system trails. Alternative C varies from Alternative B by reducing an additional 0.7 miles of non-motorized system trail.

Improvements to the trail system (e.g., trail realignment, rehabilitation of system and non-system trails, slope stabilization, bridge removal or construction, etc.) would result in soil disturbance that may temporarily increase sediment transport to the habitat of the greenback cutthroat trout. The application of project design standards would minimize the movement of soils during implementation, but some transport of sediment to the creek during certain activities, such as bridge removal, is unavoidable. However, these management actions would result in improved trail drainage, less disturbed or barren ground, and reduced trail contact with the creek. Sediment delivery to greenback habitat would ultimately be reduced to levels less than existing rates as sources of erosion are eliminated or stabilized and hydrologic connectivity with the creek is reduced.

The trail reroutes and new construction proposed under Alternatives B and C all occur outside the Water Influence Zone of both Bear Creek and North Cheyenne Creek. Sediment generated from these management actions would not be deposited in these features, and therefore, would not affect the greenback cutthroat trout. Under Alternative B, the conversion of non-system routes (i.e., Palmer Trail and the Mount Buckhorn Trail) to National Forest System trails would also not affect the habitat of this species. Under this alternative, a trail would also be constructed from Trail 668 (Pipeline) to Jones Park. This management action would require a single bridged crossing of Bear Creek. Construction of this bridge may cause some localized sediment transport to the creek, but the effects of this action on the habitat of this species would be temporary. This trail would be managed as a non-motorized route, with off-trail use prohibited. As such, the non-system route leading from Jones Park/Trail 667 (Jones Park) to Mt. Garfield and Mt. Arthur would be eliminated. Monitoring would be utilized to assess compliance with the proposed management of this access route. Protection measures would be employed if monitoring indicates that recreational use is deviating from the authorized trail system and resulting in resource damage.

The decommissioning and restoration of trails would also create site conditions that facilitate the recovery of vegetation. Complete vegetative recovery on all rehabilitated sites is not anticipated, especially on severely damaged and steep slopes. However, stabilization of disturbed soils adjacent to

Bear Creek would aid in the recovery of herbaceous and deciduous woody riparian vegetation. This vegetative recovery would enhance greenback habitat at these locations. Riparian vegetation would help maintain stream channel profiles by protecting banks with soil-binding roots and by shielding banks from erosion. Riparian vegetation would also provide large woody material for recruitment, nutrients for aquatic and terrestrial prey, and cover that regulates fluctuations in water temperature.

A transportation system can alter the surface and subsurface hydrology of an area by intercepting, concentrating, and diverting flows from natural paths (Wemple et al. 1996). High Drive road is composed of native surface material that intercepts runoff over an estimated 34 acre area. Accumulated sediment has rendered much of the drainage system as non-functional. These conditions have caused elevated rates of erosion and sediment delivery to the creek, particularly during rain events. Management actions to reestablish a functional ditch and culvert system would separate flows and reduce this erosion potential (CH2MHill 2013, p.12). The installation and maintenance of drainage infrastructure, sediment detention features (e.g., sediment traps), and gully and slope stabilization would result in a reduction in erosion and sediment delivery to stream channels over the no action alternative. The conversion of High Drive to administrative motorized use would also eliminate heavy vehicle traffic that further contributes to the accumulation of sediment in drainage features. However, road and drainage improvements would entail the relocation of large amounts of soil with heavy equipment. When in proximity to Bear Creek, these management actions may cause the transport of sediment into occupied greenback habitat (Table 13). However, project design standards would ensure that sediment dispersion is limited. These standards include the placement of erosion control features (e.g., silt fencing) on disturbed or exposed soil, and restrictions on sediment disposal.

Stream channel instability caused by excess deposition of sediment impacts the food chain, spawning and rearing habitat, in-stream cover, water temperature, and other structural and functional components (see Hydrology Report). Under Alternatives B and C, habitat conditions in Bear Creek would be improved through in-stream restoration that entails pool enhancement and stream bank stabilization. The restoration of erosive stream banks would entail the realignment or placement of rock to decrease sheer forces along banks, placement of logs to stabilize outside meanders, and re-vegetation using sod mats or willow plantings. Existing pools would be expanded in depth through the removal of accumulated sediment, the removal of armoring cobble, and the realignment or placement of rock. Cutthroat trout disproportionately use pools relative to riffles during summer (Young 1996, Young et al. 1997a *in* Young 2009). As daytime foraging sites, the heads of pools usually provide the greatest energetic returns at the least cost in small to medium-sized streams, because macroinvertebrate production in upstream riffles is often high and has not been cropped by other fish. The reduced velocity in pools also requires less energy for fish to maintain position.

In-stream restoration would occur throughout the 4.1 mile occupied range of greenback trout, but would be limited to a total of 1.7 miles of the linear stream length (Figure 7). The need for treatment and required management intensity of the in-stream restoration is differentiated by segments identified as *upstream* and *downstream*. The upstream segment encompasses the 3.4 miles of Bear Creek that is adjacent to the trail system. Restoration in this segment would be limited to about 1 mile (i.e., 29%) of the stream length and would primarily be conducted by manual methods, but small mechanized equipment, such as a compact excavator, may be utilized where the stream is accessible. The downstream segment consists of the entire 0.7 mile portion of the stream that is adjacent to High

Drive. This segment of the stream is subjected to higher amounts of sedimentation due to erosion and drainage issues of the road prism and would require more intensive management actions. Since this segment is accessible from a road, the use of heavy equipment, including a backhoe, excavator, and front-end loader, would be utilized. The downstream segment of Bear Creek is cascading habitat that would support frequent small pools. It is estimated up to 100 pools may be created or enhanced in this segment. The proposed in-stream restoration would deepen existing pool habitats and reconstruct habitat features that would encourage further pool development from natural hydrology.

Streambed sediment would be disturbed and redistributed during the creation or enhancement of pools and the manipulation of habitat features with rock and logs. Greenback habitat located downstream of the treatment areas may be impacted if deposited sediment reduces the quality of riffles or pools. The magnitude of these effects would vary based on the proximity and intensity of these in-stream treatments. Sediment displacement would be most pronounced at sites treated with heavy equipment, as proposed in the downstream segment. However, the effects of displaced sediment on potential greenback habitat would be limited in extent. In-stream restoration over 1.7 miles of the linear stream length represents 41 percent of the occupied range of the greenback cutthroat trout in Bear Creek. The substrate in Bear Creek is also dominated by medium to coarse gravel which would settle relatively quickly (est. <20 ft.) following streambed disturbance. The impact to habitat features would be temporary, as conditions would be improved as in-stream treatments begin at upstream locations and proceed downstream.

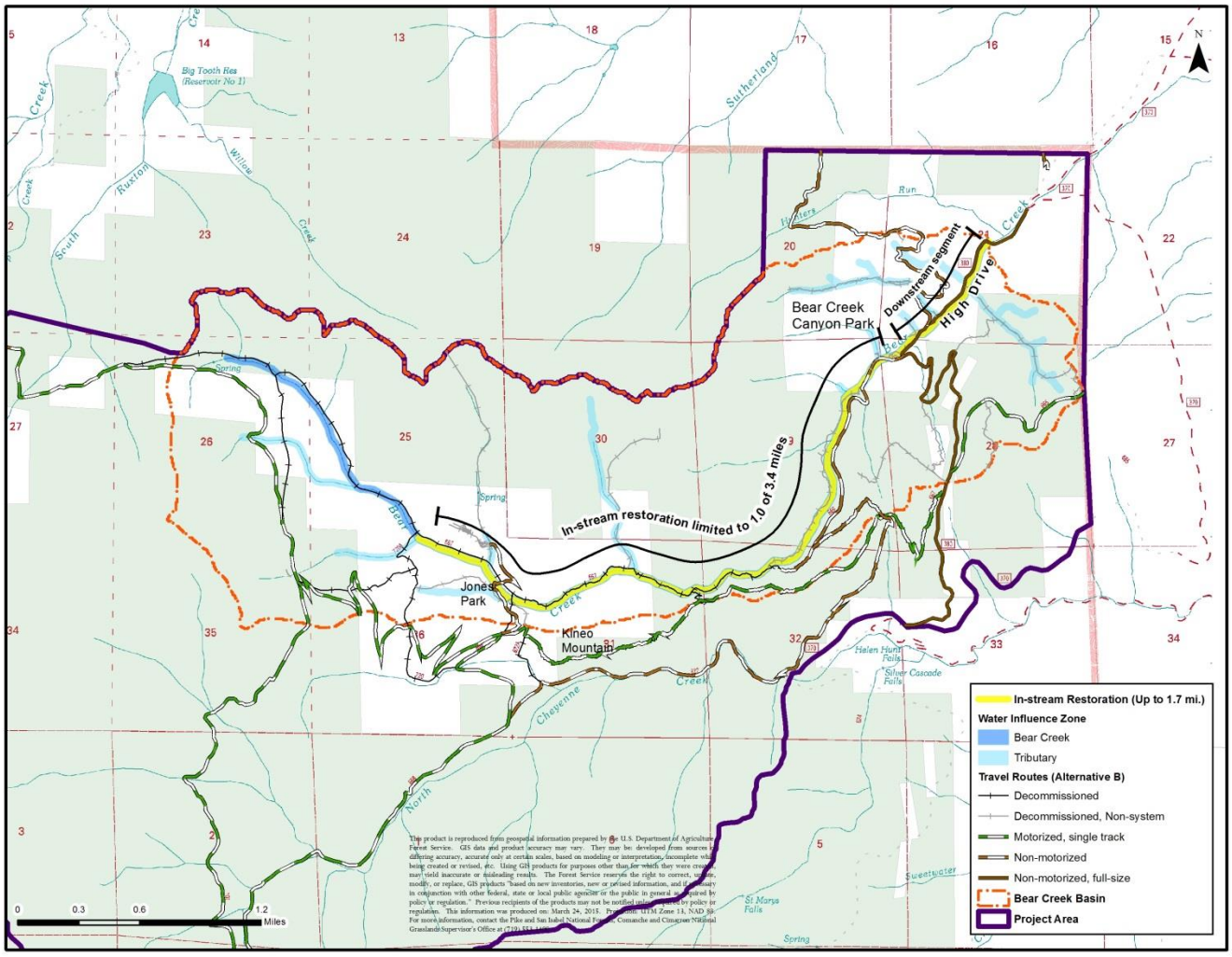


**Figure 7: Bear Creek In-Stream Restoration**

Under Alternatives B and C, the proposed in-stream treatments may result in direct effects on the greenback cutthroat trout. For instance, a reduction in water quality, as a result of increased fine sediment, can impact this species by clogging gills. However, Bear Creek contains very little organic matter and there is a low risk of fine silt damaging the respiratory systems of fish (Krieger, pers. comm. 2014). Project design standards would also reduce the effects of in-stream restoration on the reproductive success of this species. These standards would protect greenback redds (i.e., spawning sites) and alevins (i.e., young fish with a yolk-sac) by prohibiting management actions that cause sediment delivery to the stream during the spawning, egg development and hatching, and early rearing period of June through August. After this period, sediment displaced during restoration would not be expected to affect greenback reproduction as alevins would have completed emergence from the gravel and become free-swimming fry (Krieger, pers. comm. 2014).

Greenback in Bear Creek have demonstrated a propensity to move in response to environmental stress (i.e., drought, flooding, high sediment load), and recolonize sites when conditions stabilize (Krieger, pers. comm. 2014). It is anticipated that this species would have a similar behavioral response to

disturbance generated by in-stream restoration. The application of project design standards would also require personnel to wade through habitat improvement sites prior to implementation. This action would encourage fish movement from these sites. Natural barriers to fish passage are widely spaced in Bear Creek and there are long reaches (e.g., 0.5 mi.) where fish would be able to both ascend and descend unimpeded through the stream system.

Regardless of management practices to minimize impacts to this species, in-stream restoration has the potential to result in the direct harm to individual greenback cutthroat trout, particularly in the 0.7 mile downstream segment due to the use of heavy equipment. Greenback in Bear Creek are relatively small, and as such, smaller fish (i.e., <79 mm or ~ 3 in) may not be as mobile during in-stream restoration (Krieger, pers. comm. 2014). There is a possibility that fish would be unable to relocate during implementation, and individuals may suffer abrasion, suffocation, or may be buried by streambed sediment. With an average population density of 597 fish of all sizes per mile, and an estimated 2% loss of small fish per mile of habitat improvement, up to12 fish per mile, or about 21 total over 1.7 miles, may perish.

The introduction of a non-native aquatic species into Bear Creek could have devastating effects on the greenback cutthroat trout population. For instance, whirling disease (*Myxobolus cerebralis*) damages cartilage and compromises the nervous system of trout. The absence of the aquatic oligochaete host of this parasite (i.e., *Tubifex tubifex* worms) in Bear Creek has not been confirmed. The greenback population does not show sign of infection. If introduced, whirling disease would cause spinal deformities and decrease the ability of greenback to feed and avoid predators, and may cause the mortality of fingerlings. A reduction in the vigor of the population would make this species more susceptible to habitat degradation or environmental disturbances. Humans and domestic animals, in particular, would have the highest potential to come in contact with Bear Creek, and are a source for the introduction or spread of ANS. Reducing water contact by eliminating the number of live stream crossings and by restricting human access in the Bear Creek basin would diminish the risk of accidental introduction of aquatic nuisance species into the stream system.

Brook trout are also a threat to the persistence of greenback cutthroat trout. Brook trout may displace greenback as this species matures at younger age and exhibits greater size-specific fecundity (Adams 1999, Kennedy et al. 2003, *in* Young 2009, p.34). The mortality rates of young cutthroat trout exposed to brook trout are also often high enough to result in recruitment failure (Dunham et al. 2002a, Shepard et al. 2002, McGrath 2004, and M.K. Young, unpublished data, *in* Young 2009, p.34). Management actions are necessary to prevent habitat connectivity between the greenback population and the downstream portion of the creek occupied by brook trout. The proposed improvement of an existing fish barrier and construction of an additional fish barrier are expected to have minimal impacts on greenback habitat. These features are located at or near the lower extent of this species range in Bear Creek. The sediment displaced by these actions would primarily be deposited downstream of occupied habitat.

**Table 13: Summary of Management Actions that may Affect the Greenback Cutthroat Trout**

| Management Action | National Forest | | El Paso County | | City of Colorado Springs | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Alt. B | Alt. C | Alt. B | Alt. C | Alt. B | Alt. C | Alt. B | Alt. C |
| In-stream Habitat Improvement[12] | 0.5 | 0.5 | 0.4 | 0.4 | 0.8 | 0.8 | 1.7 | 1.7 |
| Trail Decommissioning (System) | 0.9 | 1.1 | 1.9 | 1.9 | 0 | 0.3 | 2.8 | 3.3 |
| Trail Decommissioning (Non-system) | 1.7 | 1.7 | 0.6 | 0.6 | 1.4 | 1.4 | 3.7 | 3.7 |
| **Total Miles** | **3.1** | **3.3** | **2.9** | **2.9** | **2.2** | **2.5** | **8.2** | **8.7** |
| Bridge Installation (Trail) | 0 | 0 | 1 | 1 | 2 | 0 | 3 | 1 |
| Bridge Removal/Rehab (Trail) | 1 | 1 | 2 | 2 | 0 | 0 | 3 | 3 |
| Stream Crossing Restoration (Trail) | 2 | 2 | 14 | 14 | 0 | 2 | 16 | 18 |
| Culvert Maintenance (High Drive) | 0 | 0 | 0 | 0 | 8 | 8 | 8 | 8 |
| Culvert Installation (High Drive) | 0 | 0 | 0 | 0 | 4 | 4 | 4 | 4 |
| Sediment Trap Creation (High Drive) | 0 | 0 | 0 | 0 | 16 | 16 | 16 | 16 |
| Berm Removal (High Drive) | 0 | 0 | 0 | 0 | 13 | 13 | 13 | 13 |
| Fish Barrier Construction | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| **Total Structures** | **3** | **3** | **17** | **17** | **44** | **44** | **64** | **64** |

[12] Actual stream treatments in the upstream segment may vary by land ownership. Figures are estimates of the 1 mile (i.e., 29%) of the 3.4 miles of linear upstream segment that would receive treatment. The entire 0.7 downstream segment (adjacent to High Drive), would receive treatment.

Cumulative Effects

Historically, habitat alteration contributed to the extirpation or reduction of large numbers of populations of greenback cutthroat trout. Introductions and invasions of nonnative trout probably represent the greatest cause of recent declines (Young 2009, p.3). Existing barriers provide a limitation to dispersal, resulting in most populations of greenback cutthroat trout being restricted to short, headwater stream segments. Lack of connectivity to other populations renders them vulnerable in the short term to extirpation from natural disturbances such as fire, post-fire debris torrents, or floods, and in the long term to loss of genetic variability and the potential for evolving in response to changing environmental conditions, such as climate change (Young 2009). Model projections suggest some suitable habitats may shift to higher elevations and precipitation patterns imply there may be large declines in late summer flows. Because these habitat changes are likely to be coupled with greater resource demands (particularly for water) by a rapidly growing human population in the Rocky Mountains, the future for stream populations of greenback cutthroat trout remains uncertain (Young 2009).

Although greenback cutthroat trout have been reintroduced into Zimmerman Lake, the long-term success of these fish is uncertain as isolation in this type of environment can alter the genetic structure of the population. Greenbacks have occupied Bear Creek for over 100 years and have likely adapted to the specific habitat conditions within the stream. This population is of critical importance to the recovery of this species as it is the most genetically diverse (Krieger, pers. comm. 2014). The success of reintroduction efforts to its native range, and ultimately the recovery of the species, depends on the persistence of the Bear Creek population.

The management actions proposed under Alternatives B and C would improve the overall and long-term sustainability of the trail system in the Bear Creek Basin. In-stream habitat quality would also improve as trails are rehabilitated or rerouted outside of the Water Influence Zone. However, rain events may continue to cause damage to the transportation system. For example, High Drive experienced severe damage during rain events in September of 2013 (RMFI 2013; CH2MHill 2013). The road and Bear Creek endured significant soil erosion due to an inadequate drainage system and the proximity of this feature to the creek. The road base and drainage system along the upper portion of the road were repaired as a result of emergency restoration efforts Under Alternatives B and C, the lower portion of High Drive would also receive drainage system improvements. The combination of these management actions would make the portion of High Drive that drains into Bear Creek more resilient to erosion during rain events.

An increase in public use of National Forest System lands is plausible given expected human population growth within the communities located in proximity to the Pikes Peak Ranger District. In addition, interrelated actions within or near the district may further promote recreational use the National Forest. For instance, the South Slope watershed is administered by Colorado Springs Utilities and consists of about 9,000 acres of land located south of Pikes Peak. Development and use of this property as a recreation area includes the opening or construction of trails that connect to National Forest System trails in the project area. This action would provide connectivity between the South Slope Watershed and the City of Colorado Springs. Under Alternatives B and C, the proposed trail reroutes would direct recreational use to the North Cheyenne Creek watershed, which is also occupied by a

federally listed population of greenback cutthroat trout. However, recent genetic analysis suggests that this population is Colorado River cutthroat trout, and is less of a concern than the fish that occupy Bear Creek. In addition, the trail system would occur well above the range of the greenback population in this stream, and the proposed trail reroutes would be designed and constructed for improved sustainability. Habitat conditions within North Cheyenne Creek would continue to be maintained to sustain this population as a native trout population.

Due to current vegetation conditions, forested stands in the project area are at increased risk of disturbance events, such as wildfire and insect and disease infestation. An overabundance of dense, closed canopy forest and corresponding lack of open forest conditions creates continuous, fairly uniform canopy conditions. High stem density has reduced the vigor of trees, and structure and distribution predispose stands to insect and disease outbreaks. Stands are also at risk of sustained crown fire over large areas due to canopy continuity. Large-scale wildfire events have the potential to result in the widespread destabilization of slopes in the project area. The severity of wildfire events depend on many variables, including fuel conditions (e.g., fuel moisture), location of the ignition, topography, and weather. The effect of wildfire on slope stability also depends on soil burn severity and the occurrence of storm events in which rainfall intensity exceeds soil infiltration capacity (see Indirect Effects). The implementation of large scale vegetation management in the project area, would reduce the potential spread and severity of wildfire events by altering stand structure and reducing tree density. Under Alternatives B and C, prohibiting open fires and recreational shooting activities in the Bear Creek basin would also reduce the risk of a wildfire event by excluding these potential sources of human-caused fire ignition.

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

#### *MEXICAN SPOTTED OWL*

*(Strix occidentalis lucida)*

Forested stands with the vegetative type and structural features that may support this species encompass about 2,739 acres of the project area. Stands occupied by spotted owl for nesting and roosting have certain structural features in common. These typically include relatively high tree basal area, large trees, multi-storied canopy, multi-aged trees, high canopy cover, and decadence in the form of downed logs and snags (Ganey and Dick 1995 *in* USDI FWS 2012b, p.267). About 501 acres of the project area contain potential nest/roost habitat, of which 136 acres is located on City of Colorado Springs and El Paso County lands. These stands are concentrated in the eastern portion of the project area and are predominantly composed of mixed-conifer forest associated with vertical rock formations, interspersed with clumps or stringers of mature trees. In addition, the project area contains about 1,547 acres of stands lacking the habitat complexity or structure to support the nesting or roosting habitat required by this species. However, these stands are suitable as foraging habitat for the spotted owl and are considered forested recovery habitat (i.e., replacement nest/roost habitat). The project area also contains 66 acres of riparian recovery habitat that may be utilized by spotted owls for foraging, roosting, daily movements, and dispersal.

### ALTERNATIVE A (NO ACTION)

Direct and Indirect Effects

Under Alternative A, the existing transportation system would not have direct effects on the Mexican spotted owl. However, the presence and use of trails located in stands identified as spotted owl Recovery Habitat (USDI FWS 2012b) may have indirect effects on this species. For instance, 1.5 miles of non-system trails traverse stands classified as potential nest/roost habitat in the Bear Creek basin. These stands also occur in proximity to rock features in which this species may be associated with for breeding. Human presence and noise generated from recreational use of these trails may cause behavioral responses from this species that result in reduced vigor and increased exposure to threats. The potential effects of spotted owls reacting to human caused disturbance include increased energetic demands of avoidance flight, displacement in distribution or habitat use, and exposure to diurnal predators. Under this alternative, unrestricted human access to the Bear Creek basin would perpetuate this source of disturbance in and near this potential spotted owl habitat. The use of these trails may also lead to the establishment and proliferation of additional non-system trails that may continue to degrade habitat conditions.

In the absence of management actions that reduce the existing rates of erosion and sedimentation, the transportation system, non-system routes, and other ground disturbance would continue to affect riparian areas in the Bear Creek basin. Riparian forests are considered to be a key habitat for spotted owl recovery that could frequently be used by this species for foraging, roosting, daily movements, dispersal, and potentially for nesting (USDI FWS 2012b, p.270). This alternative would result in continued degradation in the habitat quality of riparian areas. Riparian vegetation would continue to be denuded along disturbed portions of the creek, impeding the recovery of herbaceous and deciduous woody vegetation and the development of desirable conditions for this species in the riparian forest habitat type.

Cumulative Effects

Due to current vegetation conditions, forested stands in the project area are at increased risk of disturbance events, such as wildfire and insect and disease infestation. An overabundance of dense, closed canopy forest and corresponding lack of open forest conditions creates continuous, fairly uniform canopy conditions. High stem density has reduced the vigor of trees, and structure and distribution predispose stands to insect and disease outbreaks. Stands are also at risk of sustained crown fire over large areas due to canopy continuity. The severity of wildfire events depend on a variety of factors, including fuel conditions (e.g., fuel moisture), location of the ignition, topography, and weather. Due to the presence of steep slopes in the project area, wildfire events are likely to burn with high intensity and at a high rate of spread. The stands that are at the most risk of a wildfire event are also the stands in which the best potential spotted owl nest/roost habitat exists. The implementation of large scale vegetation management in the project area (), would reduce the potential spread and severity of wildfire events by altering stand structure and reducing tree density. However, under Alternative A, maintaining the existing travel system and associated human uses in the Bear Creek basin would perpetuate the risk of human-caused wildfire events. Potential sources of human-caused ignition, such as open fires and recreational shooting activities, would be permitted on National Forest

system lands. In the event of a wildfire that results in high burn severity (i.e., stand replacement), large acreages may be devoid of the forested conditions for several decades that may support this species.

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

### ALTERNATIVE B AND ALTERNATIVE C

Direct and Indirect Effects

The management actions proposed under Alternatives B and C are not expected to result in the direct injury or mortality of individual Mexican spotted owls. However, this species may be indirectly affected through the manipulation of potential habitat and by the noise disturbance generated during implementation.

During implementation, the presence of humans and equipment, and the noise generated from these sources, may cause behavioral responses from spotted owls that can reduce vigor and expose this species to threats. For instance, the potential effects of spotted owls reacting to human caused disturbance include increased energetic demands of avoidance flight, displacement in distribution or habitat use, and exposure to diurnal predators such as the peregrine falcon, which is documented in the project area. However, the sources of disturbance that can alter the behavior of this species are expected to be limited in duration and extent. The proposed management actions would be performed during daylight hours, avoiding the period in which spotted owls actively forage and are most sensitive to human presence and noise. In addition, the management actions proposed in proximity to potential nesting features would generally occur at locations in which there are existing sources of disturbance from recreational activities. Access to the project area for management also coincides with the period in which access for human recreation is limited. The potential disturbance to spotted owl habitat that exceeds existing sources of disturbance from human recreation is primarily limited to the proposed construction of trail reroutes.

The trail reroutes proposed under these alternatives would entail the construction of multiple-use and non-motorized trails within stands defined as spotted owl Recovery Habitat (USDI FWS 2012b). Spotted owl recovery habitat, in the form of mixed-conifer, riparian forests, and rocky canyons, has the potential to be used by owls for nesting, roosting, foraging, dispersal, and other life history needs (USDI FWS 2012b, p.274). These trail reroutes would result in the disturbance and removal of vegetation within potential recovery habitat. The non-motorized trail would traverse stands classified as the nest or roost habitat of this species. However, these stands do not contain the rock or canyon features in which this species is generally associated with for nesting. Site conditions have also inhibited trees within this reroute location from obtaining the structural features that are characteristic of desired spotted owl habitat, such as multistoried conditions. Motorized use would continue in or near potential nest/roost habitat, but the motorized trail reroute would not occur within this habitat type. This trail reroute occurs primarily within mature, warm-dry mixed-conifer forest types consisting of ponderosa pine and Douglas-fir stands. These forest types have limited value for this species as stands are generally single-storied and lack the habitat complexity or forest structure to support breeding spotted owls. However, these forest types are suitable as foraging and non-breeding habitat. Despite the disturbance or removal of vegetation for the construction of trail reroutes, the affected stands would retain this habitat capability. The amount of trees removed for trail creation is expected to be minimal,

as these features contribute to trail stability, and trail width would be constrained to about 12 to 18 inches. Understory vegetation (i.e., grass, forbs, and shrubs) and downed woody debris, which may be used as forage and cover by the prey of this species, would also be removed for trail clearance. However, the effect of this management action on these habitat features is expected to be limited in extent as the reroutes occur primarily on slopes in which understory vegetation is scattered or sparse.

The proposed trail reroutes would modify or remove about 0.7 acres of potential spotted owl recovery habitat (i.e., 0.4 acres in nest/roost; 0.2 acres in foraging/non-breeding; and 0.1 in riparian). However, the proposed rehabilitation of system and non-system routes would result in a net improvement of about 6.8 and 8.5 acres of habitat under Alternatives B and C, respectively. Potential nest/roost habitat would be improved by 1.7 to 3 acres, which would include a reduction in motorized and non-motorized sources of noise disturbance in this important habitat type. In addition, spotted owl foraging and non-breeding habitat would be improved by about 3 acres, while forested riparian habitat would improve by about 2 acres.

Riparian forests are considered to be a key habitat for spotted owl recovery that could frequently be used by this species for foraging, roosting, daily movements, dispersal, and potentially for nesting (USDI FWS 2012b, p.270). Under these alternatives, the proposed trail rehabilitation and stream habitat improvements would require the harvest of up to 100 coniferous trees per mile (i.e., average of one tree/52 ft.) for trail and stream bank stabilization, and in-stream habitat structures. The trees selected for use would average between 10 to 14 inches in diameter, and do not have the size or structure to support spotted owl nesting or roosting, but may be used by this species for foraging or dispersal movements. However, this management action is not expected to result in stand-level changes to this habitat type. Rather, the stabilization of disturbed soils adjacent to Bear Creek would promote the development of desirable conditions for this species in the riparian forest habitat type, by facilitating the recovery of herbaceous and deciduous woody vegetation.

Cumulative Effects

The proposed project area contains established features in which use for human recreation results in disturbance that may deter spotted owl occupancy. Under these alternatives, human recreation in the Bear Creek basin would be confined to the designated transportation system. Prohibiting travel off of designed routes would reduce or eliminate human disturbance within rock features that may support breeding spotted owls.

A reduction in travel routes would redistribute human recreational activities within the project area. Non-system trails (multiple-use and non-motorized) would be reduced by about 11.5 miles. The decommissioning of these trails would minimize the establishment and proliferation of non-system trails that cause additional habitat loss or degradation. The density of travel routes in the project area would also be reduced from 2.3 to 1.7 or 1.5 miles per square mile (miles/mi2). In particular, trail density would be reduced from 2.1 to 1.5 or 1.3 miles/mi2. Road density would remain unchanged at 0.2 miles/mi2, but would continue to be concentrated in the eastern quarter of the project area. Reduced trail density would improve habitat suitability and connectivity by minimizing the effects of fragmentation on this species.

The proposed changes to the transportation system would redirect recreational use in the Bear Creek basin to the North Cheyenne Creek basin. Motorized use, in particular, would be redirected to the trail reroute that is located south of Kineo Mountain. This reroute primarily traverses stands composed of ponderosa pine and Douglas-fir with a high component of rock or barren ground. However, these stands are not considered the recovery habitat of this species. The proposed transportation system may also increase non-motorized use of Trail 622 (Seven Bridges Trail). This trail traverses potential spotted owl nest/roost habitat, but any increase in use is not expected to change the type of recreational activities and associated noise disturbance that occur on this trail.

Due to current vegetation conditions, forested stands in the project area are at increased risk of disturbance events, such as wildfire and insect and disease infestation. An overabundance of dense, closed canopy forest and corresponding lack of open forest conditions creates continuous, fairly uniform canopy conditions. High stem density has reduced the vigor of trees, and structure and distribution predispose stands to insect and disease outbreaks. Stands are also at risk of sustained crown fire over large areas due to canopy continuity. Large-scale wildfire events have the potential to result in the widespread destabilization of slopes in the project area. The severity of wildfire events depend on many variables, including fuel conditions (e.g., fuel moisture), location of the ignition, topography, and weather. The effect of wildfire on slope stability also depends on soil burn severity and the occurrence of storm events in which rainfall intensity exceeds soil infiltration capacity. The implementation of large scale vegetation management in the project area would reduce the potential spread and severity of wildfire events by altering stand structure and reducing tree density. Under Alternatives B and C, prohibiting open fires and recreational shooting activities in the Bear Creek basin would also reduce the risk of a wildfire event by excluding these potential sources of human-caused fire ignition.

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## Region 2 Sensitive Species

The following species have the potential to occur within the project area based on habitat requirements and known distribution, and have been grouped in order to simplify the analysis and disclosure of effects for the proposed project. Although the manner in which these species utilize habitats may vary, they are similarly impacted by habitat alteration and noise disturbance.

### *Fringed Myotis (Myotis thysanodes)*

The project area contains about 4,960 acres of coniferous stands that may support this species. In particular, the eastern portion of the project area contains about 368 acres of mature Douglas-fir and ponderosa pine stands containing snags that may be utilized by this species as roost sites. These stands are also located in proximity to rock crevices with a southern exposure. However, all but 30 acres of these stands are located outside the primary elevation range of this species.

### *Hoary Bat (Lasiurus cinereus)*

The project area contains about 4,960 acres of coniferous stands that may support this species. However, habitat within the primary elevation range of this species is limited to about 1,095 acres of

coniferous stands and 24 acres of narrowleaf cottonwood located along the drainage within the northeastern portion of the project area.

### *American Peregrine Falcon (Falco peregrinus anatum)*

The northeastern portion of the project area contains the essential habitat components that support this species. Large rock outcrops associated with Tenney Crags provide suitable nesting habitat in the form of ledges with sheltered overhangs. These features are also positioned over a diverse forested environment within a relatively narrow drainage that includes a band of riparian forest. This combination of vegetation and landscape attributes provide a greater abundance of prey and also confine the movement of species that facilitates peregrine falcon predation. This species has been documented nesting in the watershed since the 1980's. Threats to this species include a decline in habitat quality and human disturbance of nest sites. A seasonal closure of a rock feature is in place that prohibits human occupation annually from April 1st through July 15th for the protection of nesting habitat.

### *Flammulated Owl (Otus flammeolus)*

The Colorado Breeding Bird Atlas has documented breeding of flammulated owl in El Paso and Teller Counties (Winn 1998, p.211; Cornell 2009). The project area contains about 4,960 acres of coniferous stands that may support this species. In particular, the eastern half of the project area contains about 715 acres of ponderosa pine and Douglas-fir stands within the elevation range (i.e., 7,000 to 10,000 ft.) of this species.

### *Northern Goshawk (Accipiter gentilis)*

The project area contains about 8,636 acres of coniferous and deciduous stands that may support the northern goshawk. Of these stands, about 116 acres contain the dense canopy in mature aspen or cottonwood stands that may provide the nesting habitat required by this species.

### *Olive-sided Flycatcher (Contopus cooperi)*

The project area contains about 5,391 acres of mesic mixed-conifer and spruce/fir stands that may support this species. However, the presence of natural openings located in proximity to these stands is limited.

#### Alternative A (No Action)

Direct and Indirect Effects

Under Alternative A, the existing transportation system would not have direct effects on this group of species. However, human presence and noise associated with recreational use of the trails in the project area may have indirect effects on these species (see Analysis of Effects - Noise Disturbance). These sources of disturbance may cause behavioral responses from these species that result in reduced vigor and increased exposure to threats. Potential effects include increases in energy expenditures, displacement in population distribution or habitat use, a reduction in productivity, and exposure to diurnal predators.

Under this alternative, about 11.5 miles of non-system trails would continue to exist in the project area. Recreational use of these trails may lead to the establishment and proliferation of additional non-system trails. These trails also enable various types of human use in and near the habitats of these species. For instance, non-system trails provide access to peregrine falcon nesting features. Human activities, such as rock climbing, may reduce the suitability of these features as nesting habitat for this species. Potential impacts to this species include the displacement of individuals, interference while foraging, and disruption during nesting (i.e., flushing adults off a nest while incubating eggs or tending to nestlings).

Cumulative Effects

Due to current vegetation conditions, forested stands in the project area are at increased risk of disturbance events, such as wildfire and insect and disease infestation. An overabundance of dense, closed canopy forest and corresponding lack of open forest conditions creates continuous, fairly uniform canopy conditions. High stem density has reduced the vigor of trees, and structure and distribution predispose stands to insect and disease outbreaks. Stands are also at risk of sustained crown fire over large areas due to canopy continuity. The implementation of large scale vegetation management in the project area would reduce the potential spread and severity of wildfire events by altering stand structure and reducing tree density. However, under Alternative A, maintaining the existing travel system and associated human uses in the Bear Creek basin would perpetuate the risk of human-caused wildfire events. Potential sources of human-caused ignition, such as open fires and recreational shooting activities, would be permitted on National Forest system lands. In the event of a wildfire that results in high burn severity (i.e., stand replacement), large acreages may be devoid of the forested conditions that may support these species.

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

### ALTERNATIVE B AND ALTERNATIVE C

Direct and Indirect Effects

The direct injury or mortality of individual sensitive species by the management actions proposed under Alternatives B and C is not expected with the application of project design standards. However, these species may be indirectly affected through the manipulation of potential habitat and by the noise disturbance generated during implementation of these alternatives.

Under these alternatives, the proposed trail rehabilitation and stream habitat improvements would require the harvest of up to 100 coniferous trees per mile (i.e., average of one tree/52 ft.) for trail and stream bank stabilization, and in-stream habitat structures. Trees would also be used for slope and drainage stabilization. The cutting of live and dead-standing trees may have negative effects on the species that utilize snags for roosting or nesting, such as the fringed myotis or flammulated owl, and species that use tree crowns for nesting, foraging, or roosting, such as the olive-sided flycatcher, hoary bat, or northern goshawk. The extent of effects on these species is dependent on the timing of the tree harvest and the amount and distribution of suitable habitat affected during implementation. If trees are harvested during the fall or winter periods, effects on these species are not expected. The flammulated owl and olive-sided flycatcher are migratory, while the hoary bat is not known to

hibernate in the state, and trees are not hibernation sites for the fringed myotis. In the event that tree harvest occurs during the spring or summer periods, these species may be displaced, and nesting or roosting habitat may be impacted. However, with the application of project design standards, effects on these species would be minimized. These design standards require the protection of live or dead trees containing cavities, active nest sites, and roost sites. The extent of actual tree harvest would also be limited over the 16 miles of proposed trail decommissioning, and 1.7 miles of stream restoration. While harvested trees would be essential for stream restoration and slope stabilization, trail restoration would primarily entail soil contouring and placement of existing rock. The harvest of 2,000 to 3,000 trees is possible, but not anticipated given actual restoration needs. Regardless, given the linear nature of these features in the project area, the proposed tree harvest would not result in changes to potential habitat at the stand level. In addition, the trees selected for use would average between 10 to 14 inches in diameter, which do not have the size or structure to support the habitat requirements of these species. The largest trees within the project area would be retained, which would provide the following habitat components: potential nest cavities in snags or dead portions of live trees for the flammulated owl; foraging perches in the form of snags or dead tops of live trees for the olive-sided flycatcher; large snags with features that may be used a roost sites by the fringed myotis; and trees with large crowns that may be used as roost sites by the hoary bat and nest sites by the northern goshawk.

Human presence, equipment, and the noise generated during implementation may cause behavioral responses from these sensitive species. These species may respond to the disturbance through avoidance of the specific activity. This may occur in the form of a defense response that is active (i.e., fight or flight) or passive (i.e., inhibition of activity). These behavioral responses affect species through increased energy expenditures or decreased energy acquisition. Human caused changes to species behavior also have the potential to expose species to an increased risk of predation. For instance, noise disturbance generated from the proposed management actions may flush individual species from cover or prevent species from inhabiting a site. However, the potential impacts to these sensitive species are expected to be limited in magnitude as the sources of disturbance that can alter the behavior of this species would be limited in duration and extent. The proposed management actions may result in temporary effects on these species, but these effects would be negligible when considered with the anticipated reduction in recreational use over large portions of the project area.

Cumulative Effects

The proposed project area contains established features in which use for human recreation results in disturbance that may deter occupancy by these sensitive species. Under Alternatives B and C, human recreation in the Bear Creek basin would be confined to the designated transportation system. Prohibiting travel off of designed routes would reduce or eliminate human disturbance within portions of this watershed. This would include human access to rock features that may support roosting fringed myotis and breeding peregrine falcons.

The travel routes in the project area would be reduced by a total of about 12 and 14 miles under Alternatives B and C, respectively. About 11.5 miles of these routes would entail the decommissioning of non-system trails. The density of travel routes in the project area would be reduced from 2.3 to 1.7 or 1.5 miles per square mile (miles/$mi^2$). In particular, trail density would be reduced from 2.1 to 1.5 or

1.3 miles/mi$^2$. Reduced trail density would improve the quality and availability of habitat for sensitive species by improving habitat connectivity and minimizing the effects of fragmentation. These alternatives would also redistribute human recreational activities within the project area. Recreational use in the Bear Creek basin would be redirected to the North Cheyenne Creek basin. However, these alternatives are not expected to result in an increase in disturbance to sensitive species, as this change would limit the various recreational activities to fewer trails.

Forested stands in the project area are presently at increased risk of disturbance events, such as wildfire and insect and disease infestation. An overabundance of dense, closed canopy forest and corresponding lack of open forest conditions creates continuous, fairly uniform canopy conditions. High stem density has reduced the vigor of trees, and structure and distribution predispose stands to insect and disease outbreaks. Stands are also at risk of sustained crown fire over large areas due to canopy continuity. Large-scale wildfire events have the potential to result in the widespread loss of habitat for these sensitive species. Under Alternatives B and C, prohibiting open fires and recreational shooting activities in the Bear Creek basin would reduce the risk of a wildfire event by excluding these potential sources of human-caused fire ignition. The implementation of large scale vegetation management in the project area, would also improve forest health. Vegetation treatments would reduce the risk of insect and disease outbreaks and would reduce the potential spread and severity of wildfire events by altering stand structure and reducing tree density.

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

### ISSUES

Information in Table 11 focuses on issues, relevant to erosion and sedimentation, identified through scoping and where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

## 3.7 ENVIRONMENTAL JUSTICE, CIVIL RIGHTS AND AMERICANS WITH DISABILITIES ACT

Environmental Justice

As stated in Executive Order 12898, all federal actions are required to consider the potential of disproportionate effects on minority and low-income populations in the local region. The principals of Environmental Justice require agencies to address the equity and fairness implications associated with federal land management actions.

There were questions submitted during scoping asking about Environment Justice impacts but there were no comments submitted identifying a disproportionate effect on minority or low-income populations from the proposed action.

Table 14 reports the number of individuals below the poverty level and poverty rates in 2000 and 2013 in El Paso and Teller Counties. In 2000, both counties had poverty rates lower than that of the state. Poverty rates in all three geographic settings increased from 2000 to 2013. Such poverty rates suggest that a substantial proportion of the existing population should not be considered as a low income group. Therefore, decisions regarding low-income populations adjacent are not as important as

otherwise thought. The great recession that started in 2008 is another note of consideration. The increase in poverty rates across the state and counties between 2000 and 2013 can be attributed to the economic malaise created by the 2008 great recession. Generally speaking, the economy is in recovery mode and, therefore, one could expect the poverty rates to decrease in subsequent years.

Furthermore, Table 15 displays the poverty rates in census tracts adjacent to the project area for 2000 (no earlier census data was available). Assuming most users are from adjoining lands makes project impacts on minority or low-income populations environmental justice even less likely. Given the poverty rates recorded from potential counties affected by this project compared to poverty rates adjacent to the project area and statewide poverty rates, the potential project impacts on minority and low-income populations expressed in comments received during scoping seem at best very low.

**Table 14: Poverty Status by State and County 2000 and 2013[13]**

| | **2000** | | **2013** | |
|---|---|---|---|---|
| | Number | Percent | Number | Percent |
| Colorado | 388,952 | 9.3 | 660,674 | 13.2 |
| El Paso County | 40,318 | 8.0 | 76,520 | 12.4 |
| Teller County | 1,096 | 5.4 | 1,614 | 7.0 |

**Table 15: Poverty Status by Census Tract Adjacent to Project Area 2000[14]**

| | **2000** |
|---|---|
| | Percent |
| Cheyenne Mountain | 3.4 |
| Green Mountain Falls | 7.7 |

The percentages of minority populations within the counties potentially affected by the proposed project generally follow statewide trends (Table 16). The percentage differences between the counties

[13] 2009-2013 American Community Survey 5-Year Estimates
[14] 2009-2013 American Community Survey 5-Year Estimates

and the state-wide percentage of minority populations are most prevalent in the percentages of white and black or African American residents. Teller County has the largest percentage of white at 94.3 percent of population, and the lowest percentage of all other identified race categories. El Paso County on the other hand, tracks closer to the state race percentages. El Paso County's population consists of 79.8 percent white and 6.2 percent African American, and the state minority population consists of 81.3 percent white and 4.0 percent African American. The Hispanic population, another important group in the Southwestern United States, has similar percentages for El Paso County and the state; 20.8 and 15.1 present, respectively. Teller County on the other hand has the lowest percent of citizens identifying themselves as Hispanic at 5.5 percent.

**Table 16: Racial Percentages of Total Population by County and State**

| Race | White | Black or African American | American Indian | Asian | Native Hawaiian /Other Pacific Islander | Other Race | Hispanic Origin of any Race |
|---|---|---|---|---|---|---|---|
| **State of Colorado** | 81.3 % | 4.0% | 0.7% | 2.8% | 0.1% | 7.2% | 20.7% |
| **El Paso County** | 79.8 % | 6.2% | 0.6% | 2.7% | 0.4% | 4.9% | 15.1% |
| **Teller County** | 94.3 % | 0.5% | 0.5% | 0.7% | 0.1% | 1.1% | 5.5% |

USDA Civil Rights Policy

The Civil Rights Policy for the USDA, Departmental Regulation 4300-4 dated May 30, 2003, states that the following are among the civil rights strategic goals; (1) managers, supervisors, and other employees are held accountable for ensuring that USDA customers are treated fairly and equitably, with dignity and respect; and (2) equal access is assured and equal treatment is provided in the delivery of USDA programs and services for all customers. This is the standard for service to all customers regardless of race, sex, national origin, age, or disabilities.

Disparate impact, a theory of discrimination, has been applied to proposed changes between project alternatives in order to reveal any such negative effects that may unfairly and inequitably impact beneficiaries regarding program development, administration, and delivery. The objectives of this review and analysis are to prevent disparate treatment and minimize discrimination against minorities, women and persons with disabilities and to ensure compliance with all civil rights statutes, Federal regulations, and USDA policies and procedures.

Persons with Disabilities

Some commenters were concerned that closure of motorized access would discriminate against elderly, handicapped, or physically impaired people who require motorized transportation for forest access. The Forest Service will not be denying access to any single group under any of the alternatives. If a road is closed to motorized access, it is closed to all motorized access equally. Similarly, if a road or trail is open to motorized use, it is open to everyone. Therefore, the proposed project is not discriminatory towards persons with disabilities, because it applies equally to all groups.

Under section 504 of the Rehabilitation Act of 1973, no person with a disability can be denied participation in a Federal program that is available to all other people solely because of his or her disability. There is no legal requirement to allow people with disabilities specific use of roads, trails, or other areas that are closed to public use. Restrictions on public use of roads, trails or other areas that are applied consistently to everyone are not discriminatory.

The Federal and Forest Service Accessibility Guidelines and Standards requires new and altered camping facilities, picnic areas, beach access routes, and outdoor recreation access routes in the National Forest System to comply with the Forest Service Accessibility Guidelines and Standards. When the Forest Service builds something, it should be build it for everybody. However, compliance with the Forest Service Accessibility Guidelines and Standards will not always result in facilities that are accessible to all persons with disabilities. At some locations, the natural environment will prevent compliance with some of the Forest Service Accessibility Guidelines and Standards technical provisions (*Accessibility Guidebook for Outdoor Recreation and Trails, Applying the Forest Service Outdoor Recreation Accessibility Guidelines).*

There are four specific exceptions to the Forest Service Accessibility Guidelines and Standards technical requirements. The conditions in the proposed project area apply to exception numbers one and two. Exception number one may be applied where compliance with the technical requirement is not practicable due to terrain. The phrase "is not practicable" in exception number one refers to something that isn't reasonable, rather than to something that is not technically possible. The intent of this condition is that the effort and resources required to comply shouldn't be disproportionately high relative to the level of access established.

The Forest Service Accessibility Guidelines and Standards exception number two may be applied where compliance is precluded because the cultural, historic, or significant natural features are protected or are eligible for protection under Federal, State, or local law. In this case the area contains the only known genetically pure Greenback cutthroat trout population in the world. Therefore, the Endangered Species Act (16 U.S.C. 1531 et seq) section of this exception applies to the proposed project *(Accessibility Guidebook for Outdoor Recreation and Trails, Applying the Forest Service Outdoor Recreation Accessibility Guidelines).*

Economics

Principles of economic impact analysis are relied upon to estimate the effects of travel management alternatives on the economic environment of the study area. “Economic impact analyses seek to determine short-term effects that Forest Service programs have on economic conditions in defined

impact areas in which the planning area occurs" (FSM 1900). As prescribed by Forest Service Manal 1900, short-term effects are those that occur during the first 10 years of a longer planning cycle. Economic impact analyses investigate the effects of the alternative development scenarios on employment and income. The relative size of the local communities plays an important role in the assessment of job and income impacts to the economy. Broader, more diverse, economies should be more resilient to changes in jobs and income than smaller, more rural, communities. For example, a loss of ten jobs in a large metropolitan area should have very little impact on the overall health of the economy. However, the same loss in jobs in a small rural community may severely affect local economic conditions. Thus, when assessing the magnitude of impacts to employment and income across alternatives, it is important to keep in mind the relative importance of those economic factors to the specified study area. In this case two areas, Teller and El Paso County, are potentially affected by decisions made. El Paso County has a large diversified economy and, therefore economic impacts to this county are highly unlikely. Teller County, on the other hand is much smaller, however Teller County is considered part of the greater Pikes Peak Region. The Pikes Peak Region is a large integrated economic unit that can easily absorb any losses attributable to the use changes proposed by this project.

Principles of economic impact are generally calculated using IMPLAN, however the IMPLAN program requires site specific use numbers. The types of uses and number of users are not available for this project, therefore the economic consequences will be calculated using quantitative data in a qualitative fashion. The quantitative data comes directly from the US Census Bureau, the Forest Service National Visitor Use Monitoring Report and the Colorado Off-Highway Vehicle Coalition Economic Contribution of Off-Highway Vehicle Recreation in Colorado report. The analysis will compare data between the aforementioned quantitative data reports and interpolate the findings to the proposed project area. For example, the National Visitor Use Monitoring reported only 10.0 percent of the all main activities (reasons for visiting the Forests) was attributed to motorized recreation.

The Berger report provides off-highway vehicle user expenditure data by region for Colorado. The proposed project straddles the Central and Eastern Regions; two very different areas of Colorado. Both regions defined by Berger are heavily influenced by the Denver Metropolitan Area and the Pikes Peak Region. This report will interpolate the economic data from Berger and the user data from the National Visitor Use Monitoring Report to establish a reasonable amount of expected use. From the interpolated amount of use the report will determine the relative impact of each proposed alternative on current and future recreation users.

## Alternative A – No Action

### Direct Effects and Indirect Effects

The no-action alternative maintains the status quo.

Under Alternative A, the no-action alternative, current uses remain the same. Assuming current uses remain the same or slightly increase, no economic impacts to businesses supporting recreation in this area are expected under this alternative. However, increased use could lead to neighborhood crowding, increased noise and dust, and contribute to property value decline in adjacent neighborhoods. Americans with Disability Act (ADA) access will not change under this alternative. Also potential project

impacts are equal across all income and racial groups therefore no disproportionate effects on low-income or minority groups are expected from this alternative. Based on these findings, Environmental Justice concerns are not expected from this alternative.

**Cumulative Effects**

As motorized recreation popularity increases, increased motorized activity could impact property values as more people park in neighborhoods and use trails. Access to the project area will not change under this alternative. No adverse economic, environmental justice or Americans with Disabilities Act effects will occur under Alternative A.

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## Alternative B – Proposed Action

**Direct and Indirect Effects**

Alternative B proposes converting High Drive from a full size motorized road to a road open to non-motorized use by the public and administrative use by the City of Colorado Springs. Converting the full size category from motorized to non-motorized results in no net loss of area access. Disabled persons restricted to recreation via a car are still able to access the area via Gold Camp Road. High Drive is a short-cut road that both begins and ends on Gold Camp Road. Alternative B proposes closing 9.6 miles of Non-system trails. Generally speaking, non-system trails are not built to Forest System Trail standards and, therefore, are unsustainable. This alternative, however, proposes rehabilitating and legitimizing 1.3 miles of the identified non-system trails in the project area which have been found to be sustainable.

The potential effects on motorized recreation in the project area under Alternative B are negligible. This alternative proposes a loss of 1.1 miles of multiple-use system and 0.6 miles of multiple-use, non-system trails.

Non-motorized system trails increase from 6.0 miles to 8.2 under this alternative.

Alternative B maintains access to Jones Park and important local heritage site and access to Josephine Falls are both maintained.

Metropolitan areas, such as Colorado Springs and the surrounding Pikes Peak Region have large complex economic systems. Given the economic complexities and resilience contained within the project influence area the likelihood that small trail mile changes contained in this proposed action would affect overall economic viability is nearly non-existent.

The project area is located adjacent to an above average income neighborhood and the percentages of low income and minority populations in the larger metropolitan area are lower than the state as whole. Furthermore, all proposed trail mile changes affect all populations equally, therefore low-income or minority populations would not be disproportionately affected by this alternative. Based on these findings, we do not foresee any Environmental Justice concerns from this alternative.

In order to decide if Americans with Disabilities Act accessibility was practicable for new trails in the project area, the Interdisciplinary Team evaluated the potential project area using Forest Service Accessibility Guidelines and Standards. Based on Interdisciplinary Team, Forest Service Accessibility Guidelines and Standards evaluations, full Americans with Disabilities Act accessibility was determined to be not practicable in the project area. The Americans with Disabilities Act accessibility not practicable decision was based on complex terrain and the need to protect a threatened species. Americans with Disabilities Act accessibility will not change from the current condition.

Alternative B maintains access to Jones Park and an overlook of Josephine Falls. By maintaining access to these two important destinations within the project area, Alternative B lessens any potential project economic impacts. Impacts from not providing access to Jones Park or Josephine Falls to low-income or minority populations or persons with disabilities from Alternative B remain unchanged.

Potential project impacts are equal across all income and racial groups therefore no disproportionate effects on low-income or minority groups are expected from this alternative. The Interdisciplinary team considered the practicability of project area Americans with Disabilities Act accessibility. The terrain and the presence of an endangered species make providing project area Americans with Disabilities Act accessibility “not practicable”.

The proposed changes in system trail miles in Alternative B will not have an adverse effect on economics, cause disproportion adverse impacts to minority or low income populations or change current project area Americans with Disabilities Act accessibility.

**Cumulative Effects**

Other motorized recreation areas might see a slight increase in activity as a result of proposed project changes, which could potential shift some local economic activity away from the project area. However, taken as whole the change would be slight and inconsequential in such a large complex economic region.

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## ALTERNATIVE C

**Direct and Indirect Effects**

As described earlier, there are only slight differences between Alternative B and C. Alternative B provides access into Jones Park and an overlook to Josephine Falls, whereas Alternative C does not. The difference in non-motorized trails reflects the different access options. Alternative B proposes 8.2 miles of non-motorized trails, whereas Alternative C proposes 5.5. Access to these areas may cause a slight immeasurable economic effect. The inaccessibility applies to all populations equally, therefore no disproportionate affects are expected to low-income or minority populations or persons with disabilities.

Alternative C direct and indirect effects are similar to those described in the Alternative B direct effects section, with two small differences. Under Alternative C no access to Jones Park or an overlook to Josephine Falls is provided. Access to these two destinations may slightly affect area use numbers;

however as described, above the sheer size of the economy surrounding this area and the potential small change in use numbers makes measuring change in economic contribution from not providing access to these areas difficult to discern.

Under Alternative C all areas are equally inaccessible, therefore low-income or minority populations are not disproportionately affected by not providing access to Jones Park or the overlook to Josephine Falls. Based on these findings, we do not foresee any Environmental Justice concerns from this alternative. Under all alternatives accessibility to people with disabilities is unchanged. In order to decide if Americans with Disabilities Act accessibility was practicable for new trails built in the project area, the Interdisciplinary Team evaluated the potential project area using Forest Service Accessibility Guidelines and Standards. Based on Interdisciplinary Team, Forest Service Accessibility Guidelines and Standards evaluations, Americans with Disabilities Act accessibility was determined to be not practicable in the project area. The Americans with Disabilities Act accessibility not practicable decision was based on complex terrain and the need to protect a threatened species.

**Cumulative Effects**

Other motorized recreation areas might see a slight increase in activity as a result of proposed project changes, which could potential shift some local economic activity away from the project area. However, taken as whole the change would be slight and inconsequential in such a large complex economic region.

See section 3.9, Cumulative Effects Common to All Resources, for a full discussion of cumulative effects.

## ISSUES

Information in Table 17 focuses on issues, relevant to economic and social concerns, identified through scoping and where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

### Table 17: Issue Comparison: Economic and Social

| | Alternative A | Alternative B | Alternative C |
|---|---|---|---|
| **Mile of System Roads and Trails** | 27.7 | 26.9 | 24.2 |
| **Change of access disproportionately effecting minority, low income or persons with disabilities** | None | No change. Trail configuration would change, but all types of access currently allowed in the area would still exist | No change. Trail configuration would change, but all types of access currently allowed in the area would still exist |

# 3.8 CLIMATE CHANGE

The Colorado Climate Change Vulnerability Study found that temperatures have increased by 2.0° F. over the last 30 years and 2.5° over the last 50 years. The report also found minimum daily temperatures in Colorado rose more than daily maximums and temperatures increased in all seasons with the largest increases in summer. Increased average daily air temperatures are known to increase stream water temperatures. According to the report between 1971-2000 Colorado snowmelt and peak runoff shifted 1-4 weeks earlier. The Climate models referenced by the report predict an additional temperature increase of 2.5°F. 5.0°F by 2050. These predicted temperature increases were above the 1971-2000 baseline under a medium low emissions scenario. In most cases mid-21st century hydrology projections show decreased annual streamflow for Colorado's major rivers. In support of this finding, the Joint Front Range Climate Change Vulnerability Study found a streamflow decrease of 5-20% at 18 gauge stations between 2040 and 2070.

Decreased stream flows and increased daytime summer temperatures contribute to higher stream temperatures. Warmer stream temperatures and streamflow regime changes aquatic habitat and generally degrades ecological conditions for native aquatic mountain species. In addition to degrading aquatic habitat, the report predicts the identified increased mean daytime temperatures and water flow regime changes are likely to increase wildfire severity, vegetative insect and disease outbreaks, and increase invasive species throughout Colorado (Colorado Climate Change Vulnerability Study, 2015).

Greenhouse gas emissions have been found to increase overall global temperatures. Anthropogenic sources of greenhouse gas emissions result from burning fossil fuels for electricity, heat and transportation. In 2013 electricity produced 31%, transportation 27%, commercial and residential 12% and agriculture 9%off the total annual greenhouse gas emissions. In 2013 greenhouse gas emissions increased over 2012 levels (http://www.epa.gov/climatechange/ghgemissions/sources.html)

## ALTERNATIVE A – NO ACTION

Direct Effects and Indirect Effects

Under Alternative A the no action alternative, the Bear Creek Watershed would remain more vulnerable to climate change. Under Alternative A, there would be no improvements to the transportation system to mitigate road and trail derived sediment. Stormwater flow, with elevated turbidity and energy, would continue to be directly routed into Bear Creek. And there would be no reduction in transportation system derived shear stress. Trail use within the water influence zone would continue to inhibit riparian vegetation growth, which provides important shade to help mitigate increasing stream temperatures. Given future climate change , as described in the Colorado Climate Change Vulnerability Study, Alternative A would not contribute to enhancing resiliency from expected climate change, including increased sedimentation and in-stream temperature rise.

A very slight increase in greenhouse gas emissions could occur under Alternative A, resulting from increased motorized use in the area over time. Impacts due to this very slight increase are unmeasurable.

Cumulative Effects

Decreased riparian vegetation and increased sedimentation in Bear Creek from continuing existing uses will most likely result in increased water temperature and decreased aquatic habitat over time. Current project impacts combined with historic an ongoing project impacts from mining and historic uses will most likely result in a general downward trend in ecological resiliency. Resiliency and restoration are encouraged to mitigate climatic change impacts described above.

A very slight increase in greenhouse gas emissions could occur under Alternative A, resulting from increased motorized use in the area over time. Although these increases are additive to the global concentration of atmospheric greenhouse gases, contribution from this alternative is insignificant.

## ALTERNATIVE B – PROPOSED ACTION

Direct and Indirect Effects

Under Alternative B the proposed action trail segments located in the water influence zone decrease significantly on all lands. The number of trails located in the water influence zone on NFS Lands decreases by 90%, on El Paso County lands by 93% and by 52% on City of Colorado Springs lands, respectively. Moving trails out of the water influence zone allows riparian vegetation to re-establish. Increased riparian vegetation in the water influence zone shades the creek from direct sunlight, which may keep water temperatures cooler. Based on the findings outlined in the Colorado Climate Change Vulnerability Study indicating higher future air temperatures, the re-establishment of riparian vegetation should help the stream be more resilient to future impacts of climate change.

The re-establishment of riparian vegetation also helps attenuate sediment flows into the creek. The predicted shifting of stream run-off, in addition to more intense precipitation events, could create additional sediment flows into Bear Creek. Under this scenario it is possible spring run-off could occur prior to emergent vegetation, therefore increased riparian vegetation roots could help hold soil and prevent increased sedimentation. Alternative B the proposed action would move trails from the water influence zone. Removing human disturbance from this area would help promote the increased growth of riparian vegetation.

A similar increase in greenhouse gas emission as identified under Alternative A could also occur under Alternative B. A slight increase could result from increased motorized use in the area over time. Although hand-crews would complete most proposed trail work under this alternative, some improvements will require the use of heavy equipment. Heavy equipment such as backhoes, excavators front-end loaders and various trucks would be used to haul material to and from the project site and move onsite material or place new material. The greenhouse gas emission would only be during project implementation and would be slight.  Impacts due to these very slight emissions are unmeasurable.

Cumulative Effects

By moving trails out of the water influence zone, the Bear Creek Watershed should see increasing riparian vegetation. An increase in riparian vegetation should reduce stream sedimentation from future increased flows resulting from predicted increased and shifting run-off times, more storm events, and existing and future watershed disturbances. Reduced sedimentation enhances ecosystem integrity and

provides some protection for aquatic species from climatic changes. Shading resulting from increased riparian vegetation should help mitigate water temperature increases.

Greenhouse gas emissions can be expected to increase slightly during project implementation from heavy equipment use in the area. However, healthier riparian vegetation resulting from project implementation could provide a new carbon sink, which may offset emissions from project implementation.

## ALTERNATIVE C

Direct and Indirect Effects

Direct and indirect effects from Alternative C are similar to Alternative B. The amount of trail removed from the water influence zone increases slightly from Alternative B to Alternative C. Under Alternative C 97% of trail in the water influence zone on NFS Lands, 100% on El Paso County lands, and 63% on City of Colorado Springs lands are obliterated. As described under the direct and indirect effects for Alternative B, removing trails from the water influence zone promotes riparian vegetation growth. Increased riparian vegetation shades the stream and attenuates increased sediment flows into the stream.

Stream shading influences temperature, which is expected to increase under the climatic predictions outlined in the Colorado Climate Change Vulnerability Study. The study also predicts increased sediment flows earlier in the spring from predicted earlier spring run-off and more frequent and intense storms. Earlier spring run-off may occur prior to emergent vegetation. Under this scenario, roots from healthier riparian plants can help attenuate sediment flows into Bear Creek. Alternative C, like Alternative B, creates a future watershed that is more resilient to predicted climatic changes.

Greenhouse gas emissions are similar in scale and scope under Alternatives B and C. A slight increase could result from increased motorized use in the area over time. Although hand-crews would complete most proposed trail work under this alternative, some improvements will require the use of heavy equipment. Heavy equipment such as backhoes, excavators front-end loaders and various trucks would be used to haul material to and from the project site and move onsite material or place new material. The greenhouse gas emission would only be during project implementation and would be slight. Impacts due to these very slight emissions are unmeasurable.

Cumulative Effects

The potential cumulative effects from Alternatives B and C are similar. Just like under Alternative B, Alternative C eliminates most trails from the water influence zone. Decreasing trails in the water influence zone promotes increased riparian vegetation. Increased riparian vegetation attenuates stream sedimentation and moderates stream temperature increases over time. Attenuating stream sedimentation and moderating stream temperature creates a system more resilient to climatic change.

Just as mentioned under the cumulative effects section in Alternative B, Alternative C could see a slight increase in overall greenhouse gas emissions from increased motorized trail use; however this increase is not significant. Short-term project activities requiring the use of heavy equipment may increase

greenhouse gas emissions in the short term however, reestablishing riparian vegetation could offset some of these emissions.

## 3.9 Cumulative Effects Common to All Resources

The cumulative effects analysis covers a period of time starting with settlement of the area by Euro-Americans in the late 19th century and ending 10 years into the future. The cumulative effects analysis area includes the Bear Creek Project Area as well as adjacent private and National Forest System lands where past, present and reasonably foreseeable future management actions could affect the Bear Creek Watershed Restoration Project Area. The alternatives include actions on non-federal lands including lands owned by the City of Colorado Springs and El Paso County. Management actions included within the proposed action on the City of Colorado Springs and El Paso County lands have been included in the direct and indirect effects.

Past Impacts

The Euro-American settlement of the Pikes Peak area began in the mid-1800s and brought with it mining, logging, road construction, grazing, non-native plant and animal species, human caused fires, suppression of natural fires, and many other activities that have altered the natural disturbance regimes of the forest. Following the period of intensive logging and wildfires in the late 1800s, there was increased erosion and a reduction in water quality as sediment from the recently logged and burned areas reached the streams and rivers.

The logging industry developed to meet the needs for wood by the mining industry, the development of the railroad, and homesteading in Colorado. The Jones Park area, described as having timber “quite heavy” and a “considerable” amount already cut (Brunk 1994:30), featured at least two small-scale sawmill operations .

The first formalized, constructed, and well-maintained trail to the summit of Pikes Peak was built up the Bear Creek drainage in conjunction with the construction of the U.S. Army Signal Service Observatory in 1873. By August 1874, the Bear Creek and Pikes Peak Trail, also referred to simply as the Bear Creek Trail, was open to the public and saw enough traffic to support a hotel owned by Copley at Lake Moraine (Brunk 1994). In 1880, the Bear Creek Trail fell out of favor for a newer, shorter trail from Manitou Springs through Englemann Cañon. Only 10 miles long, compared with the nearly 18 miles of the Bear Creek route, the new Pikes Peak Trail quickly became the main route to the summit (Brunk 1994).

In 1891, renewed interest in a route through Bear Creek Cañon resulted in the incorporation of the Bear Creek Cañon Toll Road Company with the purpose of constructing a toll road “from the mouth of Bear Creek Cañon along Bear Creek …. to Lake Moraine” (Brunk 1994:12). The Bear Creek Cañon Toll Road cut through “a green and fertile little park, called Jones Park” (Brunk 1994:12). Portions of the Bear Creek and Pikes Peak Trail and the Bear Creek Cañon Toll Road have survived as the Bear Creek Trail (Trail #666) and Jones Park Trail (Trail #667), also known as Captain Jack’s Trail (ERO pg 10-11).

The landscape of Colorado has been shaped by the promotion of the state as a recreational destination since the 1870s when improved trails, wagon roads, and railroads increased access and made travel

easier, faster, and safer (ERO PG 21). Jones filed a Declaration of Occupancy in 1873 in an area “about half way to the summit of Pikes Peak” where he proposed “to keep a hotel and restaurant for the convenience of persons ascending the Peak” (Brunk 1994:15). With the popularity of the Bear Creek route to the summit of Pikes Peak growing, Jones anticipated “several thousands of visitors” in need of accommodation as they passed through the area now known as Jones Park (Brunk 1994:15). In addition, numerous other homesteaders in Bear Creek Cañon contributed to the tourism and settlement of the area on a smaller scale (ERO pg 18).

Jones’ official plat was filed on August 15, 1876 (BLM GLO 2013). Jones constructed a log house, gardens, bird houses, and fishing ponds stocked with greenback cutthroat trout from the South Platte River (Brunk 1994). The ponds had to be stocked from trout populations outside the drainage because a forest fire in the 1850s killed the native fish population in Bear Creek. The greenback cutthroat trout were brought in via bucket and donkey and represent the first generation of the greenback cutthroat trout population that is driving the current conservation efforts in Bear Creek (ERO pg 17).

North Cheyenne Cañon Park was established by the City of Colorado Springs in 1885 and General Palmer donated additional land for the park in 1907. At the time, due to the popularity of the park, transportation for tourists became an issue. As a resolution, General Palmer is credited with establishing High Drive as the first vehicular access to North Cheyenne Park. High Drive was a one way gravel road for horse and carriages for tourists to the park. Through the early 1900s, coaches with two to six horse teams took tourists through the park, up North Cheyenne Cañon Road, and over the High Drive outside the park. By 1917, the coaches shared the road with the first automobiles allowed to enter the park (Bonds 2008).

There was historic mining in the area. BLM records identify various historic mineral entries pertaining to the North Cheyenne Mining District. Mineral patents within the project area were concentrated along the portion of High Drive road south of Bear Creek. However, there were other mining ventures within the area that occurred on unpatented mine claims. Ultimately, the Martin Mine claim and camp located on the Pipeline Trail in North Cheyenne Cañon appears to have been the largest mining operation near Jones Park (Brunk 1994).

The period of extraction of minerals and timber was followed by the establishment of the Pike National Forest in 1908 with an emphasis on watershed protection and reestablishing the forested landscape. With the establishment of the municipal watersheds for the towns of Colorado Springs, Manitou Springs and Cascade, the management emphasis for the lands within and surrounding the Bear Creek Project Area was one of maintaining forest vegetation and minimize disturbance. Because of this emphasis on maintaining water quality very few vegetation treatments or logging was conducted on the National Forest or the adjacent lands managed by Colorado Springs Utilities. However in more recent years some vegetation treatments have been initiated to reduce the wildfire hazard in the area.

In the last half twentieth century, active fire suppression became another emphasis of the USDA Forest Service. The policy of suppressing wildfires over the last 100 years has resulted in many forests developing denser vegetation that would have historically been reduced by more frequent, low intensity and mixed severity fires.

Several large fires burned in the area between 1850 and 1890. Some of these were human caused. In recent times, several wildfires are reported in the area ever year. Most are less than half an acre. In 1998, on Mays Peak, a wildfire burned 16 acres. More recently, in 2011, there was a wildfire in the Bear Creek basin that reached 3.5 acres.

Present Impacts

The Bear Creek Project Area is completely within the Catamount Forest Health and Hazardous Fuels Reduction Project area. The Catamount project proposes to treat approximately 21,100 acres within the 100,000 acre Catamount Project Area of which 68,000 are planned on National Forest System lands. The objective of the project is to move the montane forest ecosystem towards their historic conditions. Implementation of the Catamount project began in 2011. To date approximately 1,295 acres have been treated. 600 acres are planned to be treated in the next 10 years. None of the acres that have been treated or that are currently planned are within the Bear Creek Project area.

Tourism in the area has increased as visitors come to visit Colorado Springs and Pikes Peak and are attracted to the diverse recreation opportunities available near Colorado Springs. Due to its close proximity to Colorado Springs, the project area has historically and continues to have high usage by both motorized and non-motorized recreationists. Trail motorcycles and mountain bikes have evolved and have become more popular in recent decades and the trail system in the project area has seen increased usage.

The temporary closures of many recreation areas within the Hayman (22 miles northwest of the project area) and Waldo Canyon (5 miles north) fire areas, have caused increased use of the trail system within and surrounding the project area. However, additional trail opportunities have become available as the City of Colorado Springs, El Paso County and Colorado State Parks have acquired open space lands and have planned and constructed new trail systems near the project area, including Red Rock Canyon Open Space, Cheyenne Mountain State Park, the Manitou Incline, and the Ute Pass Regional Trail. Colorado Springs Parks, Recreation and Cultural Services Department opened the South Slope Recreation Area to recreation use on a limited basis in 2014 and the Recreation Area will continue to be developed as funding allows, and additional recreation opportunities will become available in the future.

The floods in the fall of 2013 caused major damage to the trails in the Bear Creek area and caused High Drive to become impassable. The Federal Emergency Management Agency is funding and the City of Colorado Springs is managing repairs to High Drive. These repairs are within the project area from the Bear Creek Trailhead to the top of High Drive. Emergency repairs and mitigations to the upper portion of High Drive are expected to be complete by the fall of 2015.

Three unpatented mining operations were identified with active status in Bureau of Land Management Database LR2000. Active Claims in the area include Mona Mine (CMC 276300) at T14S R67W Sec 20 and 29, 6th PM, Stargazers (CMC 286459) at T14S R68W Sec 13 and 24, and Moonstruck (CMC 286460) at R14S R68E Sec 24. The owner of Stargazers and Moonstruck has submitted a Notice of Intent which is currently being reviewed by Forest Service staff. The owner of the Mona Mine unpatented claim has not submitted a Notice of Intent and is not operating under an approved Plan of Operations. BLM LR2000 Database Reports 36 unpatented claims closed between 8/31/1993 and 9/1/2011.

Starting in 2008 the Forest Service and Colorado Springs Utilities have coordinated with area stakeholders to improve conditions for the greenback cutthroat trout in Bear Creek. Bridges were installed over creek crossings, 42 sediment control structures have been installed and multiple trail improvements have been implemented to reduce the amount of sediment deposited into Bear Creek. Since the sediment control structures were installed in 2010, nearly 100 tons of sediment has been cleaned out of the structures (RMFI Annual Maintenance Reports 2010-2014). A majority of the sediment is in sandbags stacked within the watershed awaiting possible use during restoration.

Reasonably Foreseeable Future Impacts

A trail connection from the terminus of Captain Jack's Trail (Trail 667) to Mountain View Trail (Trail 671), through the South Slope watershed is proposed. This trail would provide a connection to the Barr Trail, which provides a route to the summit of Pikes Peak. Since Captain Jack's is a well-used multiple-use trail, the existing gate at the watershed boundary would be replaced by one that allows for the passage of hikers, bicycles, and horses but not motorized vehicles. The trail would provide access to the north shoreline of Lake Moraine and avoid steep slopes adjacent to the dam. Fishing is also provided at Lake Moraine, on the north half of the lake shoreline only. The final alignment of Lake Moraine Trail would be designed and constructed according to principles of sustainable trail design. This trail may increase non-motorized use on Trail 667 (Jones Park) and on other trails in the project area.

Due to the proximity to the City of Colorado Springs the project area is a popular area for organized recreational events. Recreation event and outfitter and guide special use permits may be issued in the future for various commercial recreation activities. Use on permitted trails may temporarily increase while participants are training for events, on the day of events or during permitted activities. This increased use may displace other trail users and use on nearby trails may temporarily increase. Proposed special use permits would be analyzed under a separate analysis.

The Forest Service proposes to replace two bridges on the Trail 622 (Seven Bridges) in the fall of 2015. The proposed bridge replacements are being analyzed under a separate analysis.

On-going routine trail maintenance will continue on all trails within and surrounding the project area. The trail maintenance projects and bridge replacements may temporarily displace trail users and use may temporarily increase on other nearby trails. After trail projects are completed, use may increase on the improved trails.

# 4.0 List of Preparers

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# 5.0 References

Accessibility Guidebook for Outdoor Recreation and Trails. http://www.fs.fed.us/recreation/programs/accessibility/pubs/htmlpubs/htm12232806/page09.htm

Americans With Disabilities Act of 1990, Pub. L. No. 101-336, 104 Stat. 328 (1990).

Americans With Disabilities: 2010, Matthew W. Brault, P70-131, Issued July 2012.

Barber, J. R., K. R. Crooks, and K. M. Fristrup. 2009. The costs of chronic noise exposure for terrestrial organisms. Trends in Ecology and Evolution, 25(3): 180-189.

Bestgen, K.R., K.B. Rogers, and R. Granger. 2013. Phenotype predicts genotype for lineages of native cutthroat trout in the Southern Rocky Mountains. Final Report to US Fish and Wildlife Service, Colorado Field Office, Denver Federal Center (MS 65412), Denver, CO. Larval Fish Laboratory Contribution 177.

CH2M Hill. 2013.High Drive Road Assessment Bear Creek Watershed. Prepared By: Kyle Hamilton, P.E. and Candice Hein, P.E. Map Book Prepared by U.S. Forest Service.

City of Colorado Springs. 2015. High Drive Preliminary Plans. Prepared By: David Deitemeyer

Cole, N. C., and P. B. Landres. 1995. Indirect Effects of Recreation on Wildlife, Chapter 11, pages 183-202 *in* Knight, R. L., and K. J. Gutzwiller, editors. Wildlife and Recreationalists - Coexistence through Management and Research. Island Press. Washington, D.C.

Cornell Lab of Ornithology. 2009. Colorado Breeding Bird Atlas II. Available: <http://bird.atlasing.org/Atlas/CO/Main?home=1> (Accessed February 23, 2015).

Colorado Department of Public Health and the Environment. 2005. Implementation Guidance for Determining Sediment Deposition Impacts to Aquatic Life in Streams and Rivers. Water Quality Control Division, Denver, CO. http://www.cdphe.state.co.us/op/wqcc/StatutesRegsPolicies/Policies/98-1-2010.pdf

Colorado Department of Public Health and the Environment. 2006. Classifications and Numeric Standards for Arkansas River Basin, Regulation No. 32.

Colorado Natural Heritage Program (CNHP). 2013. Biodiversity tracking and conservation system. [DVD] Colorado State University, Fort Collins, CO.

Dare, M., M. Carrillo, and C. Speas. 2011. Cutthroat trout (*Oncorhynchus clarkii*) Species and Conservation Assessment for the Grand Mesa, Uncompahgre, and Gunnison National Forests. Grand Mesa, Uncompahgre, and Gunnison National Forests, Delta, Colorado.

Douglass, K. S., J. Hamann, and G. Joslin. 1999. Vegetation, Soils, and Water. Pages 9.1-9.11 *in* G. Joslin

and H. Youmans, coordinators. Effects of Recreation on Rocky Mountain Wildlife: A Review for Montana. Committee on Effects of Recreation on Wildlife, Montana Chapter of The Wildlife Society.

Elliott, B., and S. Smith. 2010. *Viola selkirkii* (Selkirk's violet) survey report for the Pike and San Isabel National Forests performed in June, 2010. Unpublished report to USDA Forest Service. 25 pp.

Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 et seq.

Executive Order Number 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.

Federal Emergency Management Act, U.S. Department of Homeland Security. November 2013. Project Worksheet. Prepared By: Stanley W. Notestine, Project Specialist.

Frissell, Sidney, Judging recreation impacts on wilderness campsites, 1978

Gallagher, J.P. Fin-Up Habitat Consultants, Inc. 2011. Aquatic Habitat Assessment Bear Creek Fountain Creek Watershed Pike National Forest Colorado.

Gallagher, J.P. 2015. Bear Creek basin-wide habitat assessment and V* monitoring. Document in Progress.

Heede, B. H. 1980. Stream Dynamics: An Overview for Land Managers. Gen. Tech. Rpt. RM-72. Rocky Mountain Forest and Experiment Station. Forest Service. USDA.

Hickman, G. R., B. G. Dixon, and J. Corn. 1999. Small Mammals. Pages 4.1-4.16 *in* Joslin, G., and H. Youmans, coordinators. Effects of Recreation on Rocky Mountain Wildlife: A Review for Montana. Committee on Effects of Recreation on Wildlife. Montana Chapter of The Wildlife
Society.

Hirsch, C.L., S.E. Albeke, and T.P. Nesler. 2006. Range-wide status of Colorado River cutthroat trout (*Oncorhynchus clarkii pleuriticus*): 2005. Colorado Division of Wildlife, Denver, CO.

Kennedy, P. L. 2003. Northern Goshawk (*Accipiter gentilis atricapillus*): A Technical Conservation Assessment. USDA Forest Service, Rocky Mountain Region. 142 pp.

Krieger, D. 2014. Personal Communications with Doug Krieger, Senior Aquatic Biologist, Parks and Wildlife, regarding the habitat conditions, reproductive chorology, potential effects of in-stream restoration, and other observations of the Bear Creek population of greenback cutthroat trout.

Ladyman, J.A.R. (2005, February 7). *Aquilegia chrysantha* A. Gray var. *rydbergii* Munz (Rydberg's golden

columbine): a technical conservation assessment. USDA Forest Service, Rocky Mountain Region. Available: http://www.fs.fed.us/r2/projects/scp/assessments/aquilegiachrysanthavarrydbergii.pdf

McNab. W.H.; Cleland, D.T.; Freeouf, J.A.; Keys, Jr., J.E.; Nowacki, G.J.; Carpenter, C.A.; Comps. 2007. Descriptions of ecological subregions: sections of the conterminous United States. [CD-ROM] Washington, DC: U.S. Department of Agriculture, Forest Service. 80 p.

Metcalf, J. L., V. L. Pritchard, S. M. Silvestri, J. B. Jenkins, J. S. Wood, D. E. Cowley, R. P. Evans, D. K. Shiozawa, and A. P. Martin. 2007. Across the great divide: genetic forensics reveals misidentification of endangered cutthroat trout populations. Molecular Ecology 16 (21):4445-4454.

Metcalf, J. L. , S. Love Stowell, C. M. Kennedy, K. B. Rodgers, D. McDonald, J. Epp, K. Keepers, A. Cooper, J. J. Austin, and A. P. Martin. 2012. Historical stocking data and 19th century DNA reveal human-induced changes to native diversity and distribution of cutthroat trout. Molecular Ecology, 21: 5194–5207.

Moore, R. 1992. Soil Survey of Pike National Forest, eastern part, Colorado: parts of Douglas, El Paso, Jefferson, and Teller counties. United States Department of Agriculture, Forest Service and Soil Conservation Service, in cooperation with the Colorado Agriculture Experiment Station. 106 pp.

Tweto, O. 1979. Geologic map of Colorado. USDI United States Geological Survey. Prepared in cooperation with the Geological Survey of Colorado. 1:500,000 scale.

Nehring, J. 2015. Personal Communications with Josh Nehring, Acting Senior Aquatic Biologist, Colorado Parks and Wildlife, regarding fish sampling data from Bear Creek.

Rocky Mountain Field Institute.

2010 Bear Creek Habitat Improvement Project Annual Report. Prepared by Becky Reed Project Director, RMFI and Eric Billmeyer Executive Director

2011 Bear Creek Habitat Improvement Project Annual Report. Prepared by Joe Lavorini Project Director

2012 Bear Creek Habitat Improvement Project Annual Report. Prepared by Joe Lavorini Project Director

2013 Bear Creek Habitat Improvement Project Annual Report. Prepared by Amber Shanklin Project Director

2014 Bear Creek Habitat Improvement Project Annual Report. Prepared by Joe Lavorini Project Director

2012 Bear Creek Watershed Rapid Trail Condition Assessment. Prepared by Amber Shanklin, RMFI Program Director.

2013 Bear Creek Watershed Rapid Trail Condition Assessment. Prepared by Amber Shanklin, RMFI Program Director.

2014 Bear Creek Watershed Rapid Trail Condition Assessment. Prepared by Amber Shanklin, RMFI Program Director.

Rosgen, Dave. 2011. Trail Creek Watershed Assessment and Conceptual Restoration Plan.

U.S. Census Bureau, 2013. 2009-2013 American Community Survey 5-Year Estimates

U.S. Department of Agriculture, Forest Service. 1984. Land and Resource Management Plan, Pike and San Isabel National Forests; Comanche and Cimarron National Grasslands, Rocky Mountain Region.

U.S. Department of Agriculture, Forest Service. 1992. Forest Service Handbook

U.S. Department of Agriculture, Forest Service. 2006. Forest Service Handbook 2509.25. R2

Amendment 2509.25-2006-2 – Watershed Conservation Practices Handbook. Effective Date: May 5, 2006.

U.S. Department of Agriculture, Forest Service. July 2007. Trail Construction and Maintenance Notebook. Prepared by: Woody Hesselbarth, Brian Vachowski, and Mary Ann Davies

US Department of Agriculture Forest Service. August 2013. FINAL Bear Creek Watershed Assessment.

US Department of Agriculture Forest Service. ROS User Guide

U.S. Department of the Interior, Fish and Wildlife Service. 1995. Recovery plan for the Mexican spotted owl: Vol.I. Albuquerque, New Mexico. 347 pp.

U.S. Department of the Interior, Fish and Wildlife Service. 1998. Endangered Species Act

Consultation Handbook. Procedures for Conducting Consultation and Conference Activities Under Section 7 of
the Endangered Species Act. U.S. Fish and Wildlife Service and National Marine Fisheries Service. Final, March 1998.

U.S. Department of the Interior, Fish and Wildlife Service. 1998b. Greenback cutthroat trout recovery plan.
Denver, Colorado. 62 pp.

U.S. Department of the Interior, Fish and Wildlife Service. 2012. Recent cutthroat trout studies in Colorado. Overview of the Endangered Species Act evaluation process of recent cutthroat trout research in Colorado. Region 6, Colorado Field Office, Denver, Colorado. 1 p.

U.S. Department of the Interior, Fish and Wildlife Service. 2012b. Final Recovery Plan for the Mexican Spotted Owl (*Strix occidentalis lucida*), First Revision. Albuquerque, New Mexico, USA. 413 pp.

U.S. Department of the Interior, Fish and Wildlife Service. 2014. Greenback Cutthroat Trout Genetics and

Meristics Studies Facilitated Expert Panel Workshop. Final Summary Report. Region 6, Mountain-Prairie Region, Lakewood, Colorado. 197 pp.

U.S. Department of the Interior, Fish and Wildlife Service. 2015. IPaC (Information, Planning, and Conservation) System, Environmental Conservation Online System. Available: http://ecos.fws.gov/ipac/> (Accessed: February 18, 2015).

Wemple, B. C., J. A. Jones, G. E. Grant, and J. S. Selker. 1996. Runoff generation mechanisms in a steep, forested catchment: controls on flow contributions to a road network [Abstract]. In: Abstract supplement to Eos, Transactions, American Geophysical Union: AGU 1996 fall meeting; 1996 December 15-19; San Francisco, CA. Washington, DC: American Geophysical Union: 77(46): F188.

Winn, R. 1998. Flammulated Owl, *Otus flammeolus*, pages 210-211 *in* Kingery, H.E. (ed). Colorado Breeding Bird Atlas. Colorado Bird Atlas Partnership and Colorado Division of Wildlife. Denver, CO. 636 pp.

Winters, D.S., E.N.Bennett and J.P.Gallagher. – USDA Forest Service. 1994. Basinwide Stream Habitat Inventory – Greenback Cutthroat Trout Streams of the Pike and San Isabel National Forests in Colorado. Pike and San Isabel National Forests and the Cimarron and Comanche National Grasslands. 57pp.

Winters, D.S. and J.P.Gallagher. - USDA-Forest Service. 1997. Basinwide Stream Habitat Inventory - A Protocol for the Pike and San Isabel National Forests and the Cimarron and Comanche National Grasslands. 41pp

Youmans, H. 1999. Project Overview. Pages 1.1-1.18 *in* Joslin, G., and H. Youmans, coordinators. Effects of Recreation on Rocky Mountain Wildlife: A Review for Montana. Committee on Effects of Recreation on Wildlife, Montana Chapter of The Wildlife Society.

Young, M.K. 2009. Greenback Cutthroat Trout (*Oncorhynchus clarkii stomias*): A Technical Conservation Assessment. USDA Forest Service, Rocky Mountain Region. 99 pp.

Young, M. K. and A.L. Harig. 2001. A Critique of the Recovery of Greenback Cutthroat Trout. Conservation Biology, 15(6): 1575–1584.

# Appendix A: Design Criteria, Mitigation Measures and Best Management Practices (BMP's)

Design criteria and Best Management Practices (BMP's) are an integral part of the action alternatives and serve to minimize the impacts of activities on natural resources. The content and effects analyses for each resource are dependent upon adherence to the design criteria and referenced BMP's during project implementation. The design criteria and referenced BMP's apply to all of the action alternatives.

The Forest Service Trail Construction and Maintenance Notebook provides standards for trail construction and trail closure. Trail design, construction and closures will comply with the design criteria and best management practices of all resources.

Forest Service Handbook 2509.25 Watershed Conservation Practices Handbook, USDA National Best Management Practices for Water Quality Management on National Forest System lands (USDA 2012), and Colorado State Forest Service Forestry Best Management Practices to Protect Water Quality in Colorado (CSFS 2010) provide guidance and BMP's concerning impacts to streams.

In addition to the BMP's referenced above the following site specific design criteria will be employed.

Enforcement

- The Forest Service, City of Colorado Springs, and El Paso County will cooperatively develop an enforcement plan to identify a variety of methods to implement Forest Supervisor Orders on National Forest lands and rules and regulations on City of Colorado Springs and El Paso County lands.

- The Forest Service, City of Colorado Springs, and El Paso County will cooperatively develop a sign plan to ensure consistency across multiple jurisdictions.

- The Forest Service, City of Colorado Springs, and El Paso County will cooperatively develop a monitoring plan to determine the effectiveness of trail and in-stream restoration and compliance with rules, regulations, and Forest Supervisor Orders.

Preconstruction

- Ensure that all Forest Service, City of Colorado Springs, El Paso County and contracted personnel understand and adhere to the Proposed Management Actions, the Project Design Standards, and Conservation Measures.

- Inform personnel of the ecological concerns associated with federally listed species.

- Inspect all heavy equipment before entering the project area.

- Prevent the introduction or spread of noxious weeds. Equipment must be clean and free of all mud and debris prior to entering the project area.

- Prevent the introduction or spread of aquatic nuisance species. Clean, disinfect, and rinse all equipment (e.g. personal protective equipment, heavy equipment, waders, hand tools, etc.) prior to use within Bear Creek.
    - Disinfect with one, or a combination of these procedures:
        - Live stream, boiling, or hot water >140°F with power-washer for 3 minutes on each area or for 10 minutes for any clusters of mussels.
        - Quaternary ammonium compound (QAC) disinfectant solution BATH of a product (e.g. Quat4, GS 256, or Super HDQ) that has a minimum active ingredient concentration of 0.4% QAC for a minimum of 10 minutes or 0.8% QAC as a SPRAY fully covering equipment in disinfectant solution for a minimum of 10 minutes.

- Fuel storage areas will be identified by an agency representative and bermed or appropriately designed to contain spills.

- Refuel and store fuel and equipment outside of the floodplain within previously disturbed areas, such as roadway or pullouts.

- Have a spill response plan in place addressing chemical leaks or spills into Bear Creek. In the event of a spill, immediately notify the Colorado Department of Public Health and Environment (CDPHE) through the Colorado Environmental Release and Incident Reporting Line at (877) 518-5608.

- Site-specific surveys for rare plants should occur prior to implementation of the project. If necessary, alignment of the trails and other work should be adjusted to minimize damage to rare plants and their habitats.

- Continue to treat for noxious weeds and other invasive plants in advance of project implementation. During activities, vehicles should be washed to prevent transport into the area of noxious weed seeds. Any weeds found after project completion should also be treated to prevent their spread in the area.

<u>Transportation System</u>

(Trail realignment, new trail construction, improved road and trail drainage, and system and non-system trail rehabilitation)

- The Forest Service, City of Colorado Springs, and El Paso County will cooperatively design and construct all implementation and use management methods that ensure consistency across multiple jurisdictions.

- Special attention must be focused on trail drainage near Bear Creek. When possible, direct the flow of water from water bars and rolling dips off-trails into vegetation or filter strips, where sediment can be filtered prior to reaching the creek.

- Special attention must be focused on road drainage and maintenance of High Drive. Prohibit the side-casting of soils directly into stream channels from High Drive.

- Complete repairs to the High Drive drainage system prior to or concurrently with the proposed in-stream improvements at locations in which these activities may have negative effects to greenback habitat.

- Minimize trail lengths parallel to the stream near bridge crossings.

- Minimize trail length perpendicular to the stream at crossings which may direct sediment toward streams.

- Design and construct all stream crossings to provide for passage of flow and sediment, to withstand expected flood flows, and allow free movement of resident aquatic life. Design and construct stream crossings minimizing constrictions from potential flood flows while keeping streambeds and banks resilient

- Construct short inclines leading to bridges to inhibit sediment movement onto the structure or into the stream, where feasible. Where inclines are not feasible implement other measures to inhibit sediment movement onto the structure.

- Apply erosion control measures to disturbed areas with only certified weed-free products.

- Placement of mechanized equipment in the stream channel or stream bank will be avoided, when possible.

- Utilize most appropriate methods to minimize sediment entry into streams (e.g. silt fencing, waddles, and weed-free straw).

- Avoid soil-disturbing actions during periods of heavy rain or wet soils. Apply travel restrictions to protect soil and water.

- During project implementation, stream access points will be clearly delineated by an agency representative with natural resource knowledge to minimize streambank disturbance.

- During trail rehabilitation and watershed restoration, restore organic ground cover to minimize long-term maintenance needs.

- Remove all temporary stream crossings (including all fill material in the active channel), restore the channel geometry, and re-vegetate the channel banks.

<u>In-Stream Restoration</u>

- Protect greenback redds (i.e. spawning sites) and alevins (i.e. young fish with a yolk-sac) by prohibiting all management actions that cause direct sediment delivery to the stream during the spawning, egg development and hatching, and early rearing period of June through August.

- Conduct in-stream treatments for each of the upstream and downstream segments in a downslope manner, when practicable.

- Wade through habitat improvement sites immediately prior to implementation to encourage fish to move out of the way of equipment.

- Limit in-stream restoration to 1 linear mile per year.

- Restore degraded streams as part of whole watershed restoration programs that permanently cure causes of damage.

- Follow reporting procedures by contacting U.S. Fish and Wildlife Service immediately by telephone at (303) 236-4773, if a greenback cutthroat trout is found dead or injured within the proposed project area or vicinity.
    - Visually inspect for dead fish downstream every two hours during implementation.
    - Notify and provide any specimens to the Aquatic Biologist with Colorado Parks and Wildlife.

Re-vegetation

- A re-vegetation plan will be developed for the project area with the objectives of stabilizing cut and fill slopes, and accelerating recovery of disturbed areas.

- Re-vegetate disturbed areas with only certified weed-free products. Locally sourced plant seed is desired, but may be modified as approved by Agency botanist.

Materials Utilized for Restoration

- Use existing fill, rock, or trees from within the project area as part of the restoration work, where feasible.

- Trees selected for felling should generally be less than 14 inches in diameter.

- Damage to residual trees retained during implementation will be minimized, to the extent practicable.

- Tree felling will not commence until cleared by a biologist for the trees proposed for use.

- Live or standing dead trees containing cavities will be not be felled, with the exception of the following provision: Trees containing cavities may be felled if the tree is preventing the successful accomplishment of the proposed action AND the cavity is not an active nest, roost, or den site.

- Trees containing an active nest or nest cavity of any bird species will not be felled during the nesting season of April 1st - July 15th.

- Mammals actively nesting, denning, roosting, or hibernating within trees, downed logs, burrows, or any other feature will not be disturbed. Any bats discovered during implementation will be reported to a biologist from the representative land agency.

Raptors/Birds of Prey

(eagles, falcons, hawks, owls, etc.)

- Surveys for select nesting raptors will be conducted in the proposed management areas prior to implementation.

- If an active raptor nest site is discovered or suspected due to agitated behavior of a raptor, the feature or incident will be reported to a biologist from the representative land agency; appropriate protection measures may be implemented as determined by the biologist.

- Spatial and temporal restrictions will be established for active nest sites. Operating restrictions will be adapted from guidelines outlined in the most recent version of the Colorado Division of Wildlife recommended nest buffer zones and seasonal restrictions for raptors.

- Protect a peregrine falcon eyrie located in the Tenney Crags Area by prohibiting the use of mechanical equipment within ½ mile radius of the active nest during the period of March 15 through July 31.

Cultural Resources

The Forest Service management of cultural resources (archaeological, historic, and cultural properties) is in accordance with the provisions of the National Historic Preservation Act (NHPA) of 1966, as amended and other applicable legislation.

Site specific mitigations:

- Camp Vessey/Scout Camp (5EP7300). A non-system trail proposed for decommissioning traverses this property. Decommissioning activities have the potential to damage site components. To avoid adverse effects, the site boundary should be flagged for protection and the non-system trail should be decommissioned from the site boundary to the west.

- Jones Park Pipeline & Ditch (5EP7317.1/5TL4009.1). Continued motorized use of Trail 668 (Pipeline) and the new motorized segment of 622.A (Seven Bridges North Spur) could cause additional damage to the exposed or shallowly buried pipeline. To avoid adverse effects, the trail should be slightly realigned so as to avoid the site and the exposed pipeline buried.

- Bear Creek Inn (5EP7298/5TL4004). Decommissioning of the segment of Trail 668 (Pipeline) that goes from Trail 622.A (Seven Bridges North Spur) to Bear Creek, decommissioning of the non-system trails through Jones Park, and construction of the new Jones Park interpretive trail could damage site features or deposits. To avoid adverse effects, archaeological monitors should be present during ground disturbing activities and ensure cultural resources of significance are avoided and protected.

- Jones Homestead (5TL4003). Decommissioning of non-system trails through Jones Park and construction of the new Jones Park interpretive trail could damage site features or deposits. To avoid adverse effects, archaeological monitors should be present during ground disturbing activities and ensure cultural resources of significance are avoided and protected.

- Prior to trail work within the Jones Park area, such as system and non-system trail decommissioning and new trail construction, a heritage professional shall work with project leads to establish a trail alignment that avoids significant historic features and artifacts and provides good views of resources with interpretive potential. If trail work coincides with the location of an archaeological deposit, all efforts shall be made to avoid using that portion of the travel-way. Alternatively, geotextile fabric and a 6 inch deep layer of native soil and/or crushed rock shall be placed over the deposit for protection. Cultural features and deposits of significance located adjacent to and potentially at risk from project activities shall be flagged or fenced for protection by a heritage professional prior to implementation. A heritage professional shall monitor work undertaken within the boundary of historic properties located within the Jones Park area; Bear Creek Inn (5EP7298/5TL4004), Jones Homestead (5TL4003), and Loud Homestead (5EP7296/5TL4002). A monitoring report shall be developed and provided to the landowners and COSHPO.

- Loud Homestead (5EP7296/5TL4002). Decommissioning of non-system trails, decommissioning of historic trail 5EP7559.1/5TL41.1.1, and construction of the new Jones Park interpretive trail could damage site features or deposits. To avoid adverse effects, archaeological monitors should be present during ground disturbing activities and ensure cultural resources of significance are avoided and protected.

- Palmer Trail (5EP7551.1). Systematization and continued non-motorized use of this trail would help preserve its integrity. The trail should be preserved in its original alignment. Historic tent pads and hearth features are associated features. These features shall be recorded and the site record up-dated prior to systemization.
- High Drive (5EP6996.1, .2, .4, .5). New construction has the potential to affect the aesthetic visual quality of the road and its viewscape. Road maintenance activities and neglect have the potential to damage or degrade historic road features. To avoid adverse effects, design new construction along the High Drive in such a way that minimizes the visual effects, as seen by the public from the road.

- Protect contributing historic culverts from road maintenance activities.

General cultural mitigations

- Project implementation under the proposed alternatives shall comply with the stipulations of the MEMORANDUM OF AGREEMENT between the United states Forest Service, Pike & San Isabel National Forests, Cimarron & Comanche National Grasslands and the Colorado State Historic Preservation Officer regarding adverse effects to the Bear Creek Trail (5EP7319), Loud's Cabin Trail (5EP7550/5TL4107) and High Drive Road (5EP6996) segments resulting from the Bear Creek Watershed Environmental Assessment Projects, El Paso and Teller Counties, Colorado, dated TBD 2015 (MOA).

- A heritage professional shall oversee compliance conducted under the MOA and shall make recommendations to the agency official. The heritage professional is an individual who meets the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation, Professional Qualifications for Archeologists and/or Historians (48 FR 190:44716-44742).

- During project design development, areas not previously investigated for the presence of cultural resources may be encountered. Landowners shall ensure that heritage professionals are engaged in the project design process to ensure cultural resources potentially not considered during the planning process are accounted for prior to implementation.

- In the event that a tree is inadvertently felled into an eligible site, the tree is to be left in place until a heritage professional is notified and provides recommendations to remedy.

- In the event that new cultural resources are discovered during project implementation, all activities in the vicinity of the resource, 50 meters, should be stopped until a heritage professional is notified and provides recommendations to remedy.

# Appendix B: Monitoring

Each land manager (e.g., City of Colorado Springs, El Paso County and Forest Service) is responsible for implementation and effectiveness monitoring on their lands. Land managers are committed to working cooperatively to monitor the effects of the project.

- Utilize a variety of monitoring methods, (e.g. V* protocol, photo points, visual inspection) to determine the effectiveness of trail and in-stream restoration. Conduct monitoring after year one of implementation, and intermittently as needed (e.g. after major rain events or other catastrophic events).

- Monitor adherence to project design standards and conservation measures during implementation of the proposed management actions.

- Utilize a variety of monitoring methods at various scales (e.g. basin-wide assessments and V* protocol) to determine the need for re-treatment or additional management actions (adaptive management).
- Utilize a variety of monitoring methods (e.g., visual inspection, photo points, patrol, trail cameras) to determine effectiveness of trail closures and rehabilitation, and user compliance with requirement to remain on the system trails, particularly within Jones Park.
    - If monitoring demonstrates a lack of compliance or ongoing resource damage, employ measures to protect resources or greenback cutthroat trout habitat.
    - The Forest Service, City of Colorado Springs, and El Paso County will meet jointly with the U.S. Fish and Wildlife Service as necessary to review activities and document compliance with the Biological Opinion.

- Monitor cultural site protection measures during project implementation and produce site protection and monitoring report

- Perform monitoring in accordance with Forest Service Handbook 2509.25 – applicable Watershed Conservation Practices Handbook standards, available at: <http://www.fs.fed.us/cgi-bin/Directives/get_dirs/fsh?2509.25!r2>

# Appendix C: Response to Comments

This appendix provides responses to the public comments received during the public scoping process. These comments were used by the Forest Service to identify issues of concern and help the interdisciplinary team develop the proposed action and formulate alternatives to the proposed action, as well as determine mitigation and monitoring measures.

The scoping process was initiated with the publication of an opportunity to comment in the newspaper of record, the Colorado Springs Gazette, on March 29, 2013 and extended through April 30, 2013. A public open house was held the evening of April 4, 2013 and 160 people signed in at the open house. Additional scoping was initiated by notice published in the Colorado Springs Gazette on February 23, 2014 and ran through March 27, 2014. This scoping was initiated to allow comment on changes to the proposed action that were made based on comments from the 2013 scoping. A second public open house was held the evening of February 25, 2014. 167 people signed in at the open house. Concurrent with the publication of the notice in area newspapers, the scoping letters and invitations to the open house were mailed to approximately 354 interested publics, including private citizens, non-government organizations, and government agencies.

During the scoping process, 969 letters, emails, faxes, or comment forms (collectively referred to as comment letters) were submitted to the Pike National Forest, Pikes Peak Ranger District. All comment letters were reviewed and individual comments within each letter were identified and categorized for analysis. Consideration of these comments prompted changes to the proposed action and were used to develop the alternatives. Table C-1 and C-2 provides an alphabetical list of all of the commenters, the organization they represent, and the number assigned to their comments and responses. Some letters came in with multiple signatures. For letters with more than two signatures the letter is listed under the name of the first signature, which is assumed to generally be the original writer of the letter.

Individual comments were grouped together when they contained similar content or pertained to a similar subject. Our Response to Comments is divided into the following broad categories:
Topic 1: Trails (General)
Topic 2: Trails 666 (Bear Creek) and 667 (Jones Park) and access to Jones Park
Topic 3: Trails 720 (Forester's Cutoff), 668 (Pipeline), 701 (Forester's), 622 (Seven Bridges) and 622.A (Seven Bridges North Spur), 667 (Jones Park) reroute
Topic 4: Non-system Trails
Topic 5: New Trail Proposals
Topic 6: Access to Northern Peaks
Topic 7: High Drive
Topic 8: Off-trail Travel Restriction Boundary
Topic 9: Fisheries and Aquatics
Topic 10: Cultural
Topic 11: Flood
Topic 12: National Environmental Policy Act (NEPA)
Topic 13: Regulations
Topic 14: Impacts of Activities and Regulations in the Watershed
Topic 15: Miscellaneous

## Table C-1: Comments From Organizations

| Organization | Name | Commenter Number | Response |
|---|---|---|---|
| Boulder County Trail Riders | D. Kuhny | 200-13 | 9.2, 15.19, 1.31 |
| Center for Biological Diversity | Jack Hunter | 194-14 | 1.2, 3.1, 1.24, 9.23, 7.4 |
| Center for Biological Diversity | Tim Ream | 224-13 | 3.1, 2.7, 9.18 |
| Colorado Motorcycle Trail Riders Association | Dan Cuvala | 005-14 | 9.8 |
| Colorado Motorcycle Trail Riders Association | Mike Niswonger | 010-14 | General Comment |
| Colorado Motorcycle Trail Riders Association | Ned Suesse | 347-14 | 1.3, 15.2, 15.12, 9.21, 9.14, 15.14 |
| Colorado Motorcycle Trail Riders Association | B. Bunt | 094-13 | General Comment |
| Colorado Mountain Club | Jonathan Dunder | 016-14 | 1.2 |
| Colorado Mountain Club (Pikes Peak Group) | Tom Mowle | 032-14 | 8.1, 5.15, 3.4, 3.7, 3.8, 4.1, 5.15, 8.1, 4.3 |
| Colorado Off-Highway Vehicle Coalition | Scott Jones | 122-14 | 1.3, 15.2, 15.15, 7.1, 7.2, 10.2, 7.3, 9.14, 15.1, 2.7, 4.1, 1.26 |
| Colorado Off-Highway Vehicle Coalition | B. Santiago | 136-13 | 2.8 |
| Colorado Springs Utilities | Kirsta Scherff-Norris | 295-14 | 15.1 |
| El Paso County Search and Rescue | Brian Kinsey | 341-14 | General Comment |
| El Paso County Search and Rescue | Brian Kinsey | 348-14 | 1.25, 1.41 |
| Friends of Cheyenne Canon | Bob Falcone | 286-14 | 1.8, 15.1, 1.14 |
| Friends of the Peak | Bob Bunch | 011-14 | 6.3, 7.2, 3.4, 2.6, 4.1 |
| Friends of the Peak | Carol Beckman | 209-14 | 15.1 |
| Friends of the Peak | Carol Beckman | 117-13 | 1.2, 15.1, 9.2, 1.25 |
| International Mountain Bike Association | K. Kibler | 232-13 | 9.2, 3.12, 2.1, 3.1, 4.3, 2.7, 3.3, 5.13, 5.1, 5.12 |
| Medicine Wheel and International Mountain Bike Association | Jason Bertolacci | 346-14 | 3.2, 5.18, 8.1, 1.3 |
| Rocky Mountain Search and Rescue | S. Ball | 129-13 | General Comment |
| Saturday Knights Hiking Club | John Vance | 027-14 | 2.1, 2.3, 2.4, 8.1, 5.14, 1.1, 3.4, 9.17, 2.3, 2.11, 9.8, 9.9, 1.16, 3.3, 9.2 |
| Secular Hikers | Rich Breidenbach | 151-14 | General Comment |
| Sierra Club (Pikes Peak Group) | James Lockhart | 325-14 | 9.19, 15.1, 15.20, 1.3, 2.6, 2.7 |
| Southern Colorado Velo Cycling Club | Eric Vaillancourt | 402-14 | 2.5 |
| The Saturday Knights | The Saturday Knights | 204-14 | 2.1, 2.3, 2.1, 2.5, 1.16 |
| Trail Preservation Alliance | Don Riggle | 122-14 | 1.3, 15.2, 15.15, 7.1, 7.2, 10.2, 7.3, 9.14, 15.1, 2.7, 4.1, 1.26 |
| Trail Preservation Alliance & Colorado Off-Highway Vehicle Coalition | Don Riggle | 068-13 | 1.30, 2.7, 3.18 |
| Trails and Open Space Coalition | Bill Koerner and Susan Davies | 275-14 | 2.4, 2.2, 8.1, 6.1, 6.3, 5.15, 1.4, 1.7, 2.9, 7.7 |
| Trails and Open Space Coalition | Bill Koerner | 229-13 | 9.2 |

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|---|---|---|---|
| Trout Unlimited | Aaron Kindle | 303-14 | 9.24, 2.7, 15.1, 7.6, 7.3, 7.1, 7.3, 8.3 |
| Trout Unlimited | Aaron Kindle | 213-13 | 2.6, 2.7, 15.7, 9.24, 7.8, 9.17 |
| Trout Unlimited | M. Davis | 079-13 | 9.2, 9.8 |
| USA Cycling | Jeffrey Hansen | 148-14 | General Comment |
| USA Cycling | Steve Johnson | 361-14 | 3.2, 5.18, 8.1, 1.3 |
| Women's Mountain Biking Association of Colorado Springs | Tara McCarthy | 455-14 | General Comment |

## Table C-2: Individual Commenters

| Last Name | First Name or Initial | Commenter Number | Response to Comments |
|---|---|---|---|
| (Last Name Not Provided) | George | 269-14 | General Comment |
| (Last Name Not Provided) | Greg | 390-14 | General Comment |
| (Last Name Not Provided) | Liz | 392-14 | General Comment |
| (Last Name Unreadable) | Megan | 545-14 | General Comment |
| (Last Name Unreadable) | Mike | 546-14 | General Comment |
| (Last Name Unreadable) | Cris | 547-14 | General Comment |
| (Last Name Unreadable) | (First Name Unreadable) | 548-14 | General Comment |
| (Last Name Unreadable) | Chris | 627-14 | General Comment |
| (Last Name Unreadable) | Eric | 648-14 | General Comment |
| Acuff | Russ | 022-14 | 1.1, 2.5 |
| Adessa | Janet | 502-14 | 1.1, 9.4, 9.8, 1.2 |
| Albrecht | Dan | 313-14 | General Comment |
| Albrecht | D. | 065-13 | 9.5, 1.39, 15.2 |
| Alderson | G. | 069-13 | General Comment |
| Allen | Benjamin | 092-14 | General Comment |
| Alspach | William | 035-14 | 7.1, 14.6, 9.2, 1.3, 15.7 |
| Alspach | W. | 067-13 | 2.7, 9.26, 9.6, 15.15, 1.47 |
| Alspach | B. | 204-13 | General Comment |
| Alstrin | Chris | 587-14 | 3.2, 4.1 |
| Alvarado | Gabe | 416-14 | General Comment |
| Alwine | Jason | 124-14 | General Comment |
| Amsbary | Wayne | 460-14 | 1.2 |
| Anderson | Dan | 024-14 | 4.2, 8.1, 4.4, 5.9, 2.6 |
| Anderson | P. | 186-13 | 15.2 |
| Andrus | David J. | 619-14 | General Comment |
| Anonymous | | 115-13 | 9.19 |
| Arano | R. | 238-13 | General Comment |
| Art | DC | 146-14 | General Comment |
| Asleson | Russell | 575-14 | General Comment |
| Atkins | Elizabeth | 297-14 | 1.3 |

| | | | |
|---|---|---|---|
| Augustine | Sonny V. | 567-14 | General Comment |
| B (Last Name Unreadable) | M (First Name Unreadable) | 562-14 | General Comment |
| Badolato | Dawn | 176-14 | 1.1 |
| Bagley | Todd | 156-14 | 1.1 |
| Baker | Katy | 363-14 | 3.2, 1.4, 1.3, 2.5 |
| Balke | John | 207-14 | 1.3 |
| Ball | S. | 220-13 | General Comment |
| Balle | E. | 014-13 | 1.15 |
| Baltes | Jeff | 376-14 | 3.2, 1.4, 1.3 |
| Baltzer | Chuck | 412-14 | 12.1, 12.3, 12.2, 12.4, 12.5, 15.21, 12.6, 12.7, 7.6, 7.5, 12.15, 12.8, 13.1, 13.2, 9.2, 14.1, 14.2, 14.3, 14.4, 14.5, 9.7 |
| Baltzer | C. | 198-13 | 9.6, 9.11, 11.1 |
| Banaszak | R. | 076-13 | 1.1, 2.4, 2.5 |
| Barad | Sara | 691-14 | General Comment |
| Barrett | Kirk | 080-14 | General Comment |
| Barrett | Kirk | 205-14 | 15.9 |
| Barrett | Michael | 563-14 | General Comment |
| Bartlett | Logan | 221-14 | General Comment |
| Basey | Guy | 025-14 | 2.1 |
| Basey, Jr. | G. | 116-13 | 1.2 |
| Bash | M. | 132-13 | 1.27, 1.30 |
| Baum | Michael | 432-14 | General Comment |
| Beattie | Scott | 358-14 | General Comment |
| Beauchamp | Cecelia | 071-14 | General Comment |
| Beauchamp | CeCe | 463-14 | 3.2, 5.18, 8.1, 1.3, 1.4, 1.5 |
| Becerril | Vanessa | 440-14 | General Comment |
| Beckman | Carol | 251-14 | General Comment |
| Beckman | C. | 050-13 | 3.1, 3.2, 3.4, 2.13, 1.46, 7.3 |
| Behm | Chris | 588-14 | General Comment |
| Behm | Christopher H. | 589-14 | General Comment |
| Beltz | R. | 177-13 | 9.2, 9.8, 1.3, 15.7, 1.6 |
| Belz | M. | 192-13 | 1.32 |
| BenAmots | Laura | 218-14 | General Comment |
| Benight | Carol A. | 598-14 | General Comment |
| Bennett | Richard | 086-14 | General Comment |
| Bennett | Richard | 601-14 | General Comment |
| Bensberg | Jim | 451-14 | 9.2, 7.5 |
| Bensberg | J. | 252-13 | 9.2 |
| Bergeron | Jurgen | 702-14 | General Comment |
| Bergsten | Penny | 301-14 | 1.2 |
| Bergsten | Timothy C. | 603-14 | General Comment |
| Beringer | Mary | 165-14 | 2.5 |
| Beringer | M. | 122-13 | 15.18, 1.1, 1.2 |

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|---|---|---|---|
| Bernie, (Senator) | Herpin | 274-14 | General Comment |
| Biese | Kip | 091-14 | General Comment |
| Billings | Brett | 118-14 | General Comment |
| Billot | Joseph P. | 478-14 | 9.8, 1.1, 9.2 |
| Billot | J. | 164-13 | 9.8, 9.5 |
| Birkelo | Catherine | 264-14 | General Comment |
| Bockius | B. | 248-13 | 9.2, 1.33, 1.37, 1.30 |
| Bodman | N. | 211-13 | 9.2 |
| Boggess | Al | 170-14 | 1.2, 2.1, 9.1 |
| Boggess | Edward | 374-14 | 1.1, 15.2, 1.39, 9.2, 15.1 |
| Bohlen | Mike | 647-14 | General Comment |
| Bohlmann | Andy | 644-14 | General Comment |
| Boobar | Jeremiah | 386-14 | General Comment |
| Boobar | J. | 194-13 | 2.1 |
| Bourland-Brettschneider | M. | 102-13 | 9.8, 15.2, 1.1 |
| Bowes | Jesse | 357-14 | 3.2, 1.3, 1.4 |
| Boyd | Lori | 697-14 | General Comment |
| Boyer | Bradley | 666-14 | General Comment |
| Boyer | Scott | 677-14 | General Comment |
| Brach | G. | 175-13 | 9.2, 9.8, 1.3, 15.7, 1.6 |
| Brake | T. | 123-13 | 1.6 |
| Brandt | Jeremy | 197-14 | 1.1 |
| Bravdica | M. | 088-13 | General Comment |
| Bredl | Robin | 696-14 | General Comment |
| Brega | John | 159-14 | 5.2, 1.16, 1.19 |
| Brega | Kathryn | 339-14 | 1.16 |
| Bremner | Steven W. | 599-14 | General Comment |
| Bremner | S. | 169-13 | 9.8, 1.2 |
| Bresnahan | Tim | 526-14 | General Comment |
| Brettschneider | Eric and Margaret | 018-14 | General Comment |
| Brettschneider | Eric and Margaret | 171-14 | 1.1 |
| Brettschneider | E. | 093-13 | 9.8, 9.2, 15.2 |
| Bright | Kathryn J. | 544-14 | General Comment |
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## TOPIC 1: TRAILS (GENERAL)

**Comment 1.1**

- Keep all trails.
- Don't close trails.
- Do maintenance, provide erosion control, build more bridges or do small reroutes but keep trail system generally as it currently exists.

**Response 1.1**

Maintaining the current trail system is analyzed in the No-Action Alternative (Alternative A). This alternative maintains current management, but does not improve water quality and effects of the trails system on the federally threatened greenback cutthroat trout.

**Comment 1.2**

- Close trails to motorized traffic, not bikers or hikers.
- Motorized users provide money and participate in trail repair; other user groups should be excluded from the trails.
- Ban wheeled vehicles
- Mountain bikes cause as much erosion as motorcycles
- Motorized trails are in bad shape
- Non-motorized trails are in bad shape
- Close trails to horses

**Response 1.2**

The primary concern regarding sedimentation comes from the very existence of the trail/road and it's proximity to the creek, on the landscape, not necessarily which user group is using it. Unvegetated, exposed, decomposed granite soil is erosive. Compacted trails and roads concentrate water flow into Bear Creek. Concentrated flows have more energy and power to cause accelerated erosion and stream instability.

**Comment 1.3**

- Don't decommission trails prior to new route construction and do provide an implementation schedule.
- Trails should remain closed until new trails are built and decommissioning has taken place.
- Forest Service should make every effort possible to have a basic trail system for all user groups to use by June 1, 2014.
- Open the trails in 2014.
- What is the timeline for this project?
- Make trail or road #____ a priority.

**Response 1.3**

We will begin implementation as soon as practical after the final NEPA decision. The timing of trail building and decommissioning is dependent on many factors including funding, the availability of personnel and contractors, and a logical sequencing of trail building events. This is a complicated project and trail building and decommissioning must be timed and performed effectively to allow for the greatest likelihood of success.

**Comment 1.4**

- Reopen trails and roads closed due to flooding: Trail 665 (Penrose),Trail 667 (Jones Park), Trail 668 (Pipeline),Trail 701 (Forester's), Trail 720 (Forester's Cutoff) from the junction with Trail701 to the junction with 668, and Palmer Trail.
- Why are all the trails in Cheyenne Canyon closed?

**Response 1.4**

Reopening roads and trails closed due to flooding is outside the scope of this project. Trails were closed for public safety by Forest Service Order PSICC-2014-2 and have since been reopened.

**Comment 1.5**

Open Severy Creek trail.

**Response 1.5**

The Severy Creek Trail is outside of the project area and outside the scope of this project.

**Comment 1.6**

- Would like more trails.
- Would like more motorized trails.

- Would like more non-motorized trails.
- Would like more hard core trails.
- Would like more trails within the project area but outside the Bear Creek watershed.

**Response 1.6**

The proposed action provides recreational opportunity commensurate with needed protection for the threatened greenback cutthroat trout and its habitat. The trail density identified in the proposed action allows for recreational opportunity at a level that is not harmful to the greenback cutthroat trout and maintains motorized and non-motorized connections to public lands outside the Bear Creek Watershed.

**Comment 1.7**

Keep the "Section 16 loop" open for hiking.

**Response 1.7**
In response to public comments received during the first comment period, Alternative B was modified to analyze incorporating the portion of the Palmer Loop/Section 16/Red Rock Loop that exists as a non-system trail on National Forest System land into the official National Forest trail system.

**Comment 1.8**

- Close trails in Bear Creek watershed for a period of time to allow the ground to recover, and then construct new and better trails.
- Schedule and conduct frequent re-evaluations of the proposed closures and re-open areas when it is determined that they no longer pose a significant threat to the greenback cutthroat trout.
- Reopen trails when the greenback cutthroat trout is delisted

**Response 1.8**
The purpose of this project is to reduce sedimentation into Bear Creek while providing for sustainable recreational use. To meet this objective this analysis includes proposals to permanently close portions of some trails. New trails, in sustainable locations, are proposed to replace the closed segments. The trails that are proposed to be closed have been found to be unsustainable and do not meet modern trail location and design objectives, thus reopening them is not desirable. Monitoring will be conducted to measure changes in the quality of fish habitat and the effectiveness of trail closures. Building new trails in the watershed could be proposed and analyzed in the future.

**Comment 1.9**

Keep trails open until a  full sediment study is complete.

**Response 1.9**

Several documents have been prepared that identify sedimentation issues associated with the transportation system in the Bear Creek Watershed. These include: Rocky Mountain Field Institute – Bear Creek Watershed – Rapid Trail Condition Assessment, 2013; Rocky Mountain Field Institute – Bear Creek Watershed – Trails Assessment, 2012; USDA Forest Service – Bear Creek Final Watershed Assessment, 2013; Fin-Up Habitat Consultants, Inc. – Aquatic Habitat Assessment, 2011; and CH2M Hill, 2013 – High Drive Road Assessment. In addition, Geographic Information System spatial analyses and site visits by professional Civil Engineers, Fish Biologists, Soil Scientists, and Hydrologists have identified significant sedimentation issues in the Bear Creek watershed relative to the greenback cutthroat trout. Specifically, the tools employed by these specialists to evaluate sedimentation issues include: Pike and San Isabel National Forests Cimarron Comanche National Grasslands Land and Resource Management Plan Direction for Management Area 9(A) – Riparian Areas and Management Area 10(E) Municipal Water Supply; Forest Service Region 2 – Watershed Condition Classification Handbook; Forest Service National Best Management Practices; Forest Service 7700- Transportation Management Handbook; Environmental Protection Agency (EPA) – Watershed Assessment for River Stability Sediment and Supply; Colorado Department of Public Health and Environment narrative standards of sediment; and EPA Clean Water Act sediment standards.

**Comment 1.10**

Trails prevent erosion.

**Response 1.10**

There is scientific evidence that sediment derived from trail systems directly impacts aquatic ecosystems. Several documents have been prepared that identify sedimentation issues with the transportation system in the Bear Creek Watershed. These include: Rocky Mountain Field Institute – Bear Creek Watershed – Rapid Trail Condition Assessment, 2013; Rocky Mountain Field Institute – Bear Creek Watershed – Trails Assessment, 2012; USDA Forest Service – Bear Creek Final Watershed Assessment, 2013; Fin-Up Habitat Consultants, Inc. – Aquatic Habitat Assessment, 2011; and CH2M Hill, 2013 – High Drive Road Assessment. In addition, Geographic Information System spatial analyses and site visits by professional Civil Engineers, Fish Biologists, Soil Scientists, and Hydrologists have determined that the trail system is contributing sediment into the stream. Specifically, the tools employed by these specialists to evaluate sedimentation issues include: Pike and San Isabel National Forests Cimarron and Comanche National Grasslands Land and Resource Management Plan Direction for Management Area 9(A) – Riparian Areas and Management Area 10(E) Municipal Water Supply; Forest Service Region 2 – Watershed Condition Classification Handbook; Forest Service National Best Management Practices; Forest Service 7700- Transportation Management Handbook; Environmental Protection Agency (EPA) – Watershed Assessment for River Stability Sediment and Supply; Colorado Department of Public Health and Environment narrative standards of sediment; and EPA Clean Water Act sediment standards. The above documents identify erosion and sediment issues that are associated with roads and trails in this area.

**Comment 1.11**

Only 7% of trail needs repair.

**Response 1.11**

This percentage is based on the post flood Rocky Mountain Field Institute report (Rocky Mountain Field Institute – Bear Creek Watershed – Rapid Trail Condition Assessment, 2013), which assessed a public safety issue. It was intended to identify trail damage after a flood event that would need to be repaired prior to reopening trails. It was not a comprehensive assessment of sedimentation in the Bear Creek watershed. The report documents trail damage and does not document effects on water quality.

**Comment 1.12**

The crests and dips that motorized and mountain bikers like cause slippery ice in the winter and puddles when it rains.

**Response 1.12**

This concern will be addressed during trail design.

**Comment 1.13**

Establish riparian habitat 150 feet from each bank and allow trail to stay.

**Response 1.13**

Restoration of the riparian habitat is included in Alternatives B and C. In many areas the canyon is too narrow to allow for 150 feet of riparian vegetation from each bank and to allow an adequate distance that the trail would not impact the creek.

**Comment 1.14**

Include popular and common names when referring to trails, not just numbers.

**Response 1.14**

The Forest Service uses a trail numbering system, while users commonly refer to trails by name. This does create some confusion at times. The Bear Creek Watershed Restoration Environmental Assessment identifies trails by both numbers and names to ensure that the reader understands which trail is being discussed. Sometimes a trail has several common names. Trail numbers and their corresponding names are as follows:

622 (Seven Bridges), 622.A (Seven Bridges North Spur), 665 (Penrose), 666 (Bear Creek), 667 (Jones Park), 668 (Pipeline), 701 (Forester's), 720 (Forester's Cutoff), 720.A (Forester's Cutoff North Spur).

**Comment 1.15**

- New trails and reroutes need to facilitate uphill as well as downhill mountain bike traffic.

- New trails should be designed to be technical and rocky fun for dirt bikes and downhill mountain bikes (like mid-section of 701) with low erosion.

**Response 1.15**

This concern will be addressed during trail design.

**Comment 1.16**

- The proposed action shows too much concern with motorized trails.
- The proposal is biased toward motorized users.
- Motorized trails are not satisfactory hiking trails.
- Area has an imbalance of motorized trails (80%) to foot trails (20%).
- Hikers, walkers, runners, and families would all benefit from having more non-motorized trails.

**Response 1.16**

The intent of the proposed action is to allow for a range of recreational opportunities and provide for both motorized and non-motorized use. We attempted to create a balance that provides these opportunities, yet does not reach the threshold of negatively impacting water quality and the greenback cutthroat trout. The proposed action increases the total miles of non-motorized trail by 0.4 miles and decreases the total miles of motorized trail by 1.2 miles.

Within the project area the proposed action includes 42% non-motorized and 58% motorized trails. Within this project area there are more motorized trails, but there are considerably more non-motorized trails than motorized trails on the Pikes Peak Ranger District as a whole. Alternative B provides for a spectrum of appropriate and sustainable recreational opportunities.

**Comment 1.17**

Utilize volunteers/the public to fix/maintain/build new trails.

**Response 1.17**

There will be many opportunities for public volunteers to help build and maintain the trail system. These opportunities will be communicated by both the land managers and our partners during the implementation phase.

**Comment 1.18**

Close all roads and trails off of Old Stage/Gold Camp Roads to motorized traffic.

**Response 1.18**

This suggestion is outside the scope of this project.

**Comment 1.19**

Trails should be designated as wheeled vs. non-wheeled.

**Response 1.19**

The interdisciplinary team discussed the possibility of designated trails for hikers only or motorcycles and mountain bikes only and it was decided that the standard designations of multiple-use and non-motorized are appropriate for this area.

**Comment 1.20**

Pave some trails for use by disabled persons.

**Response 1.20**

There are currently no paved trails in the project area, therefore access for disabled people on paved trails would not be affected by either action alternative. This area is steep and rugged and not appropriate for paved trails which are compliant with the Americans with Disabilities Act.

**Comment 1.21**

Design a new trail out of the watershed area.

**Response 1.21**

Alternatives B and C include moving most trails out of the Bear Creek watershed.

**Comment 1.22**

It would be less expensive to fix trails rather than build new ones.

**Response 1.22**

During the analysis it was determined that trails in the Bear Creek watershed are too close to the creek and are in poor condition and that the existing trails could not be fixed adequately to prevent further degradation of Bear Creek. Many of the trails impacting Bear Creek directly or that are in poor condition are proposed to be closed. New sections of trail and reroutes are proposed to maintain the range of trail opportunities that are currently exist and to maintain connectivity to trails outside the project area. The cost of constructing new trails was a consideration, but the purpose of the project is to improve and protect the habitat of Bear Creek for the greenback cutthroat trout.

**Comment 1.23**

There should be parallel trails for motorized and non-motorized users.

**Response 1.23**

The proposed action provides recreational opportunity commensurate with needed protection for the threatened greenback cutthroat trout. The trail density identified in the proposed action allows for recreational opportunity at a level that is not harmful to the greenback cutthroat trout. This balance requires that users share the trail rather than creating parallel trails for different uses.

**Comment 1.24**

- The proposed actions should be modified to ensure that there are no motorized trails within the Water Influence Zone.
- All motorized traffic should be kept out of the Bear Creek watershed.

**Response 1.24**

Proposed motorized trails in Alternatives B and C within the Bear Creek watershed do not cross Bear Creek and are outside of the Bear Creek Water Influence Zone. There is only one Water Influence Zone crossing, high up in a Bear Creek tributary.

**Comment 1.25**

- A greater number of trails reduces human impact on each trail.
- There will be hiker and biker conflicts with fewer trails.
- Multiple-use trails increase the likelihood of injury
- What about impacts to other areas due to restrictions in this area
- Impact on 7-Bridges would be overwhelming, too many trail levels with one drainage.

**Response 1.25**

The trail density identified in the proposed action allows for recreational opportunities at a level that is not harmful to the threatened greenback cutthroat trout. Under the proposed action, overall trail mileage within the project area would be reduced by 0.8 miles from 27.7 miles to 26.9 miles. This change represents a loss of less than 3% of the total trail system in the area. Additional conflict, injury or impact on this or other areas are not expected in response to this proposal. The proposed action provides sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 1.26**

There are erosion issues on all trails not just the motorized trails.

**Response 1.26**

The proposed action addresses erosion issues on all trails regardless of type of use.

**Comment 1.27**

If you take the only single track available in the area without replacing it, you are doing the residents of the city and county a great disservice.

**Response 1.27**

All alternatives include single track motorized trails.

**Comment 1.28**

- An alternative that closes the lower trailhead is not acceptable due to the necessity to trailer bikes up very rough and busy Old Stage/Gold Camp Road.
- Motorcyclists need a trail to get from town to riding areas
- Closure of the lower trailhead will have deleterious effect on motorized traffic on Gold Camp.

**Response 1.28**

It is assumed that the lower trailhead referred to in the comment is the 665 (Penrose) trailhead in North Cheyenne Canyon Park. No alternative proposes closing access from the lower trailhead. Trail 665 (Penrose) would continue to provide motorcycle access from town.

**Comment 1.29**

If a trail is closed to Off-Highway Vehicles, it should be closed for all mountain bikes and horses.

**Response 1.29**

All trails in the analysis area have been assessed for sustainability and type of use by the interdisciplinary team. Some trail locations are suitable for multiple-use, others are appropriate for non-motorized use. The proposed action provides recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 1.30**

- The current closure is ineffective at protecting fish and habitat because it will not change erosion and does not mitigate any non-motorized impact to the creek.
- Close trails to everyone or no one.
- Trails should be re-opened to motorized use.

**Response 1.30**

It is assumed that these comments refer to the closure of some trails to motorized use under Forest Order 13-8. This closure was created in response to the settlement with the Center for Biological Diversity in November 2012. The Bear Creek Watershed Restoration Environmental Assessment is a comprehensive analysis of the watershed and proposes actions that allow a range of recreation opportunities while protecting the threatened greenback cutthroat trout.

**Comment 1.31**

One solution would be to provide a motorized loop from Frosty's Park, including portions of trails 668 (Pipeline), 701 (Forester's), and 720 (Forester's Cutoff).

**Response 1.31**

This comment was submitted in the first scoping period. Since then, a Biological Evaluation was written and consultation with the U.S. Fish and Wildlife Service was completed allowing motorized use of a "loop trail" utilizing portions of 668 (Pipeline), 720 (Forester's Cutoff), and 701 (Forester's).

**Comment 1.32**

If proof shows that trout are suffering from human impact then construct an alternate trail. Build new trails to bypass habitat.

**Response 1.32**

Alternatives B and C propose new trails that avoid and mitigate impacts to greenback cutthroat trout.

**Comment 1.33**

Balance motorized use with non-motorized use by addressing problem areas associated with all forms of recreation while leaving the trails that don't pose a problem open to motorized use.

**Response 1.33**

All trails in the analysis area have been assessed for sustainability and type of use by the interdisciplinary team. Some trail locations are suitable for multiple-use, others are appropriate for non-motorized use. The proposed action provides recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 1.34**

Restricting pedestrian travel is beyond requirements of the settlement/agreement.

**Response 1.34**

The settlement with the Center for Biological Diversity in November 2012 did not require restrictions to non-motorized use. There have been no closures to non-motorized use in response to that settlement. The Bear Creek Watershed Restoration Environmental Assessment is a comprehensive analysis of the watershed and proposes actions that allow a range of recreation opportunities while protecting the threatened greenback cutthroat trout.

**Comment 1.35**

Add as much mileage as is being closed.

**Response 1.35**

Under the proposed action, trail mileage within the project area would be reduced by 0.8 miles from 27.7 miles to 26.9 miles. The proposed action provides recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout. This change represents a loss of less than 3% of the total trail system in the area.

**Comment 1.36**

Trails outside the watershed should not be closed.

**Response 1.36**
All trails within and leading into the Bear Creek watershed were assessed for sustainability by the interdisciplinary team. The proposed action proposes to close or reroute trails that were found to be unsustainable.

**Comment 1.37**

- There is no single track in all of El Paso County.
- Reopen 668 (Pipeline), 720 (Forester's Cutoff) and 701 (Forester's)

**Response 1.37**

We recognize that immediately following the settlement agreement with the Center for Biological Diversity in 2012 there was no motorized single track in El Paso County. Since then a Biological Evaluation was written and consultation with the U.S. Fish and Wildlife Service was completed allowing motorized use of a "loop trail" utilizing portions of 668 (Pipeline), 720 (Forester's Cutoff) and 701 (Forester's). The proposed action includes 15.5 miles of motorized single track trail.

**Comment 1.38**

Hikers prefer a narrower trail than motorized users.

**Response 1.38**

This comment is noted. Trail design will be handled during implementation.

**Comment 1.39**

Closing trails will cause more non-system trails to be created.

**Response 1.39**

Building trail on National Forest System lands without proper environmental review and Forest Service approval is illegal. All non-system trails would be closed and rehabilitated under Alternatives B and C. Trail closures will be monitored for effectiveness and if trails are re-opened or new trails are created, they will be closed.

**Comment 1.40**

Keep as many trails open as possible and reroute trails that must be closed to protect the fish.

**Response 1.40**

The proposed action provides recreational opportunity commensurate with needed protection for the threatened greenback cutthroat trout. The trail density identified in the proposed action allows for recreational opportunity at a level that is not harmful to the greenback cutthroat trout.

**Comment 1.41**

If trails are closed consult search and rescue about needs for additional infrastructure to allow emergency response in the area

**Response 1.41**

While some trails will be closed other trails will be constructed. High Drive will remain open for administrative use which includes emergency use and search and rescue. There are no expected impacts to search and rescue operations.

**Comment 1.42**

Don't turn all trails into multiple-use

**Response 1.42**

No alternative proposes to make all trails multiple-use. The proposed action provides recreational opportunity commensurate with needed protection for the threatened greenback cutthroat trout. The trail density identified in the proposed action allows for recreational opportunity at a level that is not harmful to the greenback cutthroat trout.

**Comment 1.43**

The work RMFI has done has mitigated the sediment into Bear Creek

**Response 1.43**

While some effective improvements have been made to reduce the sediment flowing from Trail 666 (Bear Creek) into Bear Creek, the repairs were designed to be temporary in nature while a long term solution was found. The sediment retention structures require annual maintenance. The proposed action is a long term solution designed to protect the greenback cutthroat trout while allowing continued sustainable recreation in the area.

**Comment 1.44**

How will the proposed closure affect the Ring the Peak trail?

**Response 1.44**

All alternatives contain options for the Ring the Peak trail.

**Comment 1.45**

Need open trail from Gold Camp to connect loops.

**Response 1.45**
All alternatives include loop options from lower Gold Camp Road.

**Comment 1.46**
Maintaining a hikeable connection from 668 (Pipeline) to High Drive and Palmer Red Rock loop is important.

**Response 1.46**
All alternatives include non-motorized and multiple-use trails that connect 668 (Pipeline) to High Drive and Palmer Loop.

**Comment 1.47**
Develop and evaluate a new, well designed system of trails as part of the alternatives, more than just a single alternative for trail re-alignment/re-establishment.

**Response 1.47**
The Interdisciplinary Team thoroughly assessed options for new sustainable trails in the project area. The proposed action (Alternative B) provides sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout. Alternative C provides an option that affords greater protection to the greenback cutthroat trout.

**Comment 1.48**
Move the trails to Old Stage/Gold Camp area and Seven Lakes or Eagle Rock.

**Response 1.48**
This is outside the scope of this project.

## TOPIC 2: TRAILS 666 (BEAR CREEK) AND 667 (JONES PARK) AND ACCESS TO JONES PARK

**Comment 2.1**

Keep Trails 666 (Bear Creek) and 667 (Jones Park) open to non-motorized traffic or keep open just to hikers.

**Response 2.1**

Sediment production from the transportation system in Bear Creek, regardless of the type of recreational use authorized, poses a risk to the watershed and threatened greenback cutthroat trout. Hydrologic connectivity between the trail system and stream occurs where trails intercept and collect runoff, and then convey it into established stream channels. The portions of Trails 666 (Bear Creek) and

667 (Jones Park) in the Water Influence Zone (including stream crossings) are hydrologically connected to Bear Creek and require ongoing maintenance of sediment retention structures to keep sediment from the trail from flowing into the creek. This is not a sustainable, long term solution. Sediment production from these trails poses a risk to water quality and greenback cutthroat trout habitat.

**Comment 2.2**

If Trails 666 (Bear Creek) or 667 (Jones Park) are closed they should be reopened to non-motorized use once sustainable populations of greenback cutthroat trout have been established into other streams, if additional populations are discovered elsewhere, or if the population is destroyed by a natural event.

**Response 2.2**

The purpose of this project is to reduce sedimentation into Bear Creek while providing for recreation use. To meet this objective this analysis includes proposals to permanently close portions of some trails. New trails, in sustainable locations, are proposed to replace the closed segments. The trails that are proposed to be closed have been found to be unsustainable and do not meet modern trail location and design objectives, thus reopening them is not desirable. Monitoring will be conducted to measure changes in the quality of fish habitat and the effectiveness of trail closures. Building new trails in the watershed could be proposed and analyzed in the future.

**Comment 2.3**

- There is an alternate trail north of 667 (Jones Park) that is feasible. Would like canyon scouted by trail builder looking for non-motorized route.

- Reroute Trail 667 within Bear Creek Canyon with 3B trail proposed by Great Outdoor Consultants

**Response 2.3**

The intent of the proposed action is to minimize impacts to Bear Creek by moving a portion of the trail system out of the Water Influence Zone. The Bear Creek Watershed Trails Assessment (RMFI 2012) concluded that trail realignment may be feasible north of Trail 667 (Jones Park). However, the construction of an alternative trail north of 667 (Jones Park) would occur within the Water Influence Zone and may facilitate the establishment and proliferation of non-system trails that cause additional habitat loss or degradation. An alternative route would simply create another source of potential sedimentation higher on the slopes of Bear Creek canyon and would also require a stream crossing of Bear Creek at a location with very steep slopes. Minimizing trails within the Water Influence Zone and stream crossings would reduce the amount of sediment reaching the stream channel. Based on the Bear Creek Watershed Trails Assessment (RMFI 2012), fixing the trail in Bear Creek is not desirable. Great Outdoor Consultants (Great Outdoor Consultants 2012) also scouted for a reroute within the Bear Creek watershed. A sustainable trail that could be built within trail building guidelines designed to

protect the greenback cutthroat trout was not found. The proposed action provides recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 2.4**

Find a way to keep a non-motorized trail in Bear Creek.

**Response 2.4**

This option is proposed under Alternative B with the retention of most of non-motorized Trail 666 (Bear Creek).

**Comment 2.5**

Allow access to Jones Park/Loud's Cabin

**Response 2.5**

Based on comments received, a sustainable route into Jones Park was added as part of the proposed action (Alternative B). The existing routes into Jones Park are not sustainable. A new route into Jones Park is proposed. Monitoring and adaptive management would be employed as tools to determine the effectiveness of trail rehabilitation and user compliance, and for the continuation of authorized public access to Jones Park.

**Comment 2.6**

Parts of Trail 666 (Bear Creek) which are being left open need some reroutes to avoid sediment in the stream and to eliminate the crossing of Bear Creek just above High Drive.

**Response 2.6**

These reroutes and realignments are incorporated into Alternatives B and C.

**Comment 2.7**

Close all of 666 (Bear Creek) to all users or move 666 (Bear Creek) out of the Water Influence Zone

**Response 2.7**

The option to close Trail 666 (Bear Creek) to all users is considered under Alternative C. Moving 666 (Bear Creek) out of the Water Influence Zone is not a viable option due to the steep nature of Bear Creek Canyon.

**Comment 2.8**

- Captain Jacks is the only trail in the Colorado Springs area that riders can enjoy without taking an hour ride out of town.
- Keep Captain Jacks open to motorized use; keep as a multiple-use trail.

**Response 2.8**

If selected, Alternative A would keep the current alignment of Captain Jacks Trail open as a multiple-use trail.

Alternatives B and C propose a motorized trail close to Colorado Springs. Alternatives B and C include a trail that begins at the current trailhead where Captain Jacks trail starts in North Cheyenne Canyon Park. The proposed trail follows the current trail until it drops into the Bear Creek watershed. From that point, a new trail is proposed to be built that stays in the North Cheyenne Canyon watershed and connects to trail 622.A (Seven Bridges North Spur).

**Comment 2.9**

Keep Captain Jacks trail open in its current location.

**Response 2.9**

This option is considered under Alternative A.

**Comment 2.10**

Trails 666 (Bear Creek), 667 (Jones Park), 668 (Pipeline) and 720.A (Forester's Cutoff North Spur) should not be closed to mountain bike use.

**Response 2.10**

The option to keep these trails open to mountain bike use is considered under Alternative A. All trails proposed to be kept open in Alternatives B and C would be open for mountain bike use.

**Comment 2.11**

Reroute 667 (Jones Park) and keep the rest of the trails open.

**Response 2.11**

All trails in the analysis area have been assessed for sustainability and type of use by the interdisciplinary team. The proposed action provides sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 2.12**

Josephine Falls (666) – a trail on the right hand side of Bear Creek that takes you right along the creek is okay to close

**Response 2.12**

It is assumed that the commenter is referring to a non-system trail that parallels some portions of Trail 666 (Bear Creek). Alternatives B and C propose to close this non-system trail.

**Comment 2.13**

The dead end motorized trail on the west end of Trail 667 (Jones Park) would encourage motorcycles to continue.

**Response 2.13**

The dead end trail on the west end of Trail 667 (Jones Park) is in the same place where the trail historically stopped. There is a gate at this location.

## TOPIC 3: TRAILS 720 (FORESTER'S CUTOFF), 668 (PIPELINE), 701 (FORESTER'S), 622 (SEVEN BRIDGES), 622.A (SEVEN BRIDGES NORTH SPUR), AND 667 (JONES PARK) REROUTE

**Comment 3.1**

- Retain 622 (Seven Bridges), 622.A (Seven Bridges North Spur), 667 (Jones Park), 668 (Pipeline), and 701 (Forester's) to a foot-only or non-motorized use.
- Portions of 720 (Forester's Cutoff) and 701 (Forester's) within the Bear Creek watershed should be closed to motorized use.
- 622.A (Seven Bridges North Spur), 720 (Forester's Cutoff) and north end of 668 (Pipeline) would be sustainable if only non-motorized traffic allowed.
- Close 701 (Forester's) to motorized traffic.

**Response 3.1**

These trails, along with all other trails in the analysis area, were assessed for sustainability and use type by the interdisciplinary team. In both Alternatives B and C, 622 (Seven Bridges) would remain open to non-motorized use. Portions of Trails 720 (Forester's Cutoff), 622.A (Seven Bridges North Spur), 668 (Pipeline) and 701 (Forester's) are deeply rutted and unsustainable. Portions of these trails are proposed to be closed. The proposed reroute connecting Trail 667 (Jones Park) and Trail 668 (Pipeline) to Trail 701 (Forester's) will be sustainable for both motorized and non-motorized use. The proposed

action provides sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

Our project intent is a balance between a range of appropriate and sustainable recreational opportunities and fish protection. The ID Team determined that keeping Trail 701 (Forester's) and creating a reroute to connect Trail 667 (Jones Park) and Trail 668 (Pipeline) to Trail 701 (Forester's), for motorized and non-motorized use, meets these objectives.

**Comment 3.2**

- Keep Trails 622.A (Seven Bridges North Spur), 668 (Pipeline), 701 (Forester's), and 720 (Forester's Cutoff) open to multiple-use.

- Trails without fish concerns should be open

**Response 3.2**

The option to keep these trails open to multiple-use is considered under Alternative A.

**Comment 3.3**

- Keep Trail 720 (Forester's Cutoff) open to multiple-use and modify the 90 degree turn on the north/east so it feels like a continuation and not a block of Trail 720.A (Forester's Cutoff North Spur). Modify Trail 720 to an S shape to keep it from traveling down the fall line.
- Repair Trail 720 instead of closing it (map of reroutes included in comment 475-14).
- Keep Trail 720 open

**Response 3.3**

Based on these comments and others like it, the proposed action was reassessed and modified. Trail 720 (Forester's Cutoff) was reassessed by the team and a trail designer. The trail designer from Natureshape was contracted to look Trail 720's sustainability. While Trail 720 (Forester's Cutoff) was found to be unsustainable, a more sustainable trail alignment was proposed that runs close to Trail 720 (Forester's Cutoff) and would provide access to many of the places people enjoy along the Trail 720 route. This new route is incorporated into Alternatives B and C.

**Comment 3.4**

- New parts of the new Trail 667 (Jones Park) are not sustainable (Kineo section and the 622-701 trail connection).

- Reroute of trail South of Kineo seems wasteful

- The portion of Trail 622 (Seven Bridges) proposed to be converted from non-motorized to motorized is not suitable for motorized use.

**Response 3.4**

Based on this comment and others like it, the proposed action was reassessed and modified. A trail designer from the Forest Service enterprise team Trails Unlimited made a site visit with local Forest Service personnel to reassess the Kineo portion of the new trail. A new reroute option that is sustainable was found. In order to meet sustainable project sustainable criteria, this reroute ended up much higher on the Kineo slope than previously proposed and will not tie into Trail 622 (Seven Bridges).

**Comment 3.5**

Safety concern that hikers will be below motorbikes where Trail 622 (Seven Bridges) and the Trail 667 (Jones Park) reroute come together on the west end.

**Response 3.5**

Based on this comment and others like it, the proposed action was reassessed and modified. A trail designer from the Forest Service enterprise team Trails Unlimited made a site visit with local Forest Service personnel. A new reroute option that is sustainable was found and is included in the proposed action being analyzed. In order to meet sustainable project sustainable criteria, this reroute ended up much higher on the Kineo slope than previously proposed and will not tie into Trail 622 (Seven Bridges). It joins with Trail 622.A (Seven Bridges North Spur) on a gentle grade that would allow for safe merging of the two trails.

**Comment 3.6**

New Trail 667 (Jones Park) should be non-motorized; Multiple-use trail is not feasible.

**Response 3.6**

All trails in the analysis area have been assessed for sustainability and type of use by the interdisciplinary team. The location of the new Trail 667 (Jones Park) was determined to be appropriate for multiple-use. The proposed action provides a multitude of recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 3.7**

Reroute of Kineo should be on the north and west side of Kineo.

**Response 3.7**

Local Forest Service personnel and trail designers from both Natureshape and Trails Unlimited have scouted the trail options. The route proposed in Alternatives B and C is the most sustainable way to get around Kineo for both the protection of the greenback cutthroat trout and recreational experience.

**Comment 3.8**

Along the newly proposed reroute of Trail 667 (Jones Park) as it comes over Kineo, there is a section of at least 200' which contains a seep and a waterfall in times of rain which will undoubtedly add to trail damage and instability, given the nature of the crumbling granite, making this an extremely expensive portion of the trail to build and maintain.

**Response 3.8**

Based on this comment and others like it, the proposed action was reassessed and modified. A trail designer from the Forest Service enterprise team Trails Unlimited made a site visit with local Forest Service personnel. A new reroute option that is sustainable was found. This reroute is much higher on the Kineo slope than previously proposed.

The proposed action shows the scouted and designed route. During the building of the trail it may be found that the trail needs to be modified slightly. On the ground features would be accommodated and the trail would be built to Forest Service standards.

**Comment 3.9**

Change all trails other than Trail 668 (Pipeline) and Trail 720 (Forester's Cutoff) to non-motorized use only.

**Response 3.9**

These trails, along with all other trails in the analysis area, were assessed for sustainability and type of use by the interdisciplinary team. The proposed action provides multiple sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 3.10**

There are unsafe points on Trail 622 (Seven Bridges).

**Response 3.10**

The proposed action includes reroutes and repairs on all existing trails in the project area. Unsafe points on existing trails will be addressed during implementation.

**Comment 3.11**

Has the trail on south side of Kineo been ground truthed?

**Response 3.11**

The trail currently proposed has been ground-truthed by local Forest Service personnel and a trail designer from the Forest Service enterprise team Trails Unlimited.

**Comment 3.12**

- Consider mountain bikes when constructing the new section of trail around Kineo.
- Trail design must follow best management practices
- Design must be examined to ensure they are appropriate for equestrians, mountain bikers, hikers and motorized users

**Response 3.12**

All user groups would be considered when building new trails. Trail design specifics will be considered during implementation.

**Comment 3.13**

Eliminate reroute of Trail 667 (Jones Park) over Kineo.

**Response 3.13**

This option was considered and explored by the interdisciplinary team. It was included in the analysis and was withdrawn from further consideration because it does not meet the purpose and need for this project. Based on ID Team and public input it was agreed that the proposed action will provide sustainable recreational opportunities commensurate with identified needed protection for the threatened greenback cutthroat trout.

**Comment 3.14**

Reroute of Trail 667 (Jones Park) over Kineo will destroy an animal path.

**Response 3.14**

Effects on wildlife will be analyzed in the Bear Creek Watershed Restoration Environmental Assessment and Biological Evaluation/Assessment.

**Comment 3.15**

Would like to see the Trail 668 (Pipeline) opened from Trail 701 (Forester's) near Frosty's Park down to Trail 622 (Seven Bridges) to allow a mountain biking loop.

**Response 3.15**

This route would be open under all three alternatives.

**Comment 3.16**

Do not reroute Trail 701 (Forester's).

**Response 3.16**

The rerouting of Trail 701 (Forester's) creates a more sustainable trail than the existing alignment.

**Comment 3.17**

Trail 720 (Forester's Cutoff) has major issues and may not be appropriate for motorized use.

**Response 3.17**

The proposed action was modified in response to this comment and others like it. The connection between Trail 720 (Forester's Cutoff) and Trail 668 (Pipeline) was reassessed by the team and a trail designer from Natureshape was contracted to look at the sustainability of Trail 720. While Trial 720 was found to be unsustainable, he proposed a trail that runs close to Trail 720 (Forester's Cutoff) and experiences many of the places people enjoy along the Trail 720 route.

**Comment 3.18**

Re-route Trail 667 (Jones Park) to Seven Bridges trail system

**Response 3.18**

When this project was originally scoped it was proposed that a new trail connection be built from Trail 667 (Jones Park) to Trail 622 (Seven Bridges). Based on this comment and others like it, the proposed action was reassessed and modified. A trail designer from the Forest Service enterprise team Trails Unlimited made a site visit with local Forest Service personnel. A new reroute option that is sustainable was found and is included in the proposed action being analyzed. This reroute is much higher on the Kineo slope than previously proposed and joins with 622.A (Seven Bridges North Spur) on a gentle grade that would allow for safe merging of the two trails.

# TOPIC 4: NON-SYSTEM

**Comment 4.1**

Adopt the non-system trails, Sesame Canyon, Buckhorn, Palmer, Mays Peak, Hunters Run, Scout Camp, Non-system trail at the base of Josephine Falls, and St. Mary's Trails into official trail system.

If Buckhorn Trail is incorporated into the official trail system it should be multiple-use.

**Response 4.1**

Sesame Canyon—This unsustainable non-system trail follows a drainage that connects to Trail 665 (Penrose) and a second non-system dead-end trail to the north. It is steep, eroded and runs straight up the fall line. This drainage is located within the Water Influence Zone and deposits sediment to a tributary of Bear Creek. Alternative B proposes decommissioning this unsustainable trail. The opening of Sesame Canyon trail does not meet project purpose and need.

Buckhorn—Alternative B proposes to recognize the Mount Buckhorn Trail within the official National Forest trail system; it is proposed for non-motorized use. The comment(s) concerning opening the trail to multiple-use (including motorized) was considered, but safety issues and user conflicts preclude this type of use.

Palmer— Alternative B proposes to incorporate the Palmer Trail into the official National Forest trail system.

One comment suggested adopting the section of Palmer Trail that crosses National Forest System lands in section 17. However, there is no National Forest System land in Section 17. It is outside of the project area, off National Forest System lands, and, therefore, beyond the scope of this project.

Mays Peak —A non-system trail exists to the top of Mays Peak; it is unsustainable and is proposed for closing and decommissioning under both Alternatives B and C.

St. Mary's—this is already an official system trail and it is outside the project area.

Hunters Run - was considered and dismissed, because this non-system trail up Hunters Run is within the Water Influence Zone. Trails in the Water Influence Zone do not meet the project purpose and need.

Scout Camp – This is a non-system trail within the Bear Creek watershed and is proposed for closure. Alternative B proposes decommissioning this unsustainable trail. The opening of this trail does not meet project purpose and need.

Trail at the Base of Josephine Falls – Trail 666 (Bear Creek) will remain open up to the viewing point for Josephine Falls. The non-system trail from Josephine Falls to Trail 666 is within the Water Influence Zone and is proposed to be closed under Alternatives B and C. Trails in the Water Influence Zone do not meet project purpose and need.

**Comment 4.2**

- Trail labeled as Section 16 connector does not exist.
- The Section 16 connector is incorrectly located on the maps

**Response 4.2**

This was a factual error and has been corrected.

**Comment 4.3**

Do not close non-system trails and consider social trails for inclusion into the official trail system.

**Response 4.3**

Alternative B proposes two non-system trails, Mount Buckhorn and Palmer Trail, to be incorporated into the official trail system. Other existing non-system trails were built illegally and are causing increased sedimentation into Bear Creek and are proposed to be closed and rehabilitated. Trails that increase sedimentation do not meet project purpose need of balancing recreational opportunity with fish protection.

**Comment 4.4**

Non-system trails around Mays Peak are an environmental problem and should be closed

**Response 4.4**

Closing and decommissioning of non-system trails are proposed in Alternatives B and C.

## TOPIC 5: NEW TRAIL PROPOSALS

**Comment 5.1**

Build a trail from the intersection of Trail 667 (Jones Park) and Buckhorn down to the Bear Creek gate on High Drive (to allow non-motorized loop).

**Response 5.1**

Alternative B proposes opening High Drive Road to non-motorized use. An extension of the Mount Buckhorn Trail is proposed to connect Trail 667 (Jones Park) to Trail 666 (Bear Creek), thereby creating a loop to High Drive Road. A new trail in the suggested location would have negative impacts on greenback cutthroat trout habitat and does not meet the purpose and need of this project.

**Comment 5.2**

- Create a loop for Trail 622 (Seven Bridges) instead of out and back.
- Loop options are limited

**Response 5.2**

Alternatives B and C propose Trail 622 (Seven Bridges) connect to Trail 668 (Pipeline) and create several loop opportunities using the Trail 667 (Jones Park) reroute, Trail 666 (Bear Creek), and the Mount Buckhorn Trail.

**Comment 5.3**

Include the "Missing Link" trail. This is a trail that was approved from Mountain View on the Cog Railway through Colorado Springs Utilities property and coming out into Jones Park onto Trail 667 (Jones Park).

**Response 5.3**

The Missing Link Trail is part of the South Slope Recreation Area project managed by the City of Colorado Springs Parks, Recreation & Cultural Services Department and is outside the scope of this project. The South Slope project will have trails that may provide non-motorized access to Trail 667 (Jones Park).

**Comment 5.4**

Commenter 401-14 included several new trail proposals including maps. New trails proposed include a trail going east from the intersection with Trail 622.A (Seven Bridges North Spur) higher up on the Kineo slope, a connector between Trail 720 (Forester’s Cutoff) and Trail 668 (Pipeline), and a trail that parallels Trail 622 (Seven Bridges) and Trail 668 (Pipeline) closer to North Cheyenne Creek.

**Response 5.4**

Based on this comment and others like it, the proposed action was reassessed and modified. A trail designer from the Forest Service enterprise team Trails Unlimited made a site visit and recommended a trail reroute similar to the reroute suggested by the commenter. This reroute is much higher on the Kineo slope than previously proposed.

The connection between Trail 720 (Forester's Cutoff) and Trail 668 (Pipeline) was reassessed by the team and a trail designer from Natureshape was contracted to look at the sustainability of Trail 720. While Trail 720 was found to be unsustainable, he proposed a trail that runs close to Trail 720 (Forester's Cutoff) and would provide access to many of the places people enjoy along the Trail 720 route.

The route that parallels Trial 622 (Seven Bridges) and Trail 668 (Pipeline) may impact the water quality of North Cheyenne Creek and was not carried forward in the analysis.

**Comment 5.5**

Commenter 475-14 suggested creating a route called Trail 665.A that starts from the proposed Mount Buckhorn connector and continues to the Penrose Trailhead, essentially paralleling Trail 665 (Penrose). A new Trail 665.A would mirror the existing Trail 665 (Penrose) Trail in function; however, the trails would be one-way trails, either up or down (map included in comment 475-14).

**Response 5.5**

This option was considered and explored by the interdisciplinary team. It was included in the analysis and was withdrawn from further consideration because it does not meet the purpose and need for this project. The proposed action proposes to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 5.6**

Commenter 125-13 included several new trail proposals including maps. New trail proposals include alternatives to Trail 720 (Forester's Cutoff), Trail 668 (Pipeline) and Trail 622.A (Seven Bridges North Spur).

**Response 5.6**

These proposals were considered and explored by the interdisciplinary team. Although not accepted exactly as presented, they were used to develop the proposed action.

**Comment 5.7**

Create connector from Road 381 to Trail 668 (Pipeline).

**Response 5.7**

This option is outside the scope of this project. Additional trails may be incorporated into a comprehensive travel analysis process in the future. The proposed action provides sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 5.8**

Would like a new connection from Trail 622 (Seven Bridges) across Bear Creek and up over to Palmer trail.

**Response 5.8**

This option was considered and explored by the interdisciplinary team. A trail in this location would impact greenback cutthroat trout habitat. It was included in the analysis and was withdrawn from further consideration because it does not meet the purpose and need for this project. The proposed action proposes to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 5.9**

Would like a trail to the top of Mays Peak.

**Response 5.9**

This option was considered and explored by the interdisciplinary team. It was included in the analysis and was withdrawn from further consideration because it does not meet the purpose and need for this project. The proposed action provides to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 5.10**

For every mile closed in the Bear Creek area, open that same amount on FR 376.

**Response 5.10**

This suggestion is outside the scope of this project. Additional trails may be proposed in a comprehensive travel analysis process in the future.

**Comment 5.11**

Commenter 320-14 provided a map with possible “Pipeline Trail loop”.

**Response 5.11**

This option was considered and explored by the Interdisciplinary Team. It was included in the analysis and was withdrawn from further consideration because it does not meet the purpose and need for this project. The proposed action proposes to provide sustainable recreational opportunities

commensurate with needed protection for the threatened greenback cutthroat trout. The ID Team determined this proposed trail unsustainable.

**Comment 5.12**

Would like a new trail connection from lower Captain Jacks to Stephanie's upper trailhead. This trail begins at the recently re-routed section and heads north into the Bear Creek drainage.

**Response 5.12**

This option was considered and explored by the interdisciplinary team. It was included in the analysis and was withdrawn from further consideration because it does not meet the purpose and need for this project. Building additional trails within the Bear Creek watershed does not meet the purpose and need of this project. The proposed action proposes to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 5.13**

Many commenters submitted trail proposals that were less specific.

**Response 5.13**

All trail proposals were considered and explored by the interdisciplinary team. Many were used to develop the proposed action and alternatives. Others were included in the analysis and withdrawn from further consideration because they do not meet the purpose and need for this project. The proposed action proposes to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 5.14**

Allow access to Mt. Kineo from the new Trail 667 (Jones Park)

**Response 5.14**

This option was considered and explored by the interdisciplinary team. It was included in the analysis and was withdrawn from further consideration because El Paso County does not allow off trail travel on their properties. The proposed action proposes to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 5.15**

Proposes a new trail extension from the Palmer Trail to be constructed to access Tenney Crags

**Response 5.15**

This option was considered and explored by the interdisciplinary team. It was included in the analysis and was withdrawn from further consideration because it does not meet the purpose and need for this project. The proposed action proposes to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 5.16**

Continue Trail 668 (Pipeline) to Trail 622.A (Seven Bridges North Spur), Modify Trail 622.A (Seven Bridges North Spur), and do not build the proposed connector.

**Response 5.16**

This option was considered and explored by the interdisciplinary team. It was included in the analysis and was withdrawn from further consideration because it does not meet the purpose and need for this project. The proposed action proposes to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 5.17**

Commenter 320-14 submitted a map of a possible reroute for Trail 667 (Jones Park) on the north side of Bear Creek watershed

**Response 5.17**

This option was considered and explored by the interdisciplinary team. A trail in this location would impact greenback cutthroat trout habitat. It was included in the analysis and was withdrawn from further consideration because it does not meet the purpose and need for this project. The proposed action proposes to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 5.18**

A trail connection be established on the north side of the Bear Creek drainage, from the Palmer Trail to a point north of Mt Garfield, which would then connect to the new Trail 667 (Jones Park).

**Response 5.18**

This option was considered and explored by the interdisciplinary team. A trail in this location would impact greenback cutthroat trout habitat. It was included in the analysis and was withdrawn from further consideration because it does not meet the purpose and need for this project. The proposed action proposes to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 5.19**
Proposed a different trail alignment for the new Mount Buckhorn Trail

**Response 5.19**

The new Mount Buckhorn Trail was laid out on the ground by a professional trail designer. We believe it is the best alignment.

## TOPIC 6: ACCESS TO NORTHERN PEAKS

**Comment 6.1**

Allow non-motorized access on existing social trails to allow access to northern high points.

**Response 6.1**

The existing social trails that lead to the northern high points begin on parts of Trail 666 (Bear Creek) and Trail 667 (Jones Park) that are proposed to be closed in both Alternatives B and C. These social trails were never authorized to be constructed and are not recognized as authorized or system routes. The Northern peaks can be accessed from outside the watershed.

**Comment 6.2**

- Access to the northern peaks from the north is unreasonable.
- Allow better access to northern peaks

**Response 6.2**
Although there are not system trails accessing the northern peaks from outside the watershed, the public can travel cross country to these destinations. Access to the northern peaks from outside the watershed is outside the project boundary.

**Comment 6.3**

Build access trail to North Peaks (Garfield, Arthur, Tenney, and Tuckaway). Map submitted by commenters 275-14 and 320-14.

**Response 6.3**

This option was considered and explored by the interdisciplinary team. It was included in the analysis and was withdrawn from further considerations because it does not meet the purpose and need for this project. The proposed action proposes to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

# TOPIC 7: HIGH DRIVE

**Comment 7.1**

Keep High Drive open to public cars.

**Response 7.1**

This option is considered under Alternative A.

**Comment 7.2**

- High Drive should be closed to motorized traffic
- Keep High Drive open as a multiple-use trail.
- Allow plate-less (without license plate) dirt bikes on High Drive.
- Keep High Drive open to mountain bikers.
- High Drive should be open to foot traffic only
- Regrade/revegetate High Drive to a single track trail

**Response 7.2**

Alternatives B and C propose opening High Drive to non-motorized use. Allowing Off-Highway Vehicles on High Drive (license plated or plate less) was considered and explored by the interdisciplinary team. It was included in the analysis and was withdrawn from further consideration because of concerns for public safety. The proposed action proposes to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.

**Comment 7.3**

- Close High Drive to all users.
- High Drive should be decommissioned.
- Revegetation of High Drive would allow the stream to meander and function as a stream should naturally function.
- Request documentation of why High Drive is required for administrative use.
- Pave High Drive

**Response 7.3**

Closing High Drive to all use would render Trail 666 (Bear Creek) and the Palmer inaccessible. The proposed action proposes to provide sustainable recreational opportunities commensurate with needed protection for the threatened greenback cutthroat trout.
It is desirable to keep High Drive maintained and open for non-motorized recreation, historic enjoyment, and interpretive purposes.

There are private land parcels along High Drive and in those cases where a landowner's ingress or egress across National Forest to non-federal lands is surrounded by National Forest, the Forest Service is required to provide reasonable right of access. Ref. 36 CFR 251.110 Subpart D – Access to Non-Federal Lands and the Alaska National Interest Lands Conservation Act (ANILCA). In addition to meeting legal requirements to ensure road access, the City of Colorado Springs would maintain road access for current and future management activities, including emergency response, under Alternatives B and C.

The High Drive Report (CH2M Hill, 2012) details how to repair and maintain High Drive to minimize impacts to Bear Creek.

The option to close and revegetate or pave High Drive was considered and withdrawn from further consideration because it does not meet the purpose and need for this project.

**Comment 7.4**

Oppose the grant of a permanent easement along High Drive to the City of Colorado Springs. We instead suggest the grant of an annual but renewable easement to allow for more flexible management in the future.

**Response 7.4**

After further research it has been determined that High Drive is owned by the City of Colorado Springs and an easement is not required.

**Comment 7.5**

What is the quantifiable improvement to eliminating public vehicular access on High Drive?

**Response 7.5**

The National Environmental Policy Act requires agencies provide sufficient data showing the effects of proposed actions and to justifying decisions. Data can be quantitative or qualitative. The effects of eliminating public vehicular access to High Drive are analyzed in the Bear Creek Watershed Restoration Environmental Assessment under Alternatives B and C.

**Comment 7.6**

How much sediment is High Drive contributing? How much will be mitigated by improvements? Net benefit?

**Response 7.6**

Analysis sediment source, quantifying sediment, and mitigation of erosion and sedimentation are discussed in the soils and water analysis portion of the Bear Creek Watershed Restoration

Environmental Assessment when needed to compare alternatives. Internal and external scoping comments concerning the sediment issue were used to strengthen this analysis.

**Comment 7.7**

When work on High Drive begins, trail access could be closed during work.

**Response 7.7**

Trails within the project area and High Drive may be closed to all users for short periods of time while road or trail work is performed due to safety concerns.

**Comment 7.8**

High Drive analysis is incomplete.

**Response 7.8**

The High Drive Report was completed by CH2M Hill in 2012 and was used to develop the Bear Creek Watershed Assessment. It was further refined by the City of Colorado Springs in 2015. This report is one among many sources of information used to develop the proposed action.

**Comment 7.9**

If High Drive is reopened the direction of one-way traffic should be switched to uphill.

**Response 7.9**

If the decision is made to reopen High Drive to vehicles, the direction of traffic could be determined at the time of reopening. This decision does not require National Environmental Policy Act analysis. Whether traffic flows up or down hill is not as much of a concern as the current sedimentation rates occurring from High Drive.

**Comment 7.10**

What is the difference in maintenance for High Drive as an administrative route compared to a recreational trail?

**Response 7.10**

It was determined by the City of Colorado Springs that maintaining administrative vehicle access on High Drive was needed for public safety. Excluding public motorize access allows the road to be narrowed and maintained at a lower standard than necessary for public vehicular access would require. Maintenance level necessary for continued use will be determined by the City of Colorado Springs.

## TOPIC 8: OFF-TRAIL TRAVEL RESTRICTION BOUNDARY

**Comment 8.1**

- Change “travel restricted to trail” boundary to allow access to points between the northern peaks (Tenney Crags, Mount Arthur, Mount Garfield, Runs Down Fast Mountain and Tuckaway Mountain), Specimen and Sentinel Rock, Mays Peak, Mount Buckhorn, Hunters Run, most of the City Park and east of High Drive.

- Allow access to Tenney Crags, Mount Arthur, Mount Garfield, Runs Down Fast Mountain and Tuckaway Mountain, Specimen and Sentinel Rock, Mays Peak, Mount Buckhorn.

**Response 8.1**

The proposed action was modified in response to comments. The “Travel restricted to trail” boundary was moved to allow access to points between Tenney Crags, Mount Arthur, Mount Garfield, Runs Down Fast Mountain and Tuckaway Mountain; Specimen and Sentinel Rock; and the top of Mays Peak and Mount Buckhorn.

Access to Hunters Run was considered and dismissed, because the non-system trail up Hunters Run is within the Bear Creek Water Influence Zone.

Removing the “travel restricted to trail” restriction east of High Drive was considered and dismissed, because lands east of High Drive drain into and contribute sediment above the fish barrier in Bear Creek.

Removing the “travel restricted to trail” restriction within the City Park was considered and dismissed because users are required to stay on trails in all Colorado Springs City Parks.

**Comment 8.2**

Opposed to off-trail travel restriction because non-technical climbing routes will not be accessible.

**Response 8.2**

Non-technical climbing routes from outside the Bear Creek Watershed would continue to be accessible. The current existing non-technical climbing routes originate on El Paso County lands. These routes were never authorized.

The proposed action was modified in response to comments to allow for access to the summits of the peaks from outside the Bear Creek watershed. The “Travel restricted to trail” boundary was moved to allow access to points between Tenney Crags, Mount Arthur, Mount Garfield, Runs Down Fast

Mountain and Tuckaway Mountain; Specimen and Sentinel Rock; and the top of May's Peak and Mount Buckhorn.

**Comment 8.3**

Users should be required to stay on trails within the Bear Creek Watershed.

**Response 8.3**

Alternative C proposes that users must stay on trail in all of the Bear Creek Watershed. Alternative B proposes that users must stay on trail in Bear Creek Watershed, excluding only small areas near the summits of surrounding peaks.

## TOPIC 9: FISHERIES AND AQUATICS

**Comment 9.1**

Do not allow fishing in Bear Creek.

**Response 9.1**

Under Code of Colorado Regulations, 2 CCR 406-1, fishing is prohibited in Bear Creek from the headwaters downstream to Gold Camp Road (Department of Natural Resources , Division of Wildlife, Chapter W-1-Fishing; Article II – Special Regulation Waters; #108 – Special Daily Bag and Possession Limits, Size Restrictions, and Other Water-Specific Provisions; B.23.).

**Comment 9.2**

- The Forest Service has not presented any evidence that recreation is impacting the fish.
- What evidence shows that the current condition is contributing to the decline of the fish?
- Concern about the lack of data and targets that show motorized use has impacted trout and diminished stream health more than non-motorized use.
- To shut down a huge swath of a magnificent trail system "just in case" such a closure "might" help protect the fish seems arbitrary.
- Sustained drought conditions are the main problem, not trail use.
- Proposed trail closures are unnecessary, indefensible, and unacceptable.
- Public access to public lands does not need to be denied for a fish.
- Users account for a minimal amount of sediment reaching the creek compared to natural slopes.
- What are the measured impacts to the fishery in Bear Creek from motorcycles on trails and what mitigation to these impacts can be shown from prohibition?

**Response 9.2**

Sediment production from the transportation system in Bear Creek, regardless of the type of recreational use authorized, poses a risk to the watershed and greenback cutthroat trout. Sediment is a pollutant that has thresholds established by the U.S. Environmental Protection Agency (EPA). Excessive sediment fills in pools, impairs fish habitat and causes stream temperatures to rise. Elevated stream temperatures can be lethal to aquatic species including greenback cutthroat trout. Roads and trails, particularly High Drive and Trails 666 (Bear Creek) and 667 (Jones Park), are hydrologically (sedimentation from these streams directly effects Bear Creek) connected to Bear Creek where they are located in the Water Influence Zone and at stream crossings. Roads and trails in the Water Influence Zone are more likely to affect streams because the short distance between the route and the channel reduces the ability of vegetation or physical features to filter sediment from runoff. Basin-wide stream habitat inventories of Bear Creek were completed on National Forest System lands in 1994, 2004, 2011, and 2013. These aquatic habitat inventories used a protocol developed in partnership with Colorado Parks and Wildlife. Direct impacts from the trails and road were documented, identifying point sources of sediment pollution. In addition, the Bear Creek Watershed Trails Assessment (RMFI 2012) concluded that impacts due to the recreational use of the trail are exacerbated by the highly erodible soils composed of Pikes Peak granite. The resulting conditions include trail outslope failure, severe over-steepening, poor drainage, and vegetation loss along cutslope sections of the trail.

Several documents were prepared that identify sedimentation issues with the transportation system in the Bear Creek Watershed. These include: Rocky Mountain Field Institute – Bear Creek Watershed – Rapid Trail Condition Assessment, 2013; Rocky Mountain Field Institute – Bear Creek Watershed – Trails Assessment, 2012; USDA Forest Service – Bear Creek Final Watershed Assessment, 2013; Fin-Up Habitat Consultants, Inc. – Aquatic Habitat Assessment, 2011; and CH2M Hill, 2013 – High Drive Road Assessment. In addition, Geographic Information System spatial analyses and site visits by professional Civil Engineers, Fish Biologists, Soil Scientists, and Hydrologists have identified significant sedimentation issues in the Bear Creek watershed relative to the greenback cutthroat trout. The resources employed by these specialists to evaluate sedimentation issues include: Pike and San Isabel National Forests Comanche and Cimarron National Grasslands Land and Resource Management Plan Direction for Management Area 9(A) – Riparian Areas and Management Area 10(E) Municipal Water Supply; Forest Service Region 2 – Watershed Condition Classification Handbook; Forest Service National Best Management Practices; Forest Service 7700- Transportation Management Handbook; EPA – Watershed Assessment for River Stability Sediment and Supply; Colorado Department of Public Health and Environment narrative standards of sediment; and EPA Clean Water Act sediment standards.

In 2014, Fin-Up Habitat Consultants, Inc. conducted an aquatic habitat analysis of South Ruxton Creek (Gallagher 2015). This creek is a small, headwater stream located immediately west of Bear Creek. The stream flows through dense forest into Big Tooth Reservoir. There is a single trail crossing perpendicular to the channel near the top of the headwaters that currently puts little sediment into the stream system. Because of the limited disturbance that has occurred upstream from the reservoir, and based on other geomorphic considerations, South Ruxton Creek was determined to be a suitable candidate for a reference stream for comparison with other streams on the Pikes Peak massif. V*cross-sections were collected in 2014 in South Ruxton Creek and Bear Creek. This method provides

a measure of sediment deposited in a pool feature compared to the total residual capacity of the pool. The fraction of pool filling serves as an index of the supply of mobile sediment in gravel-bed channels. As a pool feature fills with sediment, average pool depth, maximum pool depth, and pool area are reduced, limiting available habitat for fish.

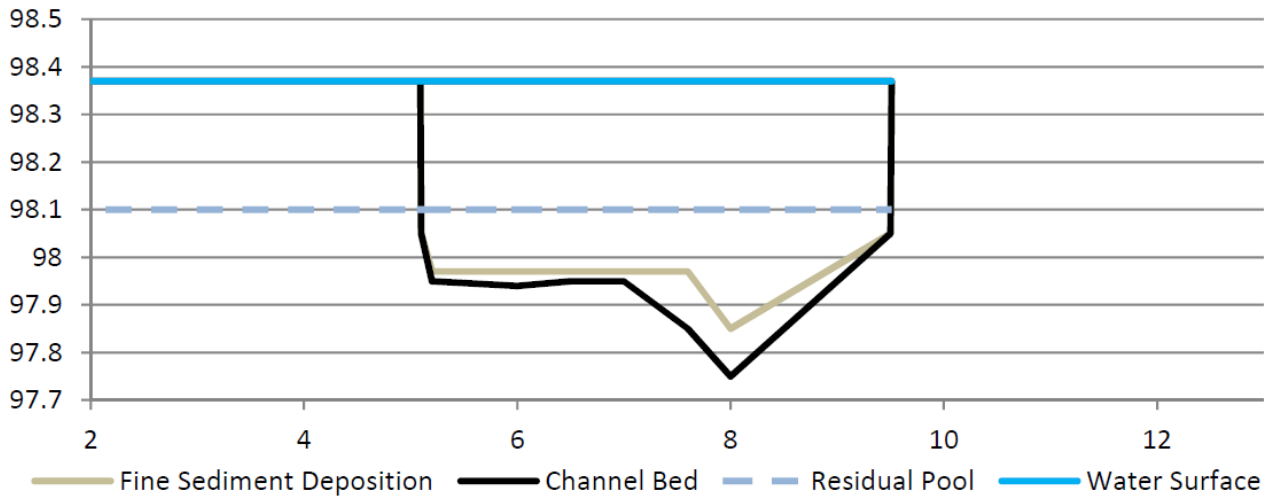


**Figure 8: Example of a V* Cross Section Showing Sediment Deposition**

Under the Endangered Species Act the Forest Service is required to protect species listed as Threatened and Endangered.

**Comment 9.3**

Fish may not do well if we change the environment/habitat by removing trails and limiting recreation.

**Response 9.3**

Excessive sediment is a pollutant that adversely affects habitat and sediment aggradation results in increased stream temperatures. Removing trails and limiting recreation will have a direct positive influence by reducing disproportionate amounts of sediment deposited into the stream and lowering stream temperatures. The existing transportation system, user-created routes, and other ground disturbance affect riparian areas, stream habitat, and fish populations, primarily through increasing rates of soil erosion and sedimentation, as well as alteration of stream temperature and flow. The management actions proposed under Alternatives B and C would stabilize slopes and restore upland and riparian vegetation, reducing sediment contributions into Bear Creek. The resulting habitat conditions would have long-term beneficial effects to this species by providing improved habitat accessibility, potential for population growth, and available refuge during periods of drought.

**Comment 9.4**

Greenback Cutthroat Trout is not indigenous to Bear Creek.

**Response 9.4**

Based on the genetics and meristic studies (A meristic (countable trait) can be used to describe a particular species of fish, or used to identify an unknown species), as well as historical accounts, the cutthroat trout in Bear Creek were likely translocated from the South Platte River Basin in the mid-1880s. The 2012 genetic study (Metcalf et al.) provided evidence that the greenback cutthroat trout is native to the South Platte River drainage and that the Bear Creek population represents the sole surviving population of its kind. The U.S. Fish & Wildlife Service and Greenback Cutthroat Trout Recovery Team are currently analyzing the results of the genetics and meristic studies. At some point in the future the U.S. Fish & Wildlife Service will review the listing status of the greenback cutthroat trout to determine if any status change is warranted. In the interim, the Bear Creek population and other "greenback" populations within the Arkansas and South Platte River drainages will remain federally listed as threatened and will be provided protection required by the Endangered Species Act.

In August of 2014, Colorado Parks and Wildlife stocked 1,200 hatchery reared greenback in Zimmerman Lake in northern Colorado, which became the first native range greenback re-introduction The long-term success of these fish is uncertain as isolation in this type of environment can alter the genetic structure of the population. This population is of critical importance to the recovery of this species as it is the most genetically diverse.

**Comment 9.5**

- Move the trout to another stream or back to its native habitat.
- What are we doing to expand the habitat of the fish now?
- Consider trapping and breeding the species to protect them

**Response 9.5**

It is unknown how Bear Creek greenback cutthroat trout would function in a different drainage. Therefore, the security of this rare population depends on remaining in Bear Creek for the foreseeable future. The successful hatchery spawning of greenback removed from Bear Creek was achieved in state and federal facilities in 2013. In August of 2014, Colorado Parks and Wildlife stocked 1,200 hatchery reared greenback in Zimmerman Lake in northern Colorado. Additional greenback introductions into the South Platte River basin are planned over the next five years. This is a collaborative effort between the U.S. Forest Service, Colorado Parks & Wildlife, and the U.S. Fish & Wildlife Service and is being led by the Greenback Cutthroat Trout Recovery Team. However, it will take several years to determine if other reintroduced populations are truly self-sustaining. Regardless, Bear Creek will also have the most genetically diverse population and this source population will always be important.

**Comment 9.6**

- Describe pool depth, area, velocity, water temp, solar shading in the four mile stretch of Bear Creek.
- What are the food sources for greenback cutthroat trout?
- How were food sources established and quantified?
- How do food sources vary through the year?
- Are food sources uniformly distributed in Bear Creek?
- What is the density of food sources?
- What food density is required for a single greenback cutthroat trout?
- Would deeper pools help fish?
- How will wildlife and flora be affected?
- Develop information on the geomorphologic characterization, hydrology, and hydraulics of Bear Creek.

**Response 9.6**

When needed to assess the effects of alternatives, the above questions are addressed within the Biological Assessment of fish and wildlife resources, botany specialist report, or hydrology specialist report. The Biological Assessment includes a description of the physical and biological components of greenback cutthroat trout habitat, the life history of the greenback, and available habitat in Bear Creek.

The Region 2 Species Conservation Program assessment reports also provide the most comprehensive information on species within the Rocky Mountain Region of the Forest Service. These assessments are available at: http://www.fs.fed.us/r2/projects/scp/assessments/.

**Comment 9.7**

Provide the results of the fisheries assessment to be done in 2014.

**Response 9.7**

The fisheries assessment was completed by Colorado Parks & Wildlife (CPW). Thus, CPW will determine if, when, and how results may be shared with the public.

**Comment 9.8**

- Greenback cutthroat trout is surviving just fine.
- The fish has been fine for over 100 years with the trail in place.
- The fish are thriving since the bridge was built.
- Where is it proven the fish will go extinct?
- I do not believe the greenback cutthroat trout are endangered.

**Response 9.8**

Although this population has been able to survive for over a century, genetic analysis indicates that this population has been reduced to just a few hundred individuals during that time. Increases in the amount of sediment deposited in Bear Creek can lead to a decrease in available habitat for macroinvertebrates which are the food source for the greenback cutthroat trout. Without suitable habitat and an ample food supply, the fish will not thrive.

Because of their status as threatened, these fish are afforded protection under the Endangered Species Act of 1973, as amended. This Act provides the following definitions for threatened and endangered species: **"ENDANGERED** - any species which is in danger of extinction throughout all or a significant portion of its range; **THREATENED** - any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range."

The greenback cutthroat trout is not currently listed as endangered under the Endangered Species Act. It is currently listed as threatened. Any change in listing status will be initiated and decided by the USFWS. The USFWS does consider public comment to inform listing decisions. That forum would be a good opportunity to provide and/or obtain evidence regarding the species status (threatened, endangered or neither). Given the threatened status of the greenback cutthroat trout, management of the Bear Creek population is subject to provisions of the Endangered Species Act.

Section 2 of the Act declares that ". . . all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act."
U.S. Department of Agriculture regulations also direct the Forest Service to…"Manage National Forest System habitats and activities for threatened and endangered species to achieve recovery objectives so that special protection measures provided under the Endangered Species Act are no longer necessary…" and to "Place top priority on conservation and recovery of endangered, threatened, and proposed species and their habitats through relevant National Forest System, State and Private Forestry, and Research and Development activities and programs."

Also see Response 9.2, 9.3, 9.4, 9.5

**Comment 9.9**

Hikers do not impact the fish.

**Response 9.9**

The primary concern regarding the greenback cutthroat trout is excessive sedimentation adversely affecting their habitat. Sedimentation comes from the very existence of the trail or road on the landscape, not necessarily which user group is using it. Bare soil is erosive and compacted trails and roads concentrate stream flows. Concentrated flows have more power that causes increased erosion and stream instability.

See response 9.2.

**Comment 9.10**

Concerned about the use of heavy machinery and other direct intrusions into the stream.

**Response 9.10**

The use of heavy equipment in streams or within the riparian area can cause erosion and delivery of sediment to the stream. Best Management Practices, experienced equipment operators, and onsite monitoring by fish biologists and hydrologists will ensure that appropriate mitigation measures are in place to protect the greenback cutthroat trout. Although individual fish may be harmed during habitat improvement work, the intent is for the population as a whole to benefit for years to come. The potential for individuals to be harmed is analyzed in the Biological Assessment of fish and wildlife resources and would require review and concurrence from the U.S. Fish and Wildlife Service.

**Comment 9.11**

- Provide studies that show there is a sufficient population before or after land management changes.
- How many fish must survive to ensure success of the subspecies?

**Response 9.11**

A sufficient population is often referred to as the minimum viable population. We have not assigned a value for the minimum viable population; however, it is apparent that the population has been able to persist in Bear Creek for well over a century. Populations with a small number of individuals are more susceptible to natural events and there is concern about the amount of genetic variation within the population. Decisions made regarding management of Bear Creek are intended to alleviate or minimize any impacts from land management actions, which when combined with natural events (e.g., flood, drought, and wildfire) could result in a reduction in the current population.

Although minimum population viability is a concern, the larger concern is protecting the sole remaining population of greenback cutthroat trout as we work toward expanding the range of the species. As stated in the Greenback Cutthroat Conservation Assessment (Young 2009), "… reintroduction of greenback cutthroat trout into formerly occupied habitats will also reduce the probability of losing all local populations simultaneously as well as offering the potential to conserve the remaining genetic variability represented in extant populations."

As stated in the Bear Creek Watershed Assessment, which provided the initial direction for the Forest Service's planning effort, "The rarity and small population size of the greenback cutthroat trout in Bear Creek increases the level of concern with any existing activities or potential disturbances that could affect the quality of stream habitat. Future management of the watershed should focus on providing

quality habitat for the greenback cutthroat trout. The existing transportation system, user-created routes, and other ground disturbance can affect riparian areas, stream habitat, and fish populations, primarily through increasing rates of soil erosion and sedimentation, as well as alteration of stream temperature and flow. The high level of use increases the risk of aquatic invasive species becoming established in the watershed. Existing habitat conditions suggest the need to restore habitat and reduce sediment input to the stream. Reducing or removing human uses from the Bear Creek watershed may improve conditions for the fish and its habitat. Continued monitoring of the health of the fish population and its habitat is needed."

**Comment 9.12**

What is the timeline to save the fish?

**Response 9.12**

There is no identified timeline to save the fish. The current Greenback Cutthroat Trout Recovery Plan was released by the U.S. Fish & Wildlife Service (USFWS) in 1998. The purpose of the plan was "the reestablishment of pure greenback cutthroat trout to population levels where the subspecies will not likely become extinct throughout all or a significant portion of their historic range" and to "remove the subspecies from the list of threatened and endangered species." The plan sets objectives which must be met prior to consideration of recovery, including: 1) when 20 stable populations are documented, representing a minimum of 50 hectares of lakes and ponds and 50 kilometers of stream habitat within its native range; and 2) a minimum of five of these populations will exist in the Arkansas River Drainage.

The greenback cutthroat trout has been identified as the native species for the South Platte River drainage. It is likely that the USFWS and the Greenback Cutthroat Trout Recovery Team (GRT) will revise the current recovery plan to incorporate the latest available science and identify recovery actions within the South Platte watershed, which is now accepted as "its native range." It is likely that there will be no timeline established, but similar to the current plan, objectives will be identified that must be met before recovery is complete. The development of that plan is outside the scope of this project, but the Forest Service will be working with the USFWS and GRT on the development and implementation of a new plan.

**Comment 9.13**

Protecting these trout using the Endangered Species Act goes against the intent of preserving species in their natural habitat.

**Response 9.13**

Sec. 2. (b) of the Endangered Species Act of 1973 states…"The purposes of this Act are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and

conventions set forth in subsection (a) of this section." Furthermore, Sec. 2. (c) provides direction "that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act."

Protecting the sole remaining population of greenback cutthroat trout is the top priority within the Bear Creek drainage. In accordance with the Endangered Species Act, the land managers will work to preserve the unique population and conserve and enhance the habitat in which the species currently resides and potentially could reside as we begin to implement recovery actions.

Greenback cutthroat trout harvested from Bear Creek have been sent to the hatchery where they are reproducing and being reintroduced to habitat within the South Platte watershed.

**Comment 9.14**

- Major threats to greenback cutthroat trout, such as fire, predation, and forest health, are not addressed in this plan.
- Predation, hybridization, and fire are of more threat to greenback cutthroat trout than recreation.

**Response 9.14**

The Biological Assessment of fish and wildlife resources will address all threats to the greenback cutthroat trout. The analysis will include the direct and indirect effects of the proposed action, as well as the cumulative effects of the action when combined with past, present, and reasonably foreseeable future actions. There is no doubt that wildfire, insect and disease, and illegal introductions of non-native species (allowing for hybridization) are threats to the greenback cutthroat trout, and thus they will be addressed in the Biological Assessment.

**Comment 9.15**

Prior government actions have caused disappearance of fish.

**Response 9.15**

Government actions (local, state, or federal) have resulted in negative impacts to many fish populations. In some cases that has been intentional, such as the mechanical or chemical removal of an undesired fish (e.g., non-native species). There have been unintended consequences, such as the introduction of non-native species for sport fishing that hybridize with and compete with native populations. All managers have learned from the past. Present day fisheries management uses the best available science to determine the effects of management actions on individuals and populations. In the case of Bear Creek, the primary goal is to protect this unique population of fish and to work toward recovery of the species as directed by the Endangered Species Act.

**Comment 9.16**

Greenback cutthroat trout have been successfully reintroduced into other streams.

**Response 9.16**

Colorado Parks and Wildlife (CPW) has conducted past transplants of greenback cutthroat throughout the Arkansas River drainage and many of those transplants were successful. However, given the most recent scientific studies, the genetic purity of those cutthroat populations is in question. At present, it appears that Bear Creek harbors the sole remaining population of genetically pure greenback cutthroat trout – a species which is native to the South Platte drainage.

In August of 2014, Colorado Parks and Wildlife stocked 1,200 hatchery reared greenback in Zimmerman Lake in northern Colorado, which became the first re-introduction of the greenback to their native range. The long-term success of these fish is uncertain as isolation in this type of environment can alter the genetic structure of the population. Greenbacks have occupied Bear Creek for over 100 years and have likely adapted to the specific habitat conditions within the stream. This population is of critical importance to the recovery of this species as it is the most genetically diverse. The success of reintroduction efforts to its native range, and ultimately the recovery of the species, depends on the persistence of the Bear Creek population. More reintroductions are planned for 2015. CPW is working with the U.S. Fish & Wildlife Service on these transplants, some of which will be on National Forest System lands.

**Comment 9.17**

- Protect the fish in North Cheyenne Creek.
- Building the reroute of Trail 667 (Jones Park) in the North Cheyenne Creek watershed will impact North Cheyenne Creek

**Response 9.17**

North Cheyenne Creek was surveyed for greenback in 2003 and found to provide excellent habitat. The stream was barren due to the presence of several waterfalls that had precluded upstream migration of fish. In 2004, CPW stocked fish from Graneros Creek into a 2.5 mile section of North Cheyenne Creek. According to CPW, genetic testing has confirmed that these fish are Colorado River cutthroat. CPW has found that the population is now self-sustaining, but management emphasis is on protecting the habitat rather than the fish population.

Although genetic testing indicates that the greenback cutthroat trout in North Cheyenne Creek are Colorado River cutthroat, this population is currently federally protected pending a change in the listing status. However, this population is more robust than the Bear Creek population. North Cheyenne Creek is also less impacted by the transportation system and human recreation. Trail 622 occurs in proximity to the creek, but this trail system is non-motorized and contains bridges at all crossings. Trail 668 is motorized and crosses the creek at three locations. These crossings do not contain bridges, but are located more than 0.7 miles upstream of the upper limits of the trout population in this creek.

Recreational activities would have the localized effects of increased erosion and sedimentation of the creek at these sites. However, since these crossings are located well upstream of this population, downstream impacts to this population are not anticipated.

**Comment 9.18**

Because of the fragility of the greenback cutthroat population, trail decommissioning and restoration should take priority over new trail construction.

**Response 9.18**

The timing of trail building and decommissioning would be dependent on many factors including available funding, personnel, and a logical sequencing of events. This is a complicated project and while closing trails would be a priority, it must be timed and performed effectively to allow for the greatest likelihood of success.

**Comment 9.19**

- Trout need to be protected for future generations.
- Habitat must be protected for the recovery of the greenback cutthroat trout population
- The greenback cutthroat trout should be the foremost consideration

**Response 9.19**

The purpose and need for this project is to protect this population of greenback cutthroat trout and it's habitat for future generations.

**Comment 9.20**

Interbreeding is natural.

**Response 9.20**

Successful reproduction between different species of the same genus does occur in nature. The most common example of that within the Rocky Mountains occurs when rainbow trout intermix with cutthroat trout, producing the rainbow-cutthroat hybrid. Species within the same genus that is genetically distinct from one another reproduce at different times and different locations. When non-native species of the same genus are introduced, reproductive activity may overlap in time or space, resulting in hybrid offspring and the loss of genetic purity of the native species.

**Comment 9.21**

- Fish barrier is not effective.
- Enhance the barrier

**Response 9.21**

Improving the barrier is incorporated into Alternatives B and C.

**Comment 9.22**

Change the character of the creek to benefit the fish instead of altering trails

**Response 9.22**

Changes to the trail system are necessary to meet the purpose and need of this project. Under Alternatives B and C, habitat conditions in Bear Creek would be improved through in-stream restoration that entails pool enhancement and stream bank stabilization. The restoration of erosive stream banks would entail the realignment or placement of rock to decrease sheer forces along banks, placement of logs to stabilize outside meanders, and re-vegetation using sod mats or willow plantings. Existing pools would be expanded in depth through the removal of accumulated sediment, the removal of armoring cobble, and the realignment or placement of rock. However, the creek cannot be altered in such a way as to transport the excessive sediment generated from the trials if sources of erosion and sediment delivery to habitat occupied by the greenback cutthroat trout are not reduced.

**Comment 9.23**

Include in this assessment a protocol for the disinfection of any equipment, heavy machinery, or hand tools, into the stream to avoid the unintended introduction of whirling disease

**Response 9.23**

Disinfection protocols are included in design criteria.

**Comment 9.24**

Address the risk of introduction of whirling disease by avoiding stream crossings and keeping routes out of streamside areas.

**Response 9.24**

Alternatives B and C address the risk of introduction of whirling disease by limiting the length of trail in the Bear Creek Water Influence Zone and prohibiting humans and domestic animals from entering or being in the creek. The introduction of a non-native aquatic species into Bear Creek could have devastating effects on the greenback cutthroat trout population. For instance, whirling disease (*Myxobolus cerebralis*) damages cartilage and compromises the nervous system of trout. The absence of the aquatic oligochaete host of this parasite (i.e., *Tubifex tubifex* worms) in Bear Creek has not been confirmed, but the greenback population does not show sign of infection. If introduced, whirling disease would cause spinal deformities and decrease the ability of greenback to feed and avoid

predators, and may cause the mortality of fingerlings. A reduction in the vigor of the population would make this species more susceptible to habitat degradation or environmental disturbances. Humans and domestic animals, in particular, would have the highest potential to come in contact with Bear Creek, and are a source for the introduction or spread of ANS. Reducing water contact by eliminating the number of live stream crossings and by restricting human access in the Bear Creek basin would diminish the risk of accidental introduction of aquatic nuisance species into the stream system.

**Comment 9.25**

Study showing unique DNA is poorly designed

**Response 9.25**

Every attempt was made to review a wide variety of information and incorporate the best available science in this environmental assessment process. Articles accepted for publication in peer-reviewed journals, such as Molecular Ecology, generally represent the best research practices in a field. These journals establish standards for a given discipline and utilize reviewers that specialize in the same scholarly area. While evaluating the quality of a submitted manuscript, the reviewers assess the accuracy and validity of the research methodology and procedures.

During the Greenback Cutthroat Trout Genetics and Meristics Studies Facilitated Expert Panel Workshop panelists generally agreed: the study was sound, within the limitations of low sample sizes, short sequences and available museum specimens.

**Comment 9.26**

Establish stream channel restoration objectives.

**Response 9.26**

Restoration objectives are developed as part of the environment assessment process. See Response 9.22.

## TOPIC 10: CULTURAL

**Comment 10.1**

Kellogg survey marker, accessed by the current Trail 701 (Forester's), will lose access with reroute.

**Response 10.1**

This feature will no longer be accessible if the proposed action is implemented. According to the National Historic Preservation Act (36 CFR 800), a site, building, or structure is adversely affected when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that

qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. The cultural analysis by ERO determined that the current marker is a replacement of the original, thus, it is not a historic property eligible for listing on the NRHP. The reroute of Trail 701 (Forester's) does not constitute an adverse effect to the survey marker. The proposed action does not propose an action that could adversely affect the survey marker's preservation and future functionality.

**Comment 10.2**

High Drive is a cultural resource worthy of national register.

**Response 10.2**

The Forest Service agrees with this comment. Multiple segments of the High Drive were concurred eligible for inclusion in the National Register of Historic Places by the Colorado State Historic Preservation Office.

**Comment 10.3**

Obliterating Trails 666 (Bear Creek) and 667 (Jones Park) is damaging a cultural/historical resource that is valued by the community.

**Response 10.3**

The Forest Service agrees with this comment. A cultural resource investigation that documents the historic significance of segments of the Bear Creek Trail (Trails 666 and 667) within our analysis area has been completed. The State Historic Preservation Office concurred with the Forest Service's finding that the Bear Creek Trail is eligible for inclusion in the National Register of Historic Places. Proposed actions may adversely affect this historic property. According to the National Historic Preservation Act (NHPA; 36 CFR 800), a site, building, or structure is adversely affected when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. In compliance with Section 106 of the NHPA, the Forest Service shall work with consulting parties to develop alternatives and proposed measures that might minimize or mitigate any adverse effects of the undertaking on this historic property. Resolution of adverse effects generally results in a Memorandum of Agreement or Programmatic Agreement that details how the adverse effects will be minimized and/or mitigated. Resolution of adverse effects shall occur before the National Environmental Policy Act decision is signed.

## TOPIC 11: FLOOD

**Comment 11.1**

- What range of flows was seen during the Sept. 2013 storm event?
- How were the flows estimated as the gauge was inundated for several days during the flood?
- What are the changes to the channel and pool characteristics between 2011 Gallagher report and now?
- What is the estimated amount of sediment displaced during the flood?
- Where are the meteorological stations located?
- Where is the meteorological data presented?
- Where is the data from identical stations for the 1999 storm event?
- Can data be translated from other suitable local meteorological stations to compare the 1999 event with the 2013 event?

**Response 11.1**

Though there was additional damage to the trails as a result of the flooding, changes to the proposed action and alternatives were not needed. It is anticipated that some fish may have been lost or displaced from the high flows, but the effects to the population as a whole were minimal. This population experienced similar high flows in both 1997 and 1999. Information about the 2013 flood will be included in the Bear Creek Watershed Restoration Environmental Assessment when needed to give context to the project.

## TOPIC 12: NATIONAL ENVIRONMENTAL POLICY ACT

**Comment 12.1**

- Project must be put on hold until fisheries assessment is complete, results of assessments are presented and reviewed by the public, and public meetings are held to review how floods impacted the project.
- NEPA process must be placed on hold until the drainage is reassessed post flood.

**Response 12.1**

The purpose and need did not need to be changed in response to the flood. Trails may be in worse condition post-flood, however, trails that needed to be decommissioned pre-flood to mitigate adverse effects to the greenback cutthroat trout will still need to be decommissioned. Instream work still needs to be performed. Exactly how work is implemented may be different but NEPA analysis allows flexibility to determine how best to mitigate adverse effects.

**Comment 12.2**

Provide access to District Ranger's proposed action and NEPA scope.

**Response 12.2**

A document called “Proposed Action and Alternatives” was posted to the Bear Creek Restoration Project website on Friday, February 21, 2014. The link had errors when it was posted. These errors were repaired on Tuesday, February 25, 2014 prior to the public open house on that day.

The website can be accessed at the following link:
http://www.fs.usda.gov/detail/psicc/home/?cid=STELPRDB5397304

**Comment 12.3**

Identify NEPA process that preceded the Bear Creek Watershed Assessment (based on photo showing that an open house poster says "Con't" at the top).

**Response 12.3**

The Watershed Assessment was the beginning of the NEPA process and provided baseline information to inform the Bear Creek Watershed Restoration Environmental Assessment. “Con’t” at the top of the poster for Open House Station 1 refers to a second poster that was at that same station. The second poster stated the goals of the open house and purpose of the project.

**Comment 12.4**

U.S. Forest Service is circumventing NEPA regulations by not holding public hearings or meetings intended to solicit comments on the proposed action.

**Response 12.4**

CFR 36 220.4 states “(2) Scoping shall be carried out in accordance with the requirements of 40 CFR 1501.7. Because the nature and complexity of a proposed action determine the scope and intensity of analysis, no single scoping technique is required or prescribed.”

As stated in the introduction at the beginning of this Response to Comments document, two open houses were held and public comments were solicited via publication in the newspaper of record, The Colorado Springs Gazette. 160+ people attended each of the two open houses. The 2014 scoping letter including solicitation of comments was emailed to 354 people and organizations and hard copy mailed to 21 people and organizations. Over 950 letters, emails, and faxes have been received in response to solicitation for comments.

Scoping information was also available on the Bear Creek Website and through the Schedule of Proposed Actions.

**Comment 12.5**

Alternative C indicates limiting public access but this is covered in Alternative B. Meaning of Alternative is unclear.

**Response 12.5**

Alternative C differs from Alternative B in 4 ways: 1) Off-trail travel restriction boundary follows the Bear Creek watershed basin boundary; 2) Decommissions all of Trail 666 (Bear Creek); 3) Would not build the Mount Buckhorn connector to Trail 667 (Jones Park); 4) Would not build a trail to access Jones Park.

**Comment 12.6**

Provide public access to agreements made by U.S. Forest Service, City of Colorado Springs, and Colorado Springs Utilities.

**Response 12.6**

We are working cooperatively with Colorado Springs Utilities and the City of Colorado Springs but they are not cooperating agencies in a NEPA definition. The final decision document issued by the Forest Service will only include decisions for National Forest System lands.

**Comment 12.7**

Provide underlying data that justifies the proposed action.

**Response 12.7**

NEPA requires sufficient data. CFR 36 220.7b 3 (i)

(i) Shall briefly provide sufficient evidence and analysis, including the environmental impacts of the proposed action and alternatives, to determine whether to prepare either an Environmental Impact Statement or a Finding of No Significant Impact (40 CFR 1508.9);

Sufficient data has been collected through reports and “on the ground” knowledge of local specialists and includes the following:
Rocky Mountain Field Institute – Bear Creek Watershed – Rapid Trail Condition Assessment, 2013; Rocky Mountain Field Institute – Bear Creek Watershed – Trails Assessment, 2012; USDA Forest Service – Bear Creek Final Watershed Assessment, 2013; Fin-Up Habitat Consultants, Inc. – Aquatic Habitat Assessment, 2011; and CH2M Hill, 2013 – High Drive Road Assessment. In addition, Geographic Information System spatial analyses and site visits by professional Civil Engineers, Fish Biologists, Soil

Scientists, and Hydrologists have identified significant sedimentation issues in the Bear Creek watershed relative to the greenback cutthroat trout. The tools employed by these specialists to evaluate sedimentation issues include: Pike and San Isabel National Forests and Comanche Cimarron National Grasslands Land and Resource Management Plan Direction for Management Area 9(A) – Riparian Areas and Management Area 10(E) Municipal Water Supply; Forest Service Region 2 – Watershed Condition Classification Handbook; Forest Service National Best Management Practices; Forest Service 7700- Transportation Management Handbook; Environmental Protection Agency (EPA) – Watershed Assessment for River Stability Sediment and Supply; Colorado Department of Public Health and Environment narrative standards of sediment; and EPA Clean Water Act sediment standards.

**Comment 12.8**

Project area doubled between first and second scoping.

**Response 12.8**

The project area doubled based on internal and external scoping, which is consistent with the intent of scoping and the NEPA process. It now includes trails that lead into the watershed and non-system trails that serve as connectors and integral parts of recreation in the Bear Creek watershed area.
A second scoping period was announced to solicit comments on the changes to the proposed action in response to comments received in the first scoping period.

**Comment 12.9**

Hiker's Proposal Alternative D: The U.S. Forest Service will obtain scientific data as to the primary sources of erosion in the Bear Creek drainage. The Forest Service will identify the areas of erosion that cause damage to the greenback cutthroat trout habitat and will stabilize the conditions. The Forest Service will work with the user groups to improve the habitat by erosion control measures including installing bridges, culverts, stabilizing slopes, sediment traps, and other types of actions designed to improve the habitat of the greenback cutthroat trout.

**Response 12.9**

This proposed alternative is the same as Alternative A. The sources of erosion have already been identified. Sediment catchment structures have been built and are maintained annually. Bridges have been built. Standard maintenance of the trail would continue under Alternative A.

**Comment 12.10**

Alternatives B and C "lock up" thousands of acres.

**Response 12.10**

Alternatives B and C provide for a spectrum of appropriate and sustainable recreational opportunities. They would restrict public access to Bear Creek Watershed in order to improve habitat and protect the greenback cutthroat trout.

**Comment 12.11**

Alternatives are "forced"? They don't provide a full array of options.

**Response 12.11**

The alternatives provide a full array of options from a “no action” alternative to an alternative that removes all trails from the Bear Creek Water Influence Zone.

**Comment 12.12**

Alternative C is less of an alternative and more of a "strong arm" to force people into B.

**Response 12.12**

Alternative C provides for a reasonable range of recreational opportunities. It is a viable alternative and serves as the environmentally preferred alternative. Alternatives were developed in response to issues identified during scoping.

**Comment 12.13**

Comment period should be extended until 1) NEPA is complete; 2) All trail heads are signed with proposal through spring and summer; 3) Implications of closure, reroute, new trails, cost, and timing are understood and presented; 4) Forest Service conducts public forums to present info and hear objections; and 5) Alternatives brought forward by the public are considered. The comment time period did not give the public adequate notice and time to respond.

**Response 12.13**

Two 30-day comment periods were held to allow the public appropriate time to respond with comments.

**Comment 12.14**

The Center for Biological Diversity has no standing.

**Response 12.14**

Individuals and entities who have submitted specific written comments regarding the proposed project or activity during an announced opportunity for public comment provided during preparation of an Environmental Assessment or Environmental Impact Statement have standing for an objection.

In order to object to a proposed project, you must have previously submitted timely, specific written comments during the public comment periods, unless your objection concerns an issue that arose after the opportunities for formal comment was over. For purposes of eligibility to file an objection, an entity includes non-governmental organizations, businesses, partnerships, state and local governments, Alaska Native Corporations, and Indian Tribes. The use of the term "Objector" applies to all persons or entities who meet eligibility requirements associated with the filed objection. As to what is considered a "specific written comment", comments including transcribed oral statements must be within the scope of the project and have a direct relationship to the proposed action. Comments on the project must also include supporting reasons for the responsible official to consider.

**Comment 12.15**

How do benefits to fish justify inconsistency with Environmental Justice Act of 2007 and Executive Order 12898; Disabled will be restricted?

**Response 12.15**

Consistency with Environmental Justice will be analyzed in the Bear Creek Watershed Restoration Environmental Assessment. Both motorized and non-motorized recreational uses would continue to be allowed in the project area under all alternatives. Under Alternatives B and C, High Drive would be changed from a seasonally open motorized road to a year round non-motorized road. High Drive begins and ends on Gold Camp Road. Vehicular traffic would continue to be allowed on Gold Camp Road. Disabled persons would continue to have full size vehicle access to the National Forest via Gold Camp Road.

## TOPIC 13: REGULATIONS

**Comment 13.1**

- Why are campfires and recreational shooting prohibited in the project area while other restrictions apply to the basin?

- What are the impacts of campfires and shooting and what mitigations can be projected by prohibiting them?
- Shooting should be allowed in Jones Park.

**Response 13.1**

The restriction is based upon the increased risk of fire from campfires and recreational shooting. Fire travels quickly and a fire started in an adjacent watershed would likely travel into the Bear Creek watershed. The risk and nature of fire justify excluding campfires and recreational shooting in the project area rather than just the basin. Dense vegetation and heavy fuels are consistent throughout the watershed. Crews respond to an average of two fires a year in this area. These fires have been limited in size, ranging from less than one acre up to 10 acres. Two-thirds of the fires have been human-caused, with the remainder caused by lightning. The risk of large-scale fire is high and any fire that escapes initial attack would likely burn a large portion of the watershed at high intensity. Uncontrolled wildfire is recognized as a threat to the watershed and could negatively impact water quality and stream habitat. A long-term ban on camping and recreational shooting would substantially reduce the risk of human-caused wildfire. By restricting these activities in the project area, we are mitigating the potential for wildfires.

Shooting is prohibited in all county parks including Jones Park.

**Comment 13.2**

- What are the measured impacts of dogs, people, and livestock and what mitigation to these impacts can be show by prohibition?
- What additional impact can be shown by requiring dogs to be on a leash since they are already prohibited from entering the creek?

**Response 13.2**

The prohibition of dogs, people and livestock from being in the stream mitigates the potential introduction of whirling disease and provides consistent management between land ownerships within the project area. On El Paso County and Colorado Springs City Parks property all domestic animals are required by city ordinance to be on a leash. When traveling on Trail 666 (Bear Creek) to Trail 667 (Jones Park), recreationists cross all three landowners in less than 2 miles. The leash requirement on National Forest System land would complement regulations with the other landowners and encourage compliance.

**Comment 13.3**

Keep dogs out of the creek.

**Response 13.3**
Under Alternatives B and C, people, dogs and livestock would be required to stay out of Bear Creek.

**Comment 13.4**

Exempt plate less dirt bikes on Gold Camp Road from Old Stage to Forest Service Road 379 until new trail is completed.

**Response 13.4**

This was read to mean the commenter would like to be allowed to ride plate less dirt bikes on Gold Camp road. This was discussed by the interdisciplinary team. Due to safely concerns plate less dirt bikes will not be allowed on Gold Camp Road.

## TOPIC 14: IMPACTS OF ACTIVITIES AND REGULATIONS IN THE WATERSHED

**Comment 14.1**

What are the measured impacts to the fishery from pedestrians accessing land off-trail and what mitigation to these impacts can be projected by prohibition?

**Response 14.1**

Restrictions to off-trail travel would serve several purposes in this area. It will serve to allow consistency among all land ownerships within the project area. On City and El Paso County lands, off-trail travel is prohibited. Within the Bear Creek watershed you can travel between the three landowners in less than 2 miles. A prohibition of off-trail travel on National Forest Service lands will allow for consistent management and less confusion for the public. It also serves to keep non-system trails from being unintentionally created. Due to the steep nature of this canyon many people who travel off-trail within the watershed are likely to follow the stream. This traffic would eventually lead to the unintentional development of a non-system trail which would have negative impacts on the greenback cutthroat trout. The restriction also discourages reopening of the closed portion of Trail 666 (Bear Creek).

**Comment 14.2**

What are the measured impacts to the fishery and what mitigation to these impacts can be shown from prohibition of over the snow vehicles (both on trails and off)?

**Response 14.2**

Impacts of over the snow vehicles have not been measured. This project has two objectives: 1) to protect the greenback cutthroat trout and 2) to allow for appropriate and sustainable recreation in this very popular area. Over-snow vehicle use is rare in the Bear Creek watershed because snow conditions

are rarely sufficient for their use and because the terrain and transportation system do not lend themselves to this use. Banning over-snow vehicles within the Bear Creek watershed is consistent with the purpose and need of this project.

**Comment 14.3**

How do mineral developments currently impact the fish? Why not address impacts in a future hypothetical minerals project Environmental Assessment/Environmental Impact Statement?

**Response 14.3**

Mining, including gold panning and informal prospecting, has the potential to cause adverse effects to the watershed and greenback cutthroat trout. The area has low potential for deposits of economically recoverable minerals. In response to comments the proposed action was altered and no longer includes withdrawing the watershed from entry for locatable and leasable minerals.

**Comment 14.4**

What are the measured impacts from the military helicopter landing zones and what mitigation can be shown by elimination?

**Response 14.4**

Helicopter units from Fort Carson use 16 landing zones on lands managed by the National Forest and City of Colorado Springs under special use permit to practice maneuvers. Four of these landing zones are in the Bear Creek watershed. This use carries a risk of accidents including crashes and release of pollutants to the environment. While the impacts from military helicopter landings are not measured, as with all special uses we would manage them to minimize the risk of increased erosion, sedimentation, and the introduction of pollutants. Accordingly, the proposed action would eliminate four landing zones.

**Comment 14.5**

How many times have the military helicopter landing zones been used for emergency response? And will the sociological impact be analyzed?

**Response 14.5**

The landing zones have been used for training. This analysis does not change use for emergency purposes.

**Comment 14.6**

Do not agree with elimination of landing zones if military does not agree.

**Response 14.6**

The military has been contacted and agrees with elimination of landing zones in the Bear Creek watershed.

## TOPIC 15: MISCELLANEOUS

**Comment 15.1**

- Forest Service does not have the resources to enforce closures.
- Would like an enforcement plan included in the Environmental Assessment.
- The Forest Service has ignored the continued violation of their closure order.
- A fine greater than standard should be issued to violators and multiple violators should be banned from recreating in the watershed.
- Closing off the area will not keep people out.
- How will closures be enforced?
- Enforcement will cost more than trail re-alignment and sediment control.

**Response 15.1**

Information and education efforts will be combined with enforcement actions to improve behavior of users and decrease the incidence of unwanted activities. The interdisciplinary team will work cooperatively with the City of Colorado Springs and El Paso County to develop a program of information, education, and enforcement to increase public awareness of the importance of various resources in the watershed, as well as the challenges in managing those resources. Public awareness and understanding of resource values and management challenges in the Bear Creek watershed should reduce incidences of resource damage or other unwanted behaviors. Patrols by Forest Service, City of Colorado Springs and El Paso County personnel will be used to promote education, as well as identify enforcement violations.

We will also consider the use of volunteer groups to support this effort, as appropriate.

Under Closure Order 36 CFR 261.55 (a) that prohibits being on a closed trail, the fine is a maximum of $5,000 and/or six months in jail.

**Comment 15.2**

- Alternative B has serious economic impacts.
- Local bike shops and outfitting retail stores will have fewer sales if this large area is removed from usage.
- Tourists boost the local economy.

**Response 15.2**

It is estimated that the majority of people who use the Bear Creek area are residents of Colorado Springs and surrounding communities in El Paso and Teller counties. These are the people who are most likely to be affected by the transportation system and the activity it supports. As of July 2011, El Paso County had a population of 636,963 and Teller County had a population of 23,356 (U.S. Census Bureau 2012). It is not possible to quantify the direct financial effect of the transportation system on tourism in the region; however, tourism is the third largest employer in Colorado Springs, providing over 13,000 jobs to residents and generating $1.2 billion in revenue as of 2009 (Colorado Springs Convention and Visitors Bureau 2012).

The proposed transportation system would most likely not affect the benefit of tourism to the Colorado Springs area as it maintains both motorized and non-motorized access and connections to trail outside the project area as well as non-motorized access to High Drive.

Economic impacts of each alternative are analyzed in the Bear Creek Watershed Restoration Environmental Assessment.

**Comment 15.3**

Work with the public to implement.

**Response 15.3**

The Forest Service, City of Colorado Springs and El Paso County look forward to working with the public and many local non-profit organizations to implement the final National Environmental Policy Act decision.

**Comment 15.4**

Signs at the trailheads say the trails are closed due to the fish.

**Response 15.4**

We are unsure what signs this comment refers to but we are aware that during the closure due to flooding in September of 2013 signs were placed by a member of the public at many trailheads. The signs included incorrect information. The signs show a map of the trails closed for public safety by Forest Service Order PSICC-2014-2, but state that they are closed because of the greenback cutthroat trout.

**Comment 15.5**

The part of Gold Camp Road that is closed should be opened to motorized recreation.

**Response 15.5**

This suggestion is outside the scope of this project. This project does not address the closed section of Gold Camp Road.

**Comment 15.6**

Disappointed in progress of work in Waldo Fire area.

**Response 15.6**

The Waldo Fire burn scar is outside the scope of this project.

**Comment 15.7**

- What is the cost of the project and who is paying for it?
- A cost analysis needs to be done.
- Alternative B is unworkable because there has not been a cost analysis and there is not money currently available.
- Alternative B is undesirable because it is a waste of taxpayer funds.
- What is the cost for increased recreation monitoring/management?

**Response 15.7**

Maintenance of the transportation system presents an ongoing cost. Cost is an important factor in establishing the minimum transportation system. Contributions by volunteer groups can partially offset these costs. The long-term Forest Service budget outlook is for decreased funds for road and trail maintenance. Any changes to the transportation system should consider long-term maintenance needs, including cost. The cost of constructing and maintaining sustainable roads and trails in a watershed with highly erosive soils and a threatened fish must be carefully weighed against the benefits of providing for public use on those roads and trails. Given the unique status of the fish population and the high public interest in recreational opportunity, this is a pressing issue for the Pikes Peak Ranger District.

Grant funding has been secured to accomplish a portion of project implementation. Grants and other sources of funding continue to be sought.

**Comment 15.8**

The area should be closed to military camping and hiking in groups of 30+, motorbikes, and all camping, as they would have the greatest impact.

**Response 15.8**

This option was considered and explored by the interdisciplinary team. It was included in the analysis and was withdrawn from further considerations because it does not meet the purpose and need for this project. Alternative B proposes to provide a spectrum of appropriate and sustainable recreational opportunities while protecting the greenback cutthroat trout.

**Comment 15.9**

Have "close the trails" day and get people to really close them, not just put 3 dead trees at each entrance as folks will bypass that and keep using them.

**Response 15.9**

Decommissioning trails so they stop contributing sediment into Bear Creek is a top priority of this project. Decommissioning will be covered in the Bear Creek Watershed Restoration Environmental Assessment.

**Comment 15.10**

Fix denuded slopes with mesh and make them less steep by digging further into hillside and depositing fill on outer edge.

**Response 15.10**

The method by which slopes would be rehabilitated would be decided in the analysis and during implementation.

**Comment 15.11**

Modify the current bridges.

**Response 15.11**

Under Alternative A, maintenance of current bridges would continue. Modifications and reroutes of current trails and bridges are analyzed in Alternatives B and C.

**Comment 15.12**

Colorado Motorized Trail Riders Association would like permission to put up a sign at the junction of Gold Camp Road, High Drive and Cheyenne Canyon showing the status of Gold Camp Road as open to narrow vehicles.

**Response 15.12**

This request is outside the scope of this project.

**Comment 15.13**

- Dogs should be banned from the area because their owners don't clean up after them.
- Dog owners should be required to pick up pets poop.

**Response 15.13**

This option was considered and explored by the interdisciplinary team. It was decided that requiring dogs to be on leash within the watershed was sufficient to meet the purpose and need for this project.

**Comment 15.14**

Thin the area to stop or slow fire.

**Response 15.14**

Thinning has been proposed within the project area by the Catamount Environmental Assessment, but it is outside the scope of this analysis. The proposal does recognize that access for potential vegetation treatments could be impacted by the implementation of a new transportation system. However, the current road and trail system provide little opportunity for access to potential fuel treatment areas. The trail system provides few anchor points for fuels projects as it primarily runs mid-slope in the lower portions of Bear Creek where the higher risk of large-scale fire exists. In the upper western portions of the watershed, there are some opportunities for hand thinning and piling along the trail; however, this would do little to reduce the risk to the watershed and greenback cutthroat trout.

Vegetation thinning to reduce wildfire impacts was considered, based upon both internal and external scoping comments. However, designing a trail or transportation system conducive to a vegetation treatment project appears to offer little benefit and would not meet the purpose and need of the project.

**Comment 15.15**

- Seasonal restrictions need to be removed from any proposed changes.

- What would the restriction dates be for seasonal closure?

- Seasonal closure is not necessary in this area. Due to the decomposed granite soil the trails do not get muddy.

**Response 15.15**

In response to comments the need for seasonal closures was reassessed. Alternatives B and C were modified to remove seasonal closures.

**Comment 15.16**

Is this the most pressing issue on the district?

**Response 15.16**

This is one of many pressing issues on the Pikes Peak Ranger District.

**Comment 15.17**

Closing Old Stage Coach Road will not stand.

**Response 15.17**

Old Stage Road is outside the project area and outside the scope of this project.

**Comment 15.18**

The sight and sound of the creek flowing next to the trail is part of the charm of hiking in this area.

**Response 15.18**

All alternatives continue to allow hiking along North Cheyenne Creek on Trail 622 (Seven Bridges).

**Comment 15.19**

- There is a perception of anti-motorized discrimination.
- Motorized use results in volunteerism and registration fees that help finance maintenance.

**Response 15.19**

Alternative B provides for a spectrum of appropriate and sustainable recreational opportunities including single track motorized trails. All alternatives maintain a motorized connection to trails outside the project area. We have successfully worked with and look forward to continuing to work with the motorized community.

**Comment 15.20**

Implement a sufficient education and outreach program, featuring trail signage.

**Response 15.20**

Trail signage and education will be part of implementation.

**Comment 15.21**

Alternative A should also list that the areas will be open to hiking, camping, campfires, shooting, unleashed dogs

**Response 15.21**

Alternative A will appropriately describe activities allowed and prohibited within the project area.

**Comment 15.22**

Limit noise on motorized trials

**Response 15.22**

Noise is regulated by the state of Colorado. To operate an Off Highway Vehicle (OHV) in Colorado, the following sound limits must be met: 99 dB(A) if manufactured before 1/1/1998; 96 dB(A() if manufactured after 1/1/1998

**Comment 15.23**

- Are there projections of how the ecosystem(s) in the affected area will change as the climate of the region changes?

- Address climate change

**Response 15.23**

There are not projections for this specific area. This project is not expected to have a measurable impact on climate change.

**Comment 15.24**

What are the long term impacts of beavers?

**Response 15.24**

Beaver activity is not expected to be impacted by any alternative.

**Comment 15.25**

- Gun pollution needs to be addressed.

- Danger from recreational shooting

**Response 15.25**

Alternatives B and C include proposals to institute a Forest Order prohibiting recreational shooting on National Forest System lands in the project area and continue the existing ban on recreational shooting on City managed lands and El Paso County property.

**Comment 15.26**

Address invasive species.

**Response 15.26**

Invasive species are addressed as part of the design criteria.

**Comment 15.27**

Will new trail in drier location affect fire danger?

**Response 15.27**

New trail alignment is not expected to have an impact on fire danger. Spark arresters are required on National Forest System lands.

**Comment 15.28**

Institute a trail use fee

**Response 15.28**

This was discussed by the ID team and decided a use fee is not desired for this area at this time.