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Trout Slope West Timber Project

Final Environmental Impact Statement



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**Trout Slope West Timber Project
Final Environmental Impact Statement**

**Ashley National Forest
Uintah County, Utah**

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Abstract: The Ashley National Forest proposes to provide a supply of timber from the Trout Slope West area for small sales and larger (1 to 3 Million Board Feet (MMBF)) sales. Approximately 2,066 acres will be treated, resulting in an estimated 9.2 MMBF (total) of recoverable product. The proposed action was developed to meet the stated purpose and need while addressing fisheries and wildlife habitat, timber stand structure and pattern, watershed condition, and soil productivity. There is a need for the harvest of dead and live trees to recover the economic value of the wood product, prevent a likely future forest condition of blow down and jack-strawed timber, and protect existing tree regeneration. A Proposed Action and three alternatives were developed in response to public concerns. If the Proposed Action is selected, approximately 10 miles of existing roads will be improved to access timber sale units. These roads will be closed to the public during and after treatment. If Alternative 1, the No Action Alternative is selected, no timber harvest will occur and current road use will continue. If Alternative 2 is selected, the roads will be kept open to the public after treatment. If Alternative 3 is selected, temporary roads will be permanently closed and allowed to revegetate naturally at the termination of treatments.

Selection of the Proposed Action or any of the action alternatives will require a site-specific Forest Plan amendment. The removal of mature, live trees (overstory removal) that are infected with dwarf mistletoe is proposed in Area 1 and will be concentrated in leave strips and areas adjacent to 20 to 22 year old regeneration clearcuts. These clearcuts have not grown to a height tall enough to be considered hiding or thermal cover for ungulates therefore this action will create a 100-acre (estimated) opening.

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Map 1. Location of Project Area

Map 2. Project Area Roads and Trails

Map 3. Proposed Action

Map 4. Overstory Removal Areas (Lost Sale)

CHAPTER 1.0 PURPOSE OF AND NEED FOR ACTION

1.0 DOCUMENT STRUCTURE

The Forest Service has prepared this Environmental Impact Statement in compliance with the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. This Final Environmental Impact Statement discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four chapters:

- **Chapter 1.0 Purpose of and Need for Action:** Chapter 1.0 includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- **Chapter 2.0 Alternatives:** Chapter 2.0 provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This chapter also includes mitigation measures. Finally, this chapter provides a summary table of the environmental consequences associated with each alternative.
- **Chapter 3.0 Affected Environment and Environmental Consequences:** Chapter 3.0 describes the environmental effects of implementing the proposed action and other alternatives. This chapter is organized by resource area.
- **Chapter 4.0 Consultation and Coordination:** Chapter 4.0 provides a list of preparers and agencies consulted during the development of the environmental impact statement.
- **Appendices:** Appendix A provides a list of references. Appendix B provides more detailed information to support the analyses presented in the wildlife section of Chapter 3. Appendix C provides the responses to comments on the Draft Environmental Impact Statement. Appendix D presents the Monitoring/Implementation Plan. Appendix E presents the Biological Evaluation/Biological Assessment Consultation letter.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Vernal Ranger District, 355 North Vernal Avenue, Vernal, Utah 84078.

1.1 PURPOSE OF AND NEED FOR ACTION

A Mountain Pine Beetle infestation caused extensive timber mortality in the Trout Slope West area of the Vernal Ranger District, on the Ashley National Forest. This infestation peaked in 1982 and 1983. There is a need for the harvest of dead and live trees to recover the economic value of the wood product, prevent a likely future forest condition of blow down and jack-strawed timber, and protect existing tree regeneration.

1.2 BACKGROUND

In 1996, the Vernal Ranger District completed a comprehensive assessment of a large portion of the District known as Trout Slope. The 80,000-acre landscape covered by the assessment extends from Grizzly Ridge on the east, to Hacking Lake on the west. The Trout Slope landscape was chosen as a high priority area for study because of its intense pattern of use over time, for recreation activities and livestock grazing, as well as commercial timber harvest. Resource managers felt they needed a better understanding of the effects of these activities -- past, present, and future -- on the health and sustainability of the area's resources. The Trout Slope Landscape Assessment (TSLA) (USDA Forest Service 1996) describes the existing condition of this landscape in terms of its physical, biological, and social components. It also describes resource capabilities as well as historic patterns of disturbance (insects, fire, disease). No decisions were made as a result of the assessment; however, the document was used to identify future projects within the Trout Slope landscape, including the Trout Slope West Timber Project.

The Trout Slope landscape is a popular dispersed recreation area for residents of the Uintah Basin. Hunting, camping at dispersed and developed sites, firewood gathering, and all-terrain vehicle (ATV) travel are among the most popular recreational activities. The area contains vast expanses of mature lodgepole pine forest, much of which was killed in the 1980s during the mountain pine beetle infestation. Timber harvest was accelerated in the mid to late 1980s in an attempt to recover the economic value of the dead lodgepole pine. A patchwork of clearcuts dominates much of the Trout Slope landscape.

1.3 PROJECT AREA

The project area (see Map 1) begins about 12 miles from Highway 191 via the East Park Highway (Forest Road 10020) and the Red Cloud Loop (Forest Road 10018) (see Map 2). This area is approximately 18,500 acres and extends from Oaks Park Reservoir west to Long Park Reservoir and north of Forest Road 10043 to the Vernal District boundary. There are approximately 122 miles of existing system and non-system roads that provide access into the area. A portion of the analysis area is south of Forest Roads 10043 and 10018. The project area occurs in portions of T1N R19E Sections 20-24, 25-28, 33-36, T1N R20E Sections 19-22, 28-30, 27, 31-35,

T1S R19E Sections 1, 2, 3, 11, and T1S R20E Sections 1-5, 9 and 13. There are two major drainages in the area, Trout Creek and Center Creek, which are tributaries of the North Fork of Ashley Creek.

1.3A TRANSPORTATION SYSTEM

Two main roads provide access to the project area, Forest Service Road 10018 (Red Cloud Loop) and FS 10043. These roads are part of the Forest road network (system roads) and are maintained to safely support public use by passenger vehicles at low speeds. Within the project area these roads are characterized by natural surfaces. The distinction between system and non-system roads is important. System roads are maintained at various levels dependent upon the volume of use. Non-system roads include temporary and unclassified roads and are typically not maintained and will often revegetate naturally in the absence of frequent disturbance.

There are approximately 66 miles of system roads within the project area. All of these roads are passable under normal summer weather conditions. Access is open on all of these system roads except for FS 10038. This road provides access to the Lost Sale in proposed Treatment Area 1 and is closed via a locked gate.

Cross-county motorized travel is currently prohibited within the project area.

The project area also contains an estimated 56 miles of non-system roads. These roads are characterized by natural road surfaces. A wide range of conditions and access levels is encountered on these roads. Many old haul roads from past timber harvesting activity are considered temporary roads. Other non-system roads are user created roads such as all-terrain vehicle (ATV) "two tracks." These roads are considered unclassified roads. These non-system roads are not maintained and access is often restricted by a variety of obstructions such as dirt berms, rocks, or residual logging debris.

Approximately 5 miles of temporary roads are concentrated in the proposed action area adjacent to Long Park Reservoir (Long and Southside sales, see Map 3). These roads were established in the early 1970s as log haul roads. Past access was by means of a wooden bridge and a ford crossing. Neither site is currently passable to vehicular traffic. The bridge has been removed and the access to the ford is obstructed by rocks and logs. The only existing vehicle access to this area is via the Long Park Reservoir Dam. This route is not passable during periods of heavy precipitation. The roads in this area are in fair to marginal condition and would not currently support frequent use. Four-wheel drive vehicles may negotiate a majority of these roads, if conditions are suitable, to gain access across the dam. Ponding or flowing water on the road surface is common and is estimated to occur on a frequency of eight sites per mile. The surface of these roads is characterized by coarse rock. Revegetation of these roads with conifer seedlings has occurred in isolated patches.

The remaining temporary roads related to the proposed action have a variety of obstructions at the entrances. However, access may often be obtained via four-wheel drive vehicles under favorable weather conditions. When dry, overall road conditions are suitable for passenger vehicle traffic. Ponding or flowing water may be present but such areas are less frequent than similar conditions in the area described above. Very little conifer regeneration is present on these roads.

1.3B INVENTORIED ROADLESS AREA

Inventoried roadless areas (IRAs) encompass areas 5,000 acres or more. These areas do not include maintained roads and are essentially natural. They have varying degrees of wilderness characteristics. There are no IRAs within the project area boundary. No project activity is proposed within any IRA. The project area is surrounded by inventoried roadless area (see Map 3).

1.3C WILDERNESS AND WILDERNESS STUDY AREAS

The project area is approximately 11.5 miles east of the High Uintas Wilderness. There are no wilderness study areas on the Ashley National Forest.

1.4 PROPOSED ACTION

The proposed action was developed to meet the stated purpose and need while addressing fisheries and wildlife habitat, watershed condition, and soil productivity. The proposed treatment areas were selected for treatment through an intensive review that considered many forest stand level factors such as the level of stand mortality, stand growth and density, existing and future regeneration, species composition, stand structure, land type suitability, and access. The proposed action would provide a supply of timber for small sales and larger (1 to 3 Million Board Feet ((MMBF)) sales. Sale offerings would take place over a period of three years with anticipated contract lengths of three to five years. Approximately 2,066 acres would be treated, resulting in an estimated 9.2 MMBF (total) of recoverable product.

The proposed action would require a site specific Forest Plan Amendment to create an opening greater than 40 acres in proposed Treatment Area 1 (see Section 2.2A for a detailed description).

1.4A PROPOSAL OBJECTIVES

The primary objective of this proposal is to provide wood products. In the long term, the proposed harvest is intended to improve the resiliency of timber stands by reducing tree density and increasing individual tree growth response. The proposed action will accomplish these objectives in three distinct treatment areas (see Map 3):

- Area 1 - Protect existing and future regeneration from jack-strawed conditions (dead trees that have fallen or may fall in the near future in tangled piles) and the spread of dwarf mistletoe in areas where high mortality to lodgepole pine has occurred.
- Area 2 - Accelerate development of mature (larger diameter) stands by reducing the density of predominantly green stands to improve stand vigor and longevity.
- Area 3 - Improve stand vigor and longevity by removing dead and damaged trees within mature stands with significant mortality and poor growth. “Damaged” in this context refers to those trees infected with mistletoe, are dead-topped, have significant physical damage, have evidence of disease or insect infestation, or have live crown ratios of 20% or less.

1.4B SPECIFIC TREATMENTS

Volume estimates in this section are totals for each treatment area. These areas will be subdivided into individual sale areas of 1 to 3 MMBF.

These treatments are described in more detail in Chapter 2, Section 2.1A

- Area 1 - Remove selected standing dead, dying and diseased trees in areas dominated by lodgepole pine. Downed trees of merchantable value will also be removed. This would involve harvest of an estimated 4.1 MMBF on approximately 560 acres.
- Area 2 - Remove selected live trees through thinning. Remove selected standing and down dead trees as well for an estimated 1.5 MMBF (live and dead trees) on approximately 468 acres.
- Area 3 - Remove standing dead, dying and diseased trees in areas dominated by mixed conifer (lodgepole pine/Engelmann spruce). Downed trees of merchantable value will also be removed. This would involve harvest of an estimated 3.6 MMBF on approximately 1,038 acres.

Water Crossings

This section discusses the installation of major (large) culverts or the improvement of ford areas to facilitate stream crossings to provide access to proposed treatment areas.

- The area east of the Long Park Reservoir would require the construction of a large multiplate culvert over the stream. A multiplate culvert is an open bottomed galvanized steel structure with a concrete foundation. This area will be referred to as the bridge site in this document (see Map 3) and would be a permanent structure.

- Large rock would be added to an existing ford crossing (hardening) to support logging truck traffic. This crossing would provide access to units south of the North Fork Ashley Creek (Ford 1). Two other ford crossings would be utilized to access forested stands south of North Fork Ashley Creek. These ford sites are referred to as north parallel tributary (Ford 2) and south parallel tributary (Ford 3) (See Map 3). These sites would also be hardened.

Roads/Transportation

- No new roads would be constructed. Approximately 30 miles of existing system roads would be used and maintained during harvest operations.
- Ten miles of temporary roads would be used to access harvest units (see Map 2). These roads, many of which are currently closed to motorized public access, would be opened and made serviceable for log hauling. This would entail removing fallen trees blocking the road, leveling closure berms, grading the road to create a smooth running surface, cleaning drainage ditches and intercepting dips to facilitate water movement and reduce erosion. Fill for road resurfacing would be obtained from existing borrow pits. New minor (small) culverts would be installed where necessary to divert seasonal water flow. These roads would be closed to public access during and after harvest activities and added to the Forest road system.

1.4C PROJECT DESIGN ELEMENTS

General Operations

- Rubber tired skidders would be used to deliver material to centralized locations. Landings would be located adjacent to existing roads. Sale administration personnel would designate skid trails and landings and consult appropriate specialists when necessary to determine suitable locations. Total acreage for skid trails and landings is estimated to comprise approximately 5% of the proposed treatment area.
- Access to harvest areas would be consistent with the current travel plan (May 16 through December 20). There would be no net increase in plowed routes above current travel plan allowances in accordance with lynx conservation strategy.
- To minimize erosion, road reconstruction work will occur during minimal runoff periods of the normal operating season, June 15 through October 31.
- Harvesting activity would be scheduled so that a maximum of approximately one-third of the proposed treatment area is harvested per year. Timber offered for sale the same year would not be dispersed throughout the project area. Instead, annual sales would be concentrated around focal points to

reduce disturbance impacts to wildlife. However, sale contract duration is generally three to five years long. Therefore, active sales may be dispersed throughout the project area following the third year that timber is offered for sale.

- For long-term soil productivity, suggested guidelines have been developed. Some of these soil functions are retention of soil nitrogen capital and organic matter; cation exchange capacity (CEC); habitat for soil mycorrhiza; and moisture retention. Coarse woody debris (≥ 3 inches) would be retained as follows: For the lodgepole pine type the minimum amount is 10 tons per acre. For the Englemann spruce type the minimum amount is 15 tons per acre (Monte 1994; Graham et al. 1991).
- If there is a need to burn excess slash it will be done on areas already disturbed such as log landings.

Designation of Riparian Buffers

Wet areas where rutting and/or resource damage may occur, as defined by Inland Native Fish Strategy (INFISH) (USDA Forest Service 1995), would be avoided. This strategy would be used as a starting point to define appropriate riparian buffer width. The Ashley National Forest is not bound to INFISH guidelines legally, but decided to use the INFISH buffers to protect riparian habitat. Riparian buffers would be avoided by logging equipment except for designated crossing sites. Riparian buffers will be implemented/designated by sale unit boundary marking. Buffers designated within sale units will be marked and avoided. The following buffer zones are based on the type of riparian area:

- *On fish-bearing streams:* From the edge of the active stream channel extending 300 feet or to the outer edge of riparian vegetation, whichever is greater.
- *Permanently flowing non-fish-bearing streams:* the stream and area on either side of the stream from the edges of the active stream channel to the outer edges of readily apparent riparian vegetation or to 150 feet slope distance (each side), whichever is greater.
- *Ponds, lakes, reservoirs, and wetlands greater than 1 acre:* the body of water or wetland and the area to the outer edges of the readily-apparent riparian vegetation, or to the extent of moderately and highly unstable areas, or 150 feet slope distance from the edge of a high-water mark (or water level if no high water mark), whichever is greatest.
- *Seasonally-flowing or intermittent streams (having generally continuous bed and banks), wetlands less than 1 acre:* the body of water, its channel or high-

water level, and an area 50 foot slope distance from a channel or high-water margin.

- *Isolated wet spots on the landscape, dry water features with a high-water mark, and generally-dry headwater collection draws and drainages without continuous bed or banks:* no skidding or driving downslope or along the feature, avoid rutting or damage through sale area administration.

Seasonally Wet Soils

Seasonal precipitation can cause soils with restrictive layers to have perched water tables. This causes the soils to become saturated or close to the surface for varying periods of time. Many of these areas could change from workable to unworkable (saturated conditions) within a short period depending on precipitation. To keep detrimental rutting and compaction to within the Region 4 Soil Quality Standards of less than 15% tolerances the following measures will be taken. Skid trails and landings in harvest units (activity areas) will be designated so as not to exceed 15% of the area and harvest equipment making repeated trips will stay on these trails. Where possible slash will be put on skid trails to cushion soils from compaction from repeated equipment trips. These guidelines do not apply to Total Soils Resource Commitment (TSRC) areas. Total Soils Resource Commitment areas include campgrounds, permanent roads, trails, administrative sites, etc. These are areas that are considered non-productive for a period of 50 years or more.

Year Round Wet Forest Soils

Forested areas with an understory of riparian vegetation that indicates soil wetness for long periods of time (Padgett et al. 1989) will be completely avoided. Those areas that are large enough to be mapped will be delineated and dropped from harvest consideration during the planning stage. Smaller areas will be delineated and dropped during sale preparation.

1.5 FOREST PLAN DIRECTION

The project area contains Forest Plan Management Areas 'f' and 'n'. A majority of the project area, 93%, is designated as Management Area 'n'. The proposed treatment area contains similar proportions, with 91% of the proposed area designated as 'n' and 9% designated as 'f'.

In Management Area 'n', the Forest Plan prescribes management for a range of resource uses and outputs. Commodity production is modified for amenity production. Timber harvest is coordinated with wildlife and recreation. Harvest is designed to retain some old growth (Forest Plan, page IV-10).

In Management Area 'f', the Forest Plan prescribes management for a variety of uses in a variety of landforms and vegetation types located throughout the forest in a

roaded environment. Harvest should be designed to enhance recreation, wildlife, and visual opportunities. Transitory range is allocated to wildlife (Forest Plan, page IV-7).

Relevant Timber Standards and Guidelines

- Stands may be harvested adjacent to openings ('n'):
 - That are 90% stocked with trees that have survived for a minimum of two years.
 - That have reached an average height sufficient to provide hiding cover for the management indicator species using the area.
- Leave areas of uncut timber between openings created by clearcuts large enough to meet all resource needs ('n' and 'f')

(The Forest Plan does not distinguish between standards and guidelines thus the terms are used synonymously in this text and both are considered management requirements per management area.)

How the Proposed Action Meets the Forest Plan Direction

Management Area 'n' is dispersed throughout the project area and proposed treatment areas. Timber production is included with the range of resource uses and outputs for this area. Harvesting activities would be well coordinated with wildlife and recreation (See Section 2.2).

Management Area 'f' is concentrated in the western portion of the "Lost Sale" and the western area of the "Center Sale" (See Map 3). In the western portion of the "Lost Sale" area, small pockets of Management Area 'f' are interspersed with Management Area 'n'. These pockets have an average size of approximately 4 acres.

The prescribed treatment in the western portion of the "Lost Sale" area is an overstory removal of live trees infected with dwarf mistletoe in leave strips and areas adjacent to 20 to 22 year old regeneration clearcuts (See Section 2.1A, Proposed Action, Area 1). This treatment is intended to reduce/prevent the spread of dwarf mistletoe to the tree regeneration in the clearcuts. Although the area proposed for overstory removal, approximately 40 acres, includes both Management Area 'n' and 'f', this treatment must be applied to all of the area adjoining these clearcuts to be effective including the pockets designated as area 'f'. This treatment will require a site-specific forest plan amendment because the trees in the clearcuts adjacent to the proposed treatments are not tall enough to provide hiding cover for elk and mule deer. This treatment will also require the removal of mature trees in leave areas between the clearcuts. These stands do meet the timber reforestation standard of 90% stocking with trees that have survived for a minimum of two years.

The "Center Sale" area contains approximately 120 acres designated as Management Area 'f', 26% of the total Center Sale area. The proposed treatment for this area is a thinning of live lodgepole pine that would increase the individual

tree growth on the residual trees and improve stand vigor. This treatment will enhance habitat in the long term for species that favor mature forest structure such as the goshawk.

1.6 DECISION FRAMEWORK

The Responsible Official will determine whether or not timber harvest/thinning and associated design elements should occur as proposed, and if so, how roads used to access the project area will be managed after harvest activities. The Responsible Official will also determine if the decision is consistent with Forest Plan standards and guidelines or if an amendment to the Forest Plan is needed. Each treatment area and sale unit (See Map 3) will be considered individually and may be included or removed from any approved action.

1.7 PUBLIC INVOLVEMENT

Public scoping on this proposed action originally began in 1998. Comments received from the public were carefully reviewed and considered and a preliminary list of concerns was developed. In 1998, an Environmental Impact Statement was issued for public comment for the Trout Slope East area (adjacent to Trout Slope West). At this time, several national Forest Service agency initiatives (e.g., the road policy, roadless area initiative, and the proposed listing of the Canada lynx as a threatened species) were also emerging. Subsequently, this Environmental Impact Statement (EIS) was postponed until the Trout Slope East EIS was completed in August 2000 (USDA Forest Service 2000b).

In spring 2001, the proposed project was mailed to the public and listed in the Quarterly Schedule of Proposed Actions on the Ashley National Forest website. In the summer of 2001, the project proposal was updated and listed in the Quarterly Schedule of Proposed Actions. This included expanding the analysis area and proposed actions. In July 2002, a Notice of Intent to prepare an EIS was published in the Federal Register. A new public scoping phase was initiated in July 2002 when a scoping letter describing the proposal was mailed to potentially interested or affected individuals and organizations. At this time, a news release was simultaneously published in the local newspaper soliciting comments (see Project Record).

In February of 2004, the Draft EIS was published and distributed. Comments on the Draft EIS were submitted in April and May 2004, and are located in Appendix C.

1.8 SCOPING

The preliminary list of concerns was developed after review of comments received during the scoping phase of the EIS. Some of these concerns are addressed in Chapter 2.0 in the description of alternatives considered in this analysis. Most of the

concerns are addressed in Chapter 3.0, as the effects of the proposed action and alternatives on the environment are disclosed. Sections 1.8A through 1.8F summarize public concerns.

1.8A ROADS

Many respondents expressed concern about roads within the project area. They did not want any new road construction and were concerned about the reopening of 10 miles of old roads to access the project area. Many expressed a desire to see roads rehabilitated after use. Some respondents inquired about road density for the project area and if the Forest Plan had standards with regard to road density for the area. Some felt that reducing the road density is key to restoration of the landscape.

Concerns were also expressed about opening the area up to additional off-highway vehicles (OHV) after the roads were opened for the project and also after the project was completed. There was concern about this potential increase in OHV traffic and the potential for increased risk of wildfire.

Some people expressed concern that the 10 miles of temporary roads would be closed after use in the proposed project. They felt the roads should be left open for fire fighting, future timber harvest, and recreation. They also felt the proposed water crossing at the bridge should be permanent for future access needs. Some felt with the restrictions on road building that present roads should be kept in useable condition for present and future needs.

Some respondents felt the project should not go forward because of high road density, grazing, and past harvests.

1.8B TIMBER HARVESTING

Many respondents expressed the need to harvest only in areas within or near areas that had harvest activity in the past.

People expressed the concern to not harvest in old growth and mature stands, and emphasized that there should be no clearcuts. Several respondents supported the individual tree harvest proposed and intermediate thinning. Some people felt timber sales should be designed with the high road density and past logging activity in mind. They also had concerns about harvest activity increasing fragmentation in and around the area.

Some people expressed support for harvesting and felt it would promote a healthier forest and provide economic benefit to surrounding communities.

Reforestation within five years was also a concern because of recent drought situations.

1.8C FIRE

Some proponents of the project felt it would be a waste of resources to wait for fire to rejuvenate the forest and harvesting of useable products should take place.

Several respondents expressed the need to use fire as a tool. They also felt there should be a prescribed fire alternative in the analysis. There were comments stating the need to allow wildfires to burn and felt this would allow the system to rehabilitate itself. Other respondents wanted the analysis to disclose fire frequencies for the area and fire's role in maintaining a healthy forest.

1.8D SOCIO/ECONOMIC

Some expressed the need for the Draft EIS to have a detailed socio-economic analysis considering jobs created, effects on outfitter/guides, wildlife/nature photographers, etc. They also felt the timber market should be taken into account.

1.8E CUMULATIVE EFFECTS

Several respondents suggested the need for an in-depth cumulative effects analysis that considers among other things fragmentation, drought, and increased fuel loading.

1.8F WILDLIFE

United States Fish and Wildlife Service (USFWS) expressed the need for the Forest Service to consult on the proposed project.

Some respondents had concerns for species that are dependent upon old growth or mature forests for habitat and felt these areas should not be harvested.

In some responses to the proposal, fragmentation of wildlife habitat was a concern.

1.9 KEY ISSUES

Concerns were identified and discussed by the project interdisciplinary team (see project record). The following key issues reflect the overriding concerns of the public expressed in the comments received during scoping: Wildlife and Roads.

1.9A WILDLIFE

The effects of harvest and road use to wildlife species, particularly those that are threatened, endangered, or sensitive, those that are management indicator species, and those that are sensitive to road densities.

1.9B ROADS

The effects of reopening and using roads in the project area as well as the effects of either leaving open or closing those roads after harvest. In particular this issue reflects the debate about the desire for open access by motorized users and the need to limit access to protect wildlife and soil resources.

CHAPTER 2.0 ALTERNATIVES

2.0 INTRODUCTION

Chapter 2.0 will describe the proposed action in more detail and present alternatives to the proposed action. Alternatives to the proposed action are presented or carried forward for more detailed analysis if they accomplish the purpose and need and respond to the concerns presented in the key issues section (see Chapter 1.0, Section 1.9). The environmental effects resulting from changes to the existing road system within the project area (or no action) was a principle concern of many of the respondents during the scoping phase of the project. The effects of road use to wildlife species was also identified as a key issue. Alternatives were therefore developed to present the Responsible Official with a comprehensive analysis that would allow for an array of access options.

The Responsible Official is also presented with a range of proposed area alternatives since the effects analysis was conducted specifically for three large treatment areas (See Map 3) and smaller proposed sale areas (7 total) when potential effects or the proposed treatment were unique to a particular area. The Responsible Official may include or remove any one of these treatment areas or sale units from the approved treatment. The alternatives described in detail therefore present the Responsible Official with a “built in” range of area considerations within the framework of access alternatives.

Silvicultural variations for removing dead and damaged trees did not address the key issue concerning access into the proposed treatment areas. Furthermore, no real viable silvicultural alternatives existed for the proposed thinning of live trees in the Center Sale area.

2.1 THE PROPOSED ACTION AND ALTERNATIVES CONSIDERED IN DETAIL

2.1A PROPOSED ACTION

Area 1

The salvage of beetle-killed timber is proposed in Treatment Area 1. Mortality in this area varies from approximately 20% to 70% of forested stands. The amount of dead tree removal would vary with stand conditions. To a lesser extent, live trees, identified as “damaged” (see Chapter 1.0, Section 1.4A), would also be harvested. The “damaged” tree removals would represent approximately 5% to 15% of the live basal area (a measure of stocking in forested stands representing the cross-sectional area in square feet of a tree trunk or a stand of trees measured at 4.5 feet from the ground).

The removal of mature, live trees (overstory removal) that are infected with dwarf mistletoe is proposed in the western unit of the Lost Sale and will be concentrated in leave strips and areas adjacent to 20 to 22 year old regeneration clearcuts (see Map 4). These clearcuts have not grown to a height tall enough to be considered hiding or thermal cover for ungulates therefore this action will create a 100-acre (estimated) opening. This action will require a site-specific Forest Plan amendment. Forest Plan Standards and Guidelines for Timber (page IV-35) limit the creation of clearings by timber harvest to 40 acres (Management Area 'n') and require leave areas of uncut timber between openings created by clearcuts large enough to meet all resource needs (Management Areas 'n' and 'f'). Standards and Guidelines would apply with the following modifications to Section C of the Forest Plan, Vernal Ranger District Exceptions to the Prescriptions (page IV-73):

Management Areas n and f (ME11-MI2) – an exception occurs in these management areas on the Vernal District, designated Elk Park, analysis area 130. In the area immediately surrounding Management Area f, analysis areas 127 and 131, openings greater than 40 acres will be permitted to facilitate the removal of mature trees infected with dwarf mistletoe adjacent to immature forest stands until the cover in the immature stands in analysis areas (127 and 131) reaches an average height sufficient to provide hiding cover for the management indicator species using the area. This will require the removal of leave areas of uncut timber between clearcuts.

Federal Regulation 219.27(d)(2)(1982 Planning Regulations) also establishes a 40-acre limit for cut openings. Exceptions to this requirement may be granted by the Regional Forester to treat forest pest infestations that are hazards to regeneration (219.27(d)(2)(i,ii). If these areas are approved for treatment the forester will send a letter to the Regional Forester describing the proposed treatment and requesting an exception to Federal Regulation 219.27(d)(2).

The Forest Plan Amendment and the exception to Federal Regulation 219.27(d)(2) apply to the Proposed Action and all action alternatives.

Area 2

A commercial thinning is proposed in Area 2 to reduce stand densities and promote growth on the residual trees. Treatment would reduce trees per acre and basal area by approximately 40%. Small pockets of dead timber, approximately 1 to 2 acres, would also be removed. These sites would represent 5% or less of the total treatment Area.

Area 3

Harvesting in Treatment Area 3 would remove dead and live trees. However, total removal would not exceed 30 to 35% of the stand basal area for all trees. The removal of dead trees would be assigned a higher priority than the removal of live trees. On many sites within this area, the removal of dead only would reach the 30 to 35% threshold and no live trees would be removed. In other areas, "damaged" live trees would be harvested in addition to dead timber.

The area east of the Long Park Reservoir would require the construction of a large multiplate culvert over the stream. A multiplate culvert is an open bottomed galvanized steel structure with a concrete foundation. This area will be referred to as the bridge site in this document (see Map 3) and would be a permanent structure.

Roads – All Areas

Temporary roads (see Chapter 1.0, Section 1.3A) would be closed to the public during and after the termination of harvesting operations. These roads would be added to the Forest Road system and retained for future management activity. These roads would be reconstructed/improved to conditions suitable for a Level 3 Maintenance classification. Roads in this maintenance category are typically low speed, single lane with turnouts and spot surfacing. Such roadwork would be performed at a level necessary to facilitate use by logging trucks. No additional safety features would be installed to allow for public access. Road design would incorporate features to prevent or minimize soil movement and sedimentation as well as undue disruption of water flow.

The roads would be reclassified as a Level 1 following the termination of logging activity. Maintenance Level 1 roads are designated as intermittent service roads during the time they are closed to public traffic. Basic custodial maintenance is performed with emphasis given to maintaining drainage facilities and runoff patterns. Road deterioration may occur at this level.

At the conclusion of treatment activities, road access points that would be retained for administrative use would be closed by the installation of road closure gates. Access points that would not be retained for administrative use, such as that entry point to Treatment Area 3, south of the North Fork Ashley Creek, via the Long Park Reservoir Dam, would be closed through the placement of large rocks or dirt berms.

2.1B ALTERNATIVE 1 – NO ACTION

Alternative 1 provides a baseline for comparison with the action alternatives. Under this alternative, no timber harvest or road reconstruction would occur. Fire suppression, road maintenance, recreation, and firewood gathering would continue.

Existing temporary road use would continue. A description of these road conditions is presented in Section 1.3A. Although vehicular or ATV use of the temporary roads is not heavy, an estimated 7 of 10 miles are passable to large vehicles and four wheel drive vehicles during dry weather conditions and all 10 miles are accessible to ATVs (Ford site 1, See Map 3, would restrict ATV use to the eastern temporary road network in Area 3 south of the North Fork Ashley Creek during high stream flow).

2.1C ALTERNATIVE 2 – OPEN PUBLIC ACCESS

Alternative 2 was developed to present the Responsible Official with an action alternative that analyzed potential impacts to resources in the project area due to increased public travel. Many of these areas are currently inaccessible by standard passenger vehicles. Analysis of this alternative will give the Responsible Official the flexibility to keep improved roads open to the public after completion of proposed work, should this be a desired management action.

Alternative 2 is identical to the proposed action except for the long-term management of the improved temporary roads. Temporary roads would be constructed to a level suitable for a Level 3 Maintenance classification and public access. This roadwork would require the installation of more safety features, such as turnouts, than the roadwork in the proposed action.

The improved temporary roads (approximately 10 miles) would remain open to public access following the termination of logging operations in each proposed treatment area. The improved temporary roads would then be commissioned as Forest system roads.

2.1D ALTERNATIVE 3 – TEMPORARY ROADS PERMANENTLY CLOSED

Alternative 3 is identical to the proposed action except that temporary roads would be permanently closed at the termination of timber sale contracts for each proposed harvest area. These roads would not be open for any motorized use including administrative use. Features such as rocks or dirt berms would be installed to close these roads. Temporary road structures that may contribute to sediment delivery without further maintenance would be removed. Areas of excessive soil disturbance would be stabilized. Slash and woody debris would be scattered over the roadbed near closed access points in similar fashion as on skid trails to create a more natural appearance and discourage illegal motorized use. Closed roads would revegetate naturally.

This alternative would also include the installation of a large culvert to cross the North Fork Ashley Creek at the bridge site instead of the installation of the multiplate culvert. This culvert would be designed (flat-bottomed) to allow the passage of fish and minimize the potential of obstruction by large woody debris. This structure would be temporary. No concrete foundations would be installed and the culvert pipe would be removed following the termination of timber sale contracts and the crossing stabilized.

2.2 MANAGEMENT REQUIREMENTS AND MITIGATION MEASURES COMMON TO THE PROPOSED ACTION AND ALTERNATIVES 2 AND 3

The source for management requirements is typically the Forest Plan, however, other sources include existing laws or regulations, guidelines, or provisions developed by the Ashley National Forest.

Mitigation measures are designed to prevent adverse impacts or to contain impacts within acceptable limits during project implementation. Implementation guidelines and mitigations that would accompany selection of the Proposed Action or the action alternatives are presented below. These mitigations and guidelines are specific to the project area and to the resource issues analyzed and disclosed in Chapter 3.0 of this EIS.

2.2A COLORADO RIVER CUTTHROAT TROUT CONSERVATION STRATEGY

The U.S. Fish and Wildlife Service received a petition to list Colorado River cutthroat trout (CRCT) as threatened and endangered in December 1999. The 90-day finding (April 20, 2004) by the U.S. Fish and Wildlife Service determined that listing was not warranted. The CRCT is under a multi-agency conservation strategy and agreement (UDWR 1997), which was implemented for protection and conservation of CRCT. The Ashley National Forest uses CRCT and macroinvertebrates as Management Indicator Species (MIS). Colorado River cutthroat trout currently retain its status as a sensitive species on the Regional Forester's Sensitive Species List.

The Ashley National Forest is addressing the needs of CRCT by following the multi-agency CRCT Conservation Agreement (UDWR 1997). In addition, the Forest remains consistent with the Forest Plan providing standards and guidelines protecting riparian habitat. The Forest also uses the Inland Native Fish Strategy (INFISH) for direction in protecting native fish habitat (USDA Forest Service 1995). The INFISH buffers stated in the project design elements would be used as a starting point to protect riparian and wetland areas where cutting occurs (see Chapter 1.0, Section 1.4C).

2.2B GOSHAWKS

Known goshawk post-fledgling areas (PFAs) would be monitored for activity annually. If active in the year(s) harvest is scheduled to occur, logging activity would be delayed until September 30th in PFAs and nest areas to avoid disturbing nesting birds. The wildlife biologist, based on proximity of the active nest to harvest units and haul routes, would make this decision. Proposed harvest areas would be surveyed (following accepted protocol) for new territories in the years preceding and during harvest activities for nesting goshawks. If active nests are located, the

following measures would be implemented to ensure continued viability of the nests: A 30-acre buffer area would be established around the nest site that would prohibit timber removal to eliminate further impact to goshawks. Impacts to foraging and post fledging habitat would be mitigated by the establishment of a 420-acre buffer as recommended in "Management Recommendations for the Northern Goshawk in the Southwestern United States" (Reynolds et al. 1992). This buffer would preclude harvesting activities until September 30th if a nest is active.

2.2C CANADA LYNX CONSERVATION ASSESSMENT AND STRATEGY (RUEDIGER ET AL. 2000)

Large woody debris suitable for lynx denning cover would be retained in Treatment Area 3 in groups identified by the wildlife biologist working in conjunction with the sale preparation forester. Such groups would be consistent with the likely availability of such material under natural disturbance regimes.

2.2D PROTECTION OF CULTURAL RESOURCES

Cultural resource sites, if identified, would be marked and avoided by logging activity to ensure their protection.

The Carter Military Trail is adjacent to or under Forest Road 10043 through the proposed Center Sale (Area 2). The trail would be crossed in designated locations where the road overlaps the trail. A 50-foot buffer will be retained adjacent to the trail to ensure its protection.

2.2E RETENTION OF OLD GROWTH CHARACTERISTICS

The old growth characteristics of spruce-fir in Area 3 south of the North Fork Ashley Creek would be retained. Regional standards (Hamilton 1993) provide criteria for classification of old growth:

Live Trees

1. ≥ 15 trees per acre (diameter ≥ 15 inches)
2. Retention of two or more age classes (6 inches) and two or more tree canopy layers.
3. Two or more damaged trees per acre (diameter ≥ 14 inches). See Chapter 1.0, Section 1.4A, Proposal Objectives for a definition of damaged trees.

Dead Trees

4. Two to four standing dead trees per acre (≥ 10 inches diameter, 15 feet tall). An average of six snags ≥ 12 inches in diameter would be retained per acre (see 2.3F Snag Habitat).
5. ≥ 16 down dead logs per acre (≥ 8 inches diameter and ≥ 8 feet in length).

2.2F RESIDUAL STAND/REGENERATION

Staged felling and skidding would be required in Treatment Area 3 south of the North Fork Ashley Creek. No more than one-half of the designated material would be felled and skidded to landing areas for hauling at one time. Felling and skidding in stages is necessary to minimize the on the ground buildup of material to be removed. Excessive material on the ground would increase damage to the residual stand.

The presence of large surface rock increases the difficulty of protecting the residual stand during mechanized harvesting. These areas would be avoided during harvesting operations.

2.2G SENSITIVE PLANT SPECIES

Isolated populations of clustered lady's slipper, a Forest Sensitive plant species, are present in Treatment Area 2. To protect this species, the forest ecologist would work in conjunction with the sale preparation forester to identify and avoid these populations. A 200-foot buffer would be applied around these sites.

2.2H SNAG HABITAT

An average of six snags ≥ 12 inches in diameter would be retained per acre (USFWS Memo 9/1999). This is based on the estimated size and number of snags needed to support 100% of the potential woodpecker population (all species) for lodgepole forests (1.8 snags per acre; Thomas and others 1979) and the number of snags recommended in order to sustain key prey species for predators such as the northern goshawk (3 snags per acre; Reynolds and others 1992; USDA Forest Service 2000a). The recommended number is six because of the likelihood that some of these snags will blow down shortly after harvest. In order to maximize wildlife value, snags with some bark still present, located near other trees (preferably in clumps, to help with wind firmness) would be selected for retention where possible. This will ensure that the stands continue to provide habitat for a wide array of species, including sensitive species known to be present in the project area, following harvest.

One-tenth acre buffers surrounding trees with red squirrel nests would be applied to partially mitigate impacts on red squirrel habitat.

2.2I SOIL PRODUCTIVITY

Skidding will be restricted to designated trails. Lopping and scattering limbs and branches on landings and skid trails would be required where practicable to help mitigate soil compaction.

Harvesting activities would be curtailed in all areas during extremely wet periods when there is potential for resource damage (such as rutting). Cutting in small wet inclusions that might be found in drier units would be delayed until wet portions have dried sufficiently to avoid rutting.

For mixed conifer ecosystems in proposed Treatment Area 3, a minimum of ten tons per acre of large woody debris (≥ 3 inches diameter) would remain scattered throughout the harvest unit to prevent erosion and provide microsites for new growth as well as short- and long-term nutrient cycling (Monte 1994).

2.2J WATER YIELD / WATER QUALITY CONSIDERATIONS

Mitigations for the proposed action and action alternatives include site-specific application of the soil and water conservation Best Management Practices (BMPs). Not all BMPs are applied to every sale unit; examination of the site by resource specialists (such as soils, timber, hydrology, fisheries, or a coordinated team) would determine appropriate BMPs. The Forest Service implements some BMPs (through pre-sale items or monitoring plans); others become contract provisions, which are accountable through sale administration. Best Management Practices would be monitored not only for their implementation, but also for their effectiveness in achieving their specific purpose.

The following documents were reviewed to determine if practices were applicable to the proposed action and action alternatives in if so, how these practices would be implemented:

- 1) FSH 2509.22 Soil and Water Conservation Practices Handbook
- 2) State of Utah Nonpoint Source Management Plan
- 3) State of Utah NPS Management Plan – Hydrologic Modification
- 4) BMPs required by Federal Regulations under the Clean Water Act [CFR 323.4 (D)(6)]

A summary of the practices described in these sources and how these practices would be addressed is provided in the Project Record. Mitigations that were not addressed by other sections of this EIS, standard contract provisions, or standard timber management practices are listed below:

LOGGING OPERATIONS

1. Skid Trails: Skid trails would be designated to minimize soil disturbance. Skid trails would be restricted to slopes $\leq 30\%$. Skid trail drainage structures on slopes $> 25\%$ would be established with a maximum interval of 300 feet. Skid trails locations would not be located in riparian buffers except at designated crossings, nor follow draws or channels in a manner that creates excessive erosion. The Forest Hydrologist and District Soil Scientist would be consulted when necessary for designation of skid trails.
2. Landings: Landings would be designated on slopes $< 10\%$.

3. Soil Moisture Limitations for Tractor Operation and Erosion Prevention and Control Measures During Timber Sale Operation: The project supervisor and/or Contracting Officer are responsible for determining when the soil surface is unstable and susceptible to damage and then responsible for suspending or terminating operations. Equipment would not be operated when ground conditions are such that excessive impacts would result. The kinds and intensity of control work done by the purchaser would be adjusted to ground and weather conditions and the need for controlling runoff. The certified Sale Administrator is responsible for insuring that the Purchaser conducts his operations according to the Timber Sale contract. The Forest Hydrologist and District Soil Scientist would be consulted when necessary.
4. Meadow Protection: Reasonable care would be taken to avoid damage to the cover, soil, and water in meadows shown on the Sale Area Map. Vehicular or skidding equipment would not be used on meadows, except where roads, landings, and tractor roads are approved.
5. Erosion Control Structure Maintenance: During the period of the Timber Sale Contract, the Purchaser would provide maintenance of soil erosion control structures.
6. Logging Camps: Campsites would not be located in riparian buffers unless no practicable alternative exists. The Sale Administrator would designate campsites.
7. Chemicals: All chemicals would be transported and stored in leak-proof labeled containers.
8. Traffic: Roads that must be used during wet periods would have stable surfaces and sufficient drainage to allow such use with a minimum of resource impact.
9. Maintenance Areas: The Sale Administrator would designate machinery maintenance areas. These areas would be limited in number and located to prevent contamination of streams and wetlands by petroleum products and other chemicals.
10. Snow Plowing: Plowing would be conducted in a manner to provide breaks in snow berms to allow road drainage particularly as the spring thaw occurs.
11. Marking Riparian Buffers: The fisheries biologist, soil scientist, and/or hydrology specialist would be consulted for the marking of riparian buffers in the following areas to allow for site-specific needs: (a) between Trout Creek and Center Creek; (b) around Long Park Reservoir; (c) scattered wet or seasonally-wet areas where there is a question of buffer size.
12. Operating Season: Normal operating season between June 15 to October 31, as allowed by other resource constraints.

ROADS

13. Control of Construction in Riparian Areas/Controlling In-Channel Excavation: Roadwork would be designed to include site-specific recommendations for the prevention of sedimentation and other stream

- damage from road activities. Fill material would be avoided in riparian streams except as needed for culvert crossing construction. Excavated material removed from stream courses as a result of necessary construction would be moved to an upland area and stabilized where it would not be washed back to the stream during runoff. Staging and service areas would be located outside riparian buffers.
14. Bridge and Culvert Installation: Road reconstruction activity would be conducted during low flow periods. Culvert's bottoms would be placed below the natural stream channel as practicable to avoid erosion at intake or outlet and a culvert bed grade similar to natural channel grade would be provided for. Fish passage would be provided. As practicable, alteration of the channel upstream of culvert would be avoided. Culverts less than 36 inches diameter would be covered with at least 1 foot of compacted fill. Culverts more than 36 inches diameter would be covered with 1/3 culvert diameter of compacted fill. The Forest Hydrologist and District Fisheries Biologist would be consulted as needed for the installation of culverts and stream crossing structures.
 15. Water Drainage: Dips and water bars would be constructed with a 2 to 3% cross grade at a 30 to 45 degree angle to the road centerline to facilitate proper road drainage. Runoff from roads, trails and landings would be diverted where possible to upland areas above wetlands to reduce silting of wetland areas.
 16. Temporary Stream Crossings: As soon as practical upon completion of use, temporary stream crossings would be removed, excess fill material excavated and deposited in a stable area, the bed of the stream would be restored to its original grade, and the banks stabilized with revegetation if needed for stabilization.
 17. Flood Flows: The road or fill would be culverted to prevent the restriction of expected flood flows. (Size permanent structures for at least the 50-year/24 hour peak flow event and temporary structures for at least the 25-year/24 hour peak flow event as estimated from available data or models).
 18. Fill: Discharges of dredged or fill material into waters of the United States would be made in a manner that minimizes the encroachment of trucks, tractors, bulldozers, or other heavy equipment within the waters of the United States (including wetlands). Fill would be properly stabilized and maintained during and following construction to prevent erosion. All temporary fills would be removed in their entirety and the area restored to its original condition.
 19. Sediment Control: Sediment control structures installed prior to construction in riparian buffers would be cleaned by construction completion and removed; sediment to be deposited outside of riparian buffers.

ALL OPERATIONS

20. Fill Material: No fill material would be deposited in riparian buffers or streams except as authorized for crossings.

21. Sanitation: Standard contract provisions would control sanitation; portable self-contained units would be used as practicable.
22. Riparian Buffers: Damage to stream channels or vegetation would be minimized within riparian buffers.
23. Borrow sites: Borrow material would be obtained from existing upland borrow sites.

2.2K WINTER HARVEST RESTRICTIONS

Plowing snow for the purpose of extending logging activities beyond the normal season of road use (May 16 through December 19) as defined in the Vernal Ranger District travel management plan would not be allowed. The intent of this restriction is to prevent creation of over-snow travel lanes for predators that might compete with Canada lynx during the winter season (Ruediger and others 2000; Romin, personal communication 1999).

2.2L RECREATION TRAIL MAINTENANCE

Approximately 1 mile of trails (not including the Carter Military Trail) intersect three proposed action areas, the Youngs Peak Sale, the western portion of the Lost Sale, and the Center Sale (See Map 3). Slash pullback would be required of the purchaser for approximately 50 feet on either side of any trail.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

Federal agencies are required by the National Environmental Policy Act (NEPA) to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the Proposed Action provided suggestions for alternative methods for achieving the purpose and need. Some of the alternatives considered but eliminated from detailed study may have been outside the scope of the purpose and need, duplicative of the alternatives considered in detail, or determined to be components that would cause unnecessary environmental harm. The roads issue, consisting of the effects of reopening and using roads in the project area as well as the effects of either leaving open or closing those roads after harvest, was the principal issue driving the development of alternatives. Three alternatives were discussed but not studied in detail. The reasons for dismissing these alternatives are discussed below.

2.3A ALTERNATIVE 4 – NEW ROAD CONSTRUCTION

Two roads systems are present in the area south of North Fork Ashley Creek. These systems do not connect, thus requiring entry at two access points, the bridge site and a ford through the creek (Ford 1). New construction (approximately two-

thirds of a mile) to connect the two road systems was considered. This construction would have eliminated the requirement for two access points into the area described above. This alternative was dropped for the following reasons:

- The new construction would have been adjacent to wet areas in the Alpine Moraine 1 land type, thus increasing the potential for off-road travel upon completion of the logging activity regardless of travel management restrictions.
- Although use of an existing road segment would no longer be necessary, the net road mileage in the area would not change after construction.
- The use of both entry points to the area south of the creek, the ford and the installation of a culvert at the bridge site, was not expected to adversely impact water quality and fisheries assuming the proper installation of culvert material and ford hardening.

2.3B ALTERNATIVE 5 – PRESCRIBED FIRE

The use of prescribed fire was discarded for the following reasons:

- Prescribed burning will not meet the purpose and need of product recovery.
- The conditions that support crown fires exist in all three treatment areas. The probability of successfully maintaining a prescribed surface fire is very low. A stand replacing crown fire would reduce the jack-strawed condition but would also destroy advanced tree regeneration and a majority of the live trees within a stand.
- Fire in lodgepole pine and spruce-fir forest naturally occurs on a large scale of hundreds to thousands of acres. Control of a small, prescribed fire in these cover types is very difficult.
- Fuel loading is very high in Treatment Areas 1 and 3. Soil sterilization due to high fire intensity is possible in portions of these treatment areas.

2.3C ALTERNATIVE 6 – TEMPORARY ROADS OBLITERATED AND REHABILITATED

Road obliteration (ripping) and rehabilitation (seeding/planting) was discarded for the following reasons.

- Obliteration activities such as ripping would create an unacceptable level of erosion and sediment delivery to the streams in the project area. The majority of the temporary roads related to the proposed action and Alternatives 2 and 3 occur on a Trout Slope 2 Land Type. This land type is characterized by coarse rock fragments in the surface and subsurface layers. Any activities that would dig up rock at the soil surface level and below, such as “ripping” were identified as detrimental practices by Forest engineers and the Vernal District Soil Scientist. Ripping is the decompaction and disruption

of a road surface often performed by a dozer fitted with an excavation attachment.

- Natural regeneration of grasses and forbs is the preferred revegetation method on the Ashley National Forest. Past experience has determined that seed bank species of grasses and forbs will become established in several years following disturbance on the landtypes contained in the project area. Monitoring studies have also indicated that ground cover will develop from herbaceous plants established on compacted soils such as log landings and roads (Monitoring Study 17-7, Vernal Ranger District, See Project Record).
- Natural regeneration of trees is the preferred reforestation method on the Ashley National Forest. Tree regeneration will become established on the roads in the long term following road closure. The road shoulders would be the primary location that trees would be expected to develop. Regeneration in these areas is estimated to be sufficient stocking to control erosion. Planting would be impractical due to the compaction of these roads and the rock present in the soils.

2.4 COMPARISON OF ALTERNATIVES

Table 2-1. Comparison of alternatives by activity or resource.

ACTIVITY OR OUTCOME	PROPOSED ACTION (Roads Closed to Public)	ALT 1 (No Action)	ALT 2 (Roads Open to Public)	ALT 3 (Temporary Roads Permanently Closed)
Access (Temporary Roads)				
Proposed Treatment Areas	Action in this alternative would include gating the 10 miles of temporary roads for project purposes. Roads would remain gated after project completion, with administrative use only. These roads would be added to the Forest road system ("commissioned"). No other motorized access would be allowed. The roads would be open to foot travel, horse travel and bicycles following the cessation of project activities.	There would be no change from the existing situation. Approximately 6-7 miles of temporary roads are accessible to large vehicles and four wheel drive vehicles. All 10 miles are available for ATV use and also for non-motorized use, such as foot, horse and bicycle traffic.	Approximately 10 miles of temporary roads would be improved to an acceptable standard for project purposes. These roads would be added to the Forest road system ("commissioned") and left open for public motorized and non-motorized access after project needs are completed.	Approximately 10 miles of temporary roads would be improved and closed for project purposes. Roads would be permanently closed after project completion. Slash and woody debris would be scattered over the roadbed near closed access points in similar fashion as on skid trails to create a more natural appearance and discourage illegal motorized use. Roads would be allowed to revegetate naturally.
Acres Treated				
Area 1	560	0	560	560
Area 2	468	0	468	468
Area 3	1,038	0	1,038	1,038
Total	2,066	0	2,066	2,066
Harvest Prescription				
Area 1 (Treatment)	Dead salvage/live single tree selection.	No treatment	Dead salvage/live single tree selection.	Dead salvage/live single tree selection.
Area 2 (Treatment)	Thinning of live trees	No treatment	Thinning of live trees	Thinning of live trees
Area 3 (Treatment)	Sanitation/Salvage	No treatment	Sanitation/Salvage	Sanitation/Salvage

ACTIVITY OR OUTCOME	PROPOSED ACTION (Roads Closed to Public)	ALT 1 (No Action)	ALT 2 (Roads Open to Public)	ALT 3 (Temporary Roads Permanently Closed)
Management Restrictions				
Area 1	Site-specific Forest Plan amendment (Lost Sale) and Federal Regulation 219.27(d)(2) regarding 40-acre limit for cut openings.	Not required	Site-specific Forest Plan amendment (Lost Sale) and Federal Regulation 219.27(d)(2) regarding 40-acre limit for cut openings.	Site-specific Forest Plan amendment (Lost Sale) and Federal Regulation 219.27(d)(2) regarding 40-acre limit for cut openings.
Area 3	Stream Alteration Permit (State of Utah/Army Corps or Engineers).	Not required	Stream Alteration Permit (State of Utah/Army Corps or Engineers).	Not required
All Areas	1) Canada Lynx Conservation Assessment and Strategy 2) Colorado River Cutthroat Trout Conservation Strategy and Agreement 3) Management Recommendations for the Northern Goshawk in the Southwestern United States 4) Management Recommendations for Birds of Conservation Concern 2002. 5) Utah Partners in Flight Avian Conservation Strategy Version 2.0 (2002). 6) Region 4 Soil Quality Standards	Not required	1) Canada Lynx Conservation Assessment and Strategy 2) Colorado River Cutthroat Trout Conservation Strategy and Agreement 3) Management Recommendations for the Northern Goshawk in the Southwestern United States 4) Management Recommendations for Birds of Conservation Concern 2002. 5) Utah Partners in Flight Avian Conservation Strategy Version 2.0 (2002). 6) Region 4 Soil Quality Standards	1) Canada Lynx Conservation Assessment and Strategy 2) Colorado River Cutthroat Trout Conservation Strategy and Agreement 3) Management Recommendations for the Northern Goshawk in the Southwestern United States 4) Management Recommendations for Birds of Conservation Concern 2002. 5) Utah Partners in Flight Avian Conservation Strategy Version 2.0 (2002). 6) Region 4 Soil Quality Standards

ACTIVITY OR OUTCOME	PROPOSED ACTION (Roads Closed to Public)	ALT 1 (No Action)	ALT 2 (Roads Open to Public)	ALT 3 (Temporary Roads Permanently Closed)
	7) Section 106 of the National Historic Preservation Act of 1966. State Historic Preservation Office concurrence.		7) Section 106 of the National Historic Preservation Act of 1966. State Historic Preservation Office concurrence.	7) Section 106 of the National Historic Preservation Act of 1966. State Historic Preservation Office concurrence.
Recreation Use				
Motorized roaded travel	Slight increase	No change from existing trends	Moderate increase	No change from existing trends
Motorized off-road travel	No change, motorized travel is restricted to existing roads and designated trails.	No change, motorized travel is restricted to existing roads and designated trails.	Potential for increased illegal off-road travel in Area 3 due to improved access across the North Fork Ashley Creek.	No change, motorized travel is restricted to existing roads and designated trails.
Dispersed camping	Slight increase	No change from existing trends	Moderate increase	No change from existing trends
Dispersed non-motorized recreation Use	Safer conditions and better access due to dead tree removal	No change from existing trends	Safer conditions and better access due to dead tree removal	Safer conditions and better access due to dead tree removal
Scenery				
All Areas	Moderate increase due to dead tree removal and overall stand diversity	No change	Moderate increase due to dead tree removal and overall stand diversity	Moderate increase due to dead tree removal and overall stand diversity
Roads (miles)				
New Construction	0	0	0	0
Reconstruction	10	0	10	10
Roads Commissioned (added to Forest system)	10	0	10	0
Roads Revegetated After Harvest	0	0	0	10
Roads Left Open To Public After Harvest	0	0	10	0
Roads Maintenance				
All temporary roads (10 miles) <u>Maintenance Level 3</u> - Roads in this maintenance category are typically low speed, single lanes with turnouts and spot	These roads would be reconstructed/improved to conditions suitable for a Level 3 Maintenance classification for the duration of logging	No change	These roads would be reconstructed/improved to conditions suitable for a Level 3 Maintenance classification during and after	These roads would be reconstructed/improved to conditions suitable for a Level 3 Maintenance classification for the

ACTIVITY OR OUTCOME	PROPOSED ACTION (Roads Closed to Public)	ALT 1 (No Action)	ALT 2 (Roads Open to Public)	ALT 3 (Temporary Roads Permanently Closed)
<p>surfacing. Such roadwork would be performed at a level necessary to facilitate use by logging trucks. No additional safety features would be installed to allow for public access. Road design would incorporate features to prevent or minimize soil movement and sedimentation as well as undue disruption of water flow.</p> <p><u>Maintenance Level 1</u> – These roads are designated as intermittent service roads during the time they are closed to public traffic. Basic custodial maintenance is performed with emphasis given to maintaining drainage facilities and runoff patterns. Road deterioration may occur at this level.</p>	<p>activity.</p> <p>The roads would be reclassified as a Level 1 following the termination of logging activity.</p>		<p>logging activity.</p>	<p>duration of logging activity.</p> <p>These roads would be permanently closed and allowed to revegetate following the termination of logging activity. No maintenance would occur.</p>
Traffic Increase (Estimated logging truck loads per area based on total volume removed)				
Area 1	824	0	824	824
Area 2	309	0	309	309
Area 3	711	0	711	711
Total	1,844	0	1,844	1,844
Soils (potential for detrimental soil disturbance)				
Existing Temporary Roads Motorized Roaded Travel	Little effect with improved and maintained drainage features.	Continued effects from erosion and sedimentation on some sections.	Effects dependent on position of road on landscape, road maintenance and use during wet periods.	Little effect after initial disturbance of slash distribution and stabilizing drainageways.
Existing Temporary Roads Motorized Off-Road Travel	Slight increase in effects with existing trends of use in closed areas.	Moderate increase in effects with continuing use by public. Expected use in adjacent sensitive landtypes (Area 3).	Major increase in effects with expected use in adjacent sensitive landtypes (Area 3) assuming increase in illegal motorized off road travel.	Little effect after initial disturbance of slash distribution and stabilizing drainageways.

ACTIVITY OR OUTCOME	PROPOSED ACTION (Roads Closed to Public)	ALT 1 (No Action)	ALT 2 (Roads Open to Public)	ALT 3 (Temporary Roads Permanently Closed)
Proposed Treatment Areas	Estimated detrimental soil impacts on 5% of treatment areas due to skid trails and log landings. High risk of detrimental rutting and compaction on and off designated skid trails and landings during wet soil conditions.	No risk	Same as proposed action.	Same as proposed action.
Water Quality - Channel Stability (by subwatershed - HUC6)				
Middle Carter (Area 3 - Young Sale)	No measurable effect compared to Alternative 1- No Action.	No measurable effect.	Same as Proposed Action.	Same as Proposed Action.
North Fork Ashley Creek (Area 1 - Lost Sale, Area 2, Area 3 - Long and Southside Sale)	Potential for erosion immediately below steeper slopes along North Fork Ashley Creek and tributaries near Long Park Reservoir. Possible ponding along road upstream of Multiplate crossing of North Fork Ashley Creek (bridge site).	Existing areas of instability continue.	Same as Proposed Action.	Similar to Proposed Action except the reduced crossing span at North Fork Ashley Creek "bridge site" has a higher erosion risk than the multiplate in the Proposed Action.
Upper Big Brush Creek (Area 1 - Road 57, Windy Sale)	No measurable effect Compared to Alternative 1 – No Action.	Existing areas of instability continue.	Same as Proposed Action.	Same as Proposed Action.
Water Quality - Sediment Change (by subwatershed - HUC6)				
Middle Carter (Area 3 - Young Sale)	No measurable effect compared to Alternative 1- No Action.	No measurable effect.	Same as Proposed Action.	Similar to Proposed Action but with less long-term, road-related erosion.

ACTIVITY OR OUTCOME	PROPOSED ACTION (Roads Closed to Public)	ALT 1 (No Action)	ALT 2 (Roads Open to Public)	ALT 3 (Temporary Roads Permanently Closed)
North Fork Ashley Creek (Area 1 - Lost Sale, Area 2, Area 3 - Long and Southside Sale)	Potential for erosion immediately below steeper slopes along North Fork Ashley Creek and tributaries near Long Park Reservoir. Increased localized sedimentation at ford crossings and multiplate culvert.	Existing areas of erosion continue. Sediment present in Ashley Creek from various sources and may be transported at times.	Potential for erosion immediately below steeper slopes along North Fork Ashley Creek and tributaries near Long Park Reservoir. Potential short-term erosion increase	Reduced long term effect - road related. Higher sedimentation risk with temporary culvert than multiplate (Proposed Action and Alternative 2).
Upper Big Brush Creek (Area 1 - Road 57, Windy Sale)	No measurable effect compared to Alternative 1 – No Action.	No additional sediment. Sediment contributions continue from existing areas of instability or other sources.	Same as Proposed Action.	Similar to Proposed Action but with less long-term, road-related erosion.
Fisheries				
<u>Forest Service Management Indicator (MIS) or Sensitive (S) Species</u>				
Colorado River Cutthroat Trout (S, MIS)	May impact individuals but would not lead towards federal listing. Localized short-term sedimentation inputs from stream crossings (multiplate culvert and fords)	No impact	Same as proposed action.	May impact individuals but would not lead towards federal listing. Localized short-term sedimentation inputs from stream crossings (flat-bottomed culvert and fords)
Macroinvertebrates (MIS)	No measurable effect	No measurable effect	No measurable effect	No measurable effect
<u>Threatened (T) and Endangered (E) Species</u>				
Bonytail (E)	No effect	No effect	No effect	No effect
Colorado pikeminnow (E)	No effect	No effect	No effect	No effect
Humpback chub (E)	No effect	No effect	No effect	No effect
Razorback sucker (E)	No effect	No effect	No effect	No effect

ACTIVITY OR OUTCOME	PROPOSED ACTION (Roads Closed to Public)	ALT 1 (No Action)	ALT 2 (Roads Open to Public)	ALT 3 (Temporary Roads Permanently Closed)
Wildlife				
<u>Threatened (T), Endangered (E), and Proposed (P) Species</u>				
Bald eagle (T)	May affect - not adversely	No effect	May affect - not adversely	May affect - not adversely
Black-footed Ferret (E)	No effect	No effect	No effect	No effect
Canada lynx (T)	May affect - not adversely	No effect	May affect - not adversely	May affect - not adversely
Mexican spotted owl (T)	No effect	No effect	No effect	No effect
Southwestern willow flycatcher (T)	No effect	No effect	No effect	No effect
Western yellow-billed cuckoo (P)	No effect	No effect	No effect	No effect
<u>Forest Service Sensitive (S) Species</u>				
Boreal owl (S)	No impact	No impact	No impact	No impact
Common loon (S)	No impact	No impact	No impact	No impact
Flammulated owl (S)	No impact	No impact	No impact	No impact
Great gray owl (S)	No impact	No impact	No impact	No impact
Northern goshawk (S)	May impact individuals but would not lead towards federal listing	No impact	May impact individuals but would not lead towards federal listing	May impact individuals but would not lead towards federal listing
Peregrine falcon (S)	No impact	No impact	No impact	No impact
Sage grouse (S)	No impact	No impact	No impact	No impact
Spotted bat (S)	No impact	No impact	No impact	No impact
Three-toed woodpecker (S)	May impact individuals but would not lead towards federal listing.	No impact	Same as proposed action.	Same as proposed action.
Townsend's big-eared bat (S)	No impact	No impact	No impact	No impact
<u>Management Indicator Species (MIS)</u>				
Elk (MIS)	Slight decrease in cover, slight increase in forage, seasonal displacement during harvest activity.	No decrease in cover, no increase in forage, no seasonal displacement.	Slight decrease in cover, slight increase in forage, seasonal displacement during harvest activity, increased displacement from recreational activities.	Slight decrease in cover, slight increase in forage, seasonal displacement during harvest activity
Golden eagle (MIS)	Not present	Not present	Not present	Not present
Lincoln's sparrow (MIS)	Not present	Not present	Not present	Not present

ACTIVITY OR OUTCOME	PROPOSED ACTION (Roads Closed to Public)	ALT 1 (No Action)	ALT 2 (Roads Open to Public)	ALT 3 (Temporary Roads Permanently Closed)
Mule deer (MIS)	Slight decrease in cover, slight increase in forage, seasonal displacement during harvest activity.	No decrease in cover, no increase in forage, no seasonal displacement.	Slight decrease in cover, slight increase in forage, seasonal displacement during harvest activity, increased displacement from recreational activities.	Slight decrease in cover, slight increase in forage, seasonal displacement during harvest activity.
Northern goshawk (MIS)	Short-term forage reduction, long-term nesting habitat increase.	No impact	Short-term forage reduction, long-term nesting habitat increase, increased displacement (if present) from recreational activities.	Short-term forage reduction, long-term nesting habitat increase.
Red-naped sapsucker (MIS)	Not present	Not present	Not present	Not present
Song sparrow (MIS)	Not present	Not present	Not present	Not present
Warbling vireo (MIS)	Not present	Not present	Not present	Not present
White-tailed ptarmigan (MIS)	Not present	Not present	Not present	Not present
Migratory Birds of Concern				
Three-toed woodpecker	Slight decrease in forage and nesting habitat.	No impact	Slight decrease in forage and nesting habitat, increased displacement from recreational activities.	Slight decrease in forage and nesting habitat.
Williamson's sapsucker	Slight decrease in forage.	No impact	Slight decrease in forage, displacement (if present) from recreational activities.	Slight decrease in forage.
Threatened, Endangered, and Forest Service Sensitive Plants Species				
Threatened (T) and Endangered (E) Species				
Barneby ridge-cress (E)	Not Present in Area	Not Present in Area	Not Present in Area	Not Present in Area
Graham beardtongue (T)	Not Present in Area	Not Present in Area	Not Present in Area	Not Present in Area
Shrubby reed-mustard (E)	Not Present in Area	Not Present in Area	Not Present in Area	Not Present in Area
Uinta Basin hookless cactus (T)	Not Present in Area	Not Present in Area	Not Present in Area	Not Present in Area
Ute Ladies'-tresses (T)	Not Present in Area	Not Present in Area	Not Present in Area	Not Present in Area
Forest Service Sensitive (S) Species				
Clustered lady's slipper/Brownie's lady slipper (S)	Present but very restricted in Area 2. No effect.	Present but very restricted in Area 2. No effect.	Present but very restricted in Area 2. No effect.	Present but very restricted in Area 2. No effect.

ACTIVITY OR OUTCOME	PROPOSED ACTION (Roads Closed to Public)	ALT 1 (No Action)	ALT 2 (Roads Open to Public)	ALT 3 (Temporary Roads Permanently Closed)
Fire Behavior (expected fire type)				
Area 1 (Treatment)	Ground fire under common summer weather conditions.	Most areas will, in time, support a crown fire	Same as proposed action.	Same as proposed action.
Area 2 (Treatment)	Ground fire under common summer weather conditions.	Most areas will, in time, support a crown fire	Same as proposed action.	Same as proposed action.
Area 3 (Treatment)	Crown fire under common summer weather conditions.	Most areas will, in time, support a severe crown fire	Same as proposed action.	Same as proposed action.
Fuel Loading (tons per acre)				
Area 1 (Treatment)	Reduction of 3 to 6 tons/acre	Increase of 1 to 3 tons/acre/year in areas with high beetle mortality	Reduction of 3 to 6 tons/acre	Reduction of 3 to 6 tons/acre
Area 2 (Treatment)	Increase to estimated 12 to 15 tons/acre due to slash deposits	Increase of 1 to 3 tons/acre/year in areas with high beetle mortality	Increase to estimated 12 to 15 tons/acre due to slash deposits	Increase to estimated 12 to 15 tons/acre due to slash deposits
Area 3 (Treatment)	Reduction of 3 to 6 tons/acre	Increase of 1 to 3 tons/acre/year in areas with high beetle mortality	Reduction of 3 to 6 tons/acre	Reduction of 3 to 6 tons/acre
Vegetative Structure Stage (VSS) Change (approximate change in acres)				
Area 1 (Treatment)	+ 300 acres of Mid-Aged (VSS 4), - 300 acres Mature and Old Forest (VSS 5 & 6), + 40 acres Seedling (VSS 1) (Lost Sale), - 40 acres Old Forest (VSS 6) (Lost Sale)	No short-term change	Same as proposed action.	Same as proposed action.
Area 2 (Treatment)	+ 300 acres of Mature (VSS 5), - 300 acres Mid-Aged (VSS 4)	No short-term change	Same as proposed action.	Same as proposed action.
Area 3 (Treatment)	No short-term change	No short-term change	Same as proposed action.	Same as proposed action.

ACTIVITY OR OUTCOME	PROPOSED ACTION (Roads Closed to Public)	ALT 1 (No Action)	ALT 2 (Roads Open to Public)	ALT 3 (Temporary Roads Permanently Closed)
Noxious Weeds				
Proposed Treatment Areas	Risk of introduction of noxious weeds will be highest during harvest. This risk will be comparatively low after harvest. The proposed action represents an overall comparatively low contribution to cumulative effects. Only Alternative 3 is likely to present a lower risk.	Continued access by vehicles on temporary roads indicates comparatively high risk of future introduction of noxious weeds. Under this alternative, there is a continuing risk of comparatively high potential for noxious weed introductions in the future.	This is similar to alternative 3 with the added probability of considerable increase in vehicle traffic. Due to the potential for the greatest continued use of roads by vehicles, this alternative presents the greatest risk of contributing to cumulative effects.	This alternative would be followed by the lowest level of vehicle use and roadside disturbance. With this feature, this alternative indicates the lowest risk of cumulative effects associated with noxious weeds.

2.5 MONITORING

Monitoring and evaluation are used to determine whether the Forest Plan is being implemented. Implementation monitoring is used to decide whether the project was implemented as planned. Effectiveness monitoring determines whether the project design and mitigation measures were effective in meeting the project objectives. Items that would be monitored are identified in Section 2.2 and the Monitoring/Implementation Plan in Appendix D. At least one interdisciplinary team meeting and field review will occur prior to the bid offering for any commercial timber sale to ensure that the objectives and implementation guidelines disclosed in this EIS are carried through the layout phase of the timber sale. The interdisciplinary team would then monitor and document the implementation of specified guidelines and evaluate their effectiveness at intervals appropriate for the given resource.

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Map 5. Utah Fire Groups

Map 6. Water Features

Map 7. Wet Soils That Will Be Avoided

Map 8. Inland West Watershed Initiative Colorado River Cutthroat Trout Status

Map 9. Lynx Habitat

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CHAPTER 3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.0 INTRODUCTION

Chapter 3.0 summarizes the physical, biological, social, and economic environments of the project area and the effects of implementing each alternative on that environment. It also presents the scientific and analytical basis for the comparison of alternatives presented in the Chapter 2.0. Affected environment and environmental effects have been combined into one chapter for clarity.

The current physical, biological, and human aspects of the Trout Slope West environment are discussed in the Trout Slope Landscape Assessment (USDA Forest Service 1996) and in more general terms in the Ashley National Forest Land and Resource Management Plan (USDA Forest Service 1986). The landscape assessment in particular was used to frame the proposed action and provide a useful context for evaluating cumulative effects (see Chapter 1.0). In this chapter, the site-specific environmental components of the project area that would be affected by the implementation of each alternative are described.

Chapter 3.0 is organized by resources and includes resources that are associated with issues in Chapter 1.0 that are key components of the environment or that must be analyzed due to law, regulation, or policy.

Each resource section includes the following information:

- Scope of Analysis: This section describes the geographical boundaries of analysis for each resource. Examples of analysis boundaries that may vary by resource are the project area, subwatershed, fire groups, or land type association.
- Affected Environment: This section describes and illustrates the geographic area(s) in which the specific resource may be affected by the proposed management activities. Affected areas vary in size by resource and potential effects.
- Environmental Effects: The environmental effect's section forms the scientific and analytic basis for the comparison of the no action and action alternatives presented in Chapter 2.0. National Environmental Policy Act (NEPA) regulations recognize three categories of effects:
 - Direct effects are caused by an action and occur at the same time and place.
 - Indirect effects are caused by an action and occur at a later time or a different place.
 - Cumulative effects result from the incremental impact of an action when added to other past, present, and reasonably foreseeable actions, regardless of what agency or person undertakes the other actions (40 CFR 1508.7 and 8).

National Environmental Policy Act (NEPA) regulations also state that the Forest Service must show any irreversible or irretrievable commitments of resources that may result from the alternatives.

- Irreversible commitment is a permanent resource loss including the loss of future options. It usually applies to nonrenewable resources, such as minerals, or to factors that are renewable only over long periods, such as soil productivity.
- Irretrievable commitment is the loss of use or production of a natural resource for some time. One example is timberland being used for a road. For example, timber growth on the land is irretrievably lost while the land is a road, but the timber resource is not irreversibly lost because the land could grow trees again in the future.

3.0A OTHER ACTIVITIES IN THE PROJECT AREA

Principle past, present/ongoing, and potential future projects or activities must be considered to analyze cumulative effects. The following list was developed by the project interdisciplinary team to facilitate this analysis. Not all projects or activities are applicable to each resource.

1. Trout Slope East active timber sales – remainder of contracts terminates in 2006, unless extended.
2. All past timber harvesting activity.
3. Trout Slope West – proposed active timber sale would occur from 2004 to 2012 unless extended.
4. Annual Boy Scout gathering at Windy Park.
5. Water structures:
 - a. Irrigation ditches (e.g., Oaks Park, Deep Creek, Highline Canal), water diversions, dams (e.g., Longs Park and Oaks Park Reservoirs)
 - b. Road stream crossings and culverts.
6. Private structures (Oaks Park summer homes).
7. Forest access roads, both open and closed to public use.
8. Ashley Valley Municipal watershed.
9. Green River drainage Municipal watershed.
10. Old burns (prescribed and wildfire)
11. Sheep grazing: Trout Creek (3 pastures), Big Park (4 pastures), and Lakeshore Basin.
12. Cattle allotments: Taylor Mountain–Oaks Park (1 pasture) and Lonesome Park (1 pasture).
13. Recreation: (travel in travel management section)
 - a. Dispersed – backpacking, horseback riding, mountain biking, ATV riding, snowmobile riding, firewood gathering, fishing
 - b. Developed – campgrounds (e.g., Oaks Park and Summit Park Yurt).
14. North Fork Ashley Creek fisheries habitat project.

3.1 FOREST VEGETATION – OVERSTORY

3.1A SCOPE OF ANALYSIS

Analysis of the forest vegetation component of the project was conducted at two scales:

1. The entire 18,500-acre project area.
2. The proposed action areas.
3. Old growth was estimated for Management Area 'n' forest wide including the project area.

3.1B AFFECTED ENVIRONMENT

Project Area

Introduction

The project area has been an important timber management area for the Ashley National Forest. It is dominated by lodgepole pine and is commonly associated with Engelmann spruce, subalpine fir, and to a lesser extent aspen. The establishment and persistence of these species is determined by the land type, climate, and elevation of the area.

Insect and Disease

In the early 1980s, a widespread mountain pine beetle epidemic developed on the Flaming Gorge and Vernal Ranger Districts affecting thousands of acres of lodgepole pine and ponderosa pine. This epidemic began in the 1960s, peaked in the early 1980s, and collapsed in 1987 and 1988. Lodgepole pine within the project area and half of the lodgepole pine on both Districts experienced tree mortality averaging approximately 60% and exceeding 90% in some stands. Over 90% of the lodgepole pine greater than 5 inches in diameter was killed in many stands.

Many of the trees in the lodgepole pine stands contained dwarf mistletoe before the mountain pine beetle outbreak. Heavily infected trees are a less desirable host for beetle attack (Hawksworth and Wiens 1996). This has resulted in a condition where much of the lodgepole pine forest in the area contains heavily dwarf mistletoe-infected trees near new regeneration, an ideal condition for dwarf mistletoe spread. Dwarf mistletoe infections reduce tree growth and may diminish seed production. Infections by dwarf mistletoe also provide entrance points for decay fungi. Severe dwarf mistletoe infection may eventually kill the host tree.

Past Activity

Clearcutting was the primary silvicultural method implemented in the project area. This was a direct result of the mountain pine beetle outbreak. The greatest amount of activity occurred during the 1970s when 2,842 acres were treated (2,415 clearcut, 427 selection cut). The clearcut operations were designed to recover the economic value of merchantable size trees, reduce the risk of catastrophic (large stand

replacing) wildfire, promote the regeneration of forested stands to enhance timber yield, and increase forage production for wildlife, primarily elk and deer. These operations created a fragmented landscape characterized by a mosaic of mature unharvested areas and reserve strips adjacent to immature and young stands. Reserve strips were designated next to harvest units for wildlife corridors, riparian area buffers, and to preserve visual quality.

Dispersed firewood cutting has also occurred throughout the project area. This activity is usually limited to small areas along roads.

Old Growth

At the landscape scale, the Forest Plan provides two standards and guidelines that concern old growth retention (page IV-29):

1. Designate and protect old growth areas for dependent species. Old growth should be a minimum of 160 contiguous acres and have old growth characteristics. *Applies to Management Area 'n' and 'f'.*
2. Retain 5% of the area in old growth conditions at all times (and close the old growth area to fuelwood harvesting). *Applies to Management Area 'n'.*

At the stand level, the Forest Service has per acre regional characteristics (Hamilton 1993) that define old growth (see Chapter 2.0, Section 2.2E). These characteristics are useful for classifying individual stands of old growth, but are not a management requirement and do not address old growth retention across a landscape.

Due to the high level of fragmentation in the project area, old growth is found in both isolated stands ranging from 5 to approximately 120 acres and in larger groups of adjacent retention strips. The larger blocks of old growth are primarily located in the spruce-fir stands in the western portion of the project area. These areas range from approximately 600 to 900 acres but are fragmented by temporary roads that were built to access timber, largely in the 1970s. The project area contains more than 3,000 total acres of old growth.

At the landscape and management area scale, old growth is difficult to assess because the no old growth inventory exists for the Ashley and no old growth stands have been designated. However, forested stands that meet Hamilton's minimum old growth characteristics can be estimated from Common Stand Exam data. Unfortunately, such data is collected in conjunction with timber sale activities and inventoried stands represent only 28% of the total area of Management Area 'n' (See Table 3-1). Approximately 32,068 acres containing old growth characteristics were identified through a review of the live trees per acre by diameter class and age based on Hamilton's work (See Table 3-2).

Table 3-1. Relevant acreage for estimating old growth in Management Area 'n'.

OTHER AREA	DESCRIPTION	ACRES	% OF MANAGEMENT AREA 'N'
MANAGEMENT AREA 'n'		552,599	100%
COMMON STAND EXAM	Forested stands for which data has been collected.	153,922	28%
INVENTORIED ROADLESS AREA in 'n'		423,698	77%
PAST SILVICULTURAL ACTIVITY in 'n'	Known harvest unit 1937 through present.	49,785	9%
FORESTED ACREAGE in 'n'		465,963	84%
SPECIFIC FORESTED COVER TYPES in 'n'	Spruce-fir, Douglas-fir, Lodgepole pine, Ponderosa pine	321,379	58%

Table 3-2. Estimated forested stands with old growth characteristics by cover type.

COVER TYPE	ACRES
Spruce-fir	11,723
Interior Douglas-fir	365
Lodgepole pine	19,934
Interior ponderosa pine	45
Total	32,068

The 32,068 acres of the forested stands estimated to exhibit old growth characteristics represents 5.8% of Management Area 'n'. This is certainly an underestimate of total old growth acreage in this management area since no or limited data is available for much of the area that is designated as inventoried roadless area (77% of 'n'). Much of the area in Management Area 'n' contains unfragmented areas, at high elevations, on steep slopes, or in canyons that are forested and may contain old growth (58% of 'n' is designated as spruce-fir, interior Douglas-fir, lodgepole pine, or ponderosa pine). Much of this area is not accessible to timber management activity. Only 9% of area 'n' is known to have been harvested in the past.

Approximately 57% of the estimated old growth (32,068 acres) occurs in stands greater than 160 acres and an estimated 3,700 acres of contiguous old growth, both lodgepole pine and spruce-fir, is estimated to occur outside of the project area adjacent to the southwestern boundary.

Cover Type

Lodgepole pine, the predominant cover type, is equally distributed throughout the project area. The frequency of spruce and subalpine fir increases in the western portion of the project area due to wetter soils and greater elevation. Spruce and fir are the co-climax species in many of these stands. A climax species is defined as

the dominant species at the end stage of ecological succession under stable climatic and physiographic factors. Remnant pockets of 200 year old or older lodgepole pine, typically the first species to dominate these sites, still persist in the overstory of many stands. Spruce, and to a lesser extent subalpine fir, are well established in the understory.

A small percentage of aspen occurs on the eastern side of the project area. Very little aspen is present in stands to the west. Lodgepole pine dominates most sites that are suitable for the establishment of aspen clones.

Tree Growth and Mortality

Tree mortality exceeds tree growth throughout the entire project area. However, mortality is occurring at a more rapid pace in the older stands to the west. Most of the mortality in the eastern lodgepole pine stands was caused by the beetle epidemic.

Tree growth is slower in the west due to the change in species composition (an increase in spruce and subalpine fir) and increases in elevation and moisture that result in colder climate conditions. Extreme climate conditions such as drought, however, have not adversely impacted the establishment of tree regeneration in lodgepole pine and mixed conifer areas based on monitoring studies (See project record).

Vegetative Structure Stage (VSS)

The Vegetative Structure Stage (VSS) classification strategy was developed in the southwestern United States as a tool to aid development of management recommendations for the Northern Goshawk. Local Vegetative Structure Stage (VSS) classifications were subsequently developed for use with goshawk management in northeastern Utah. These classifications are a useful tool for contrasting the existing structure within the project area and describing the structure that will remain following implementation of the proposed action. The reader should not, however, confuse VSS 6 – Old Forest with old growth discussed above. Although these classifications are often applied to the same area, stand structure is not always correlated to the age of a stand of trees. For example a stand may contain a structure that is characterized by large trees but not be considered an old growth stand.

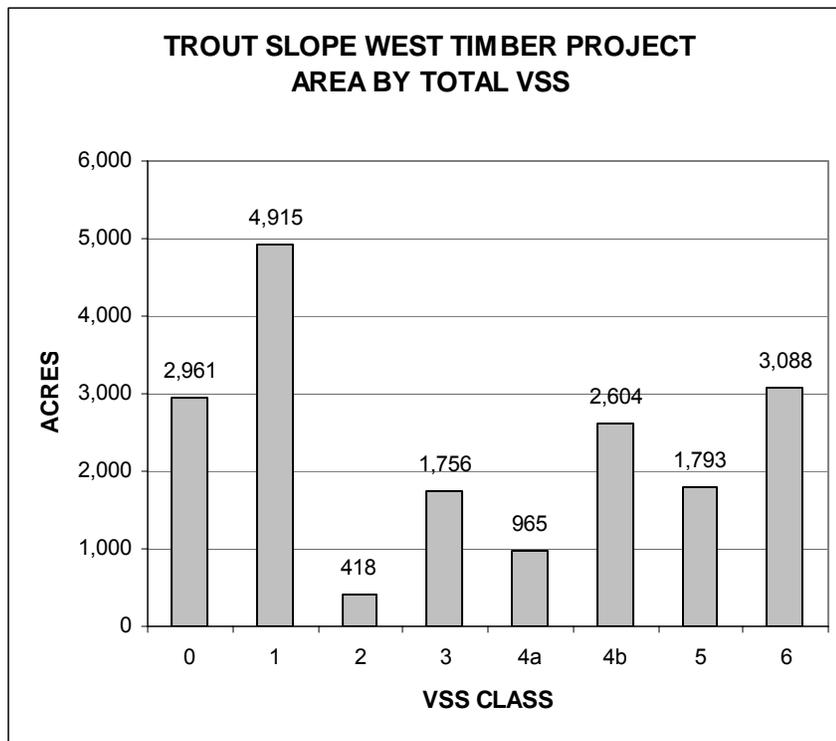
Vegetative Structure Stage (VSS) is derived from basal area by diameter class (see Table 3-3). The diameter class that contains the greatest amount of basal area determines the appropriate VSS class. Vegetative Structure Stage is classified for both live and dead trees and for live trees only. In this section only total VSS is discussed. The significance of total VSS versus live VSS will be discussed in the Environmental Effects section.

The project area contains an uneven distribution of structure. Seedlings and old forest structure (VSS 1 and VSS 6) occupy the greatest amount of area (see Figure 3-2).

Table 3-3. Vegetative Structure Stage (VSS) Diameter ranges by cover type.

VSS	LODGEPOLE PINE DIAMETER RANGES	MIXED CONIFER DIAMETER RANGES	DESCRIPTION
0	N/A	N/A	NON-FORESTED/UNCLASSIFIED
1	0 - 0.9	0 - 0.9	SEEDLING
2	1.0 - 2.9	1.0 - 3.9	SAPLING
3	3.0 - 5.9	4.0 - 7.9	YOUNG FOREST
4a	6.0 - 8.9	8.0 - 11.9	MID-AGED FOREST
4b	6.0 - 8.9	8.0 - 11.9	MID-AGED FOREST
5	9.0 - 11.9	12.0 - 15.9	MATURE FOREST
6	12.0 +	16.0 +	OLD FOREST

Figure 3-2. Area by Vegetative Structure Stage (VSS) class for the entire project area.



Treatment Areas

Area 1

Area 1 contains primarily even-aged lodgepole pine stands and to a lesser extent stands with a high frequency of Engelmann spruce. Small, fragmented patches of old growth are found in the western part of this area (western portion of the Lost Sale). The total structure of Area 1 (both live and dead) is primarily mature and old growth, VSS classes 5 and 6. The live component of the affected stands has a mid-aged structure represented by VSS 4a and 4b (4b has a greater amount of mortality than 4a). This indicates that much of the mature structure in this area is dead. This mortality varies by elevation, stand density, stand age, and the average diameter of individual trees within the stands. Area 1 has the highest frequency of lodgepole pine mortality of the three treatment areas averaging approximately 60%. Past salvage operations in Area 1 removed all of the harvestable lodgepole pine (greater than 8 inches diameter) except for the areas designated as reserve stands.

Dwarf mistletoe is present at moderate to heavy levels in the live trees in the reserve areas and will spread to the young lodgepole pine in adjacent stands. These stands are also susceptible to windthrow due to the high amount of standing dead trees and frequency of root and stem rot.

Area 2

Area 2 contains the greatest area of mid-aged tree structure (VSS 4) in the proposed treatment area, primarily pure lodgepole pine. However, small pockets of old growth lodgepole pine are interspersed with younger age classes. The trees in Area 2 are generally healthy with only minor (endemic) insect and disease incidence.

Tree density in this area is the highest of the three proposed treatment areas. These high stocking levels reduce growth on trees in the immature classes. This area is primarily a live forest, although small patches of mortality have been identified. Lodgepole pine mortality related to the mountain pine beetle averages approximately 17% of trees greater than 8 inches diameter.

Canopy closure in Area 2 is moderately closed. Canopy closure is defined as the degree of continuous cover of branches and foliage formed collectively by the crowns of adjacent trees (Burns and Honkala 1990).

The only harvest activity in this area has been a small amount of firewood cutting near accessible sites on the north end of this area.

Area 3

Area 3 has the highest acreage of mature and old growth forest. Lodgepole pine is the most frequent tree species in the overstory, however, Engelmann spruce and subalpine fir are more frequent here than in the other proposed areas. Spruce and fir are well established in the understory of the mature and old growth stands.

Although mortality is high in this area, it is more dispersed and occurs in smaller areas than the mortality in Area 1. Beetle mortality is present but much of the mortality in the overstory is a function of age and pest and pathogen activity other than bark beetles. Beetle related mortality in the lodgepole pine component averages approximately 37% of trees greater than 8 inches diameter. Stand susceptibility to further mountain pine beetle activity is currently rated low. This is directly related to species diversity within the stand, the loss of many of the lodgepole pine vulnerable to bark beetle infestation, and the higher elevation. While dwarf mistletoe is present in the area, the tree species and structural diversity should provide a buffer against the spread of dwarf mistletoe from overstory trees to susceptible regeneration.

The proposed action includes only one large area that meets regional old growth characteristics and may be considered a contiguous block greater than 160 acres. This group of stands is in Area 3 south of the North Fork Ashley Creek. It is comprised of retention strips adjacent to harvest units cut in the early to mid 1970s. Smaller stands (ranging from 5 to 50 acres) that meet Regional old growth characteristics also persist in Area 3.

3.1C ENVIRONMENTAL EFFECTS

Direct and indirect effects are discussed for the entire project area and for each treatment area. The proposed silvicultural treatments are the same for the Proposed Action and Action Alternatives 2 and 3, therefore direct and indirect effects are discussed for the Proposed Action only.

Cumulative effects are discussed where applicable. Irreversible or irretrievable commitments are discussed for the entire project area only.

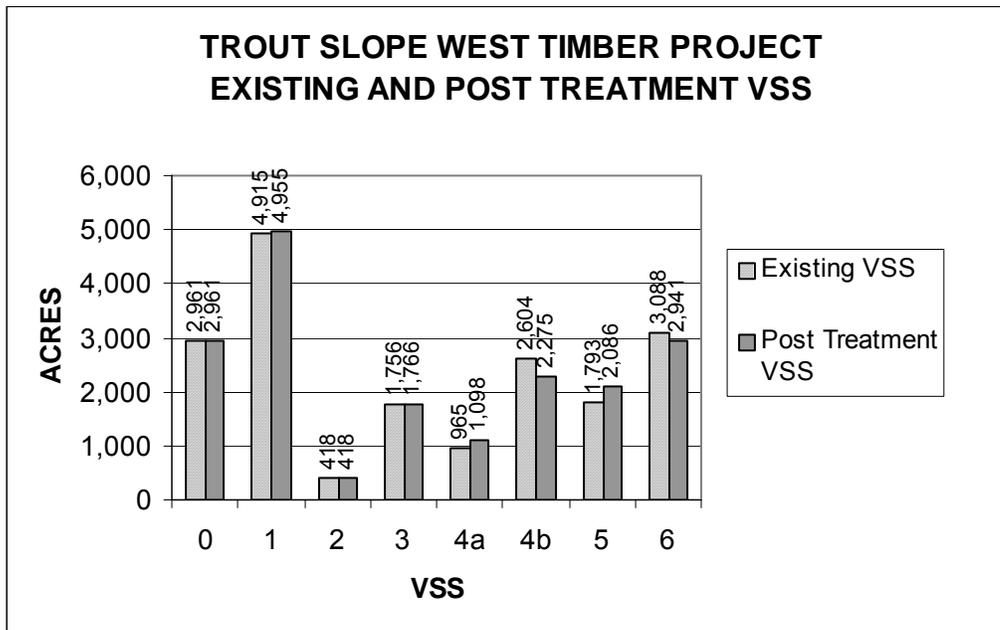
PROJECT AREA

Proposed Action

Direct Effects

Structure in the project area would be slightly redistributed in the early and late mid-aged and old forest classes VSS 4, VSS 5, VSS 6. In Area 1, VSS 4 acreage would be increased (from VSS 5 and 6) by approximately 300 acres due to the salvage of large dead material. The thinning proposed in Area 2 would increase the total VSS 5 acreage by approximately 300 acres but reduce the mid-aged structure VSS4 by an equivalent area. Approximately 40 acres of VSS 6 in Area 1 would revert to an early VSS 1 structure class. These estimates were derived from a comparison of total VSS acres and live only VSS acres. Proposed treatments in all Areas would not remove all of the dead, therefore, these estimates are conservative and actual structure change across the project area is anticipated to be lower.

Figure 3-7. Potential Vegetative Structure Stage (VSS) distribution following implementation of the proposed action.



Indirect Effects

Salvage of dead trees and select harvesting of live trees would open up the canopy of residual stands. This would increase tree regeneration and promote growth on established saplings in the understory. As the residual overstory trees die, these stands would revert back to a younger age class and smaller structure.

Alternative 1 – No Action

Direct Effects

The older stands will eventually revert back to a younger VSS class. This will occur at a faster pace in Area 1 where pure lodgepole pine stands are established. In Area 3, spruce will become the dominant species in the overstory in the absence of major disturbance.

Common to All Action Alternatives

Cumulative Effects

The addition of service roads to the Forest road system in the proposed action areas would increase the probability of future management activity in these areas. Future actions may include the thinning of past clearcuts adjacent to the proposed action areas or the final removal cut of residual trees in the proposed treatment areas.

Implementation of Alternative 3 would decrease the likelihood of future management activity in the proposed treatment areas that must be accessed via reconstructed roads. The greatest concentration of these roads is in Area 3.

Irreversible or Irrecoverable Commitments

There are no irreversible commitments. The only irretrievable commitment is the loss of any tree seedlings or saplings during road reconstruction work. This loss is expected to be very small and will not alter the composition of structure or species in the project area.

TREATMENT AREA 1

Proposed Action

Direct Effects

A large difference exists in Area 1 between total and live VSS classification for mid-aged and older areas. The majority of the dead trees in Area 1 occur in the larger diameter classes represented by VSS classes 5 and 6. The live volume in these stands occurs primarily in the mid-aged diameter ranges 5.0 to 8.9 inches. Once the dead component is removed from the mature stands, VSS 5 and 6, approximately 300 acres, would revert to a mid-aged structure VSS 4. The species composition would not change.

Trees that are heavily infected with dwarf mistletoe would be selected for harvest. Dwarf mistletoe would be reduced in these stands but not eliminated.

The overstory removal proposed for the Lost Sale would revert approximately 40 acres of VSS 6 to a VSS 1 structure. This area is also exhibits old growth characteristics but does not represent a 160-acre or greater contiguous block. Loss of areas with old growth characteristics would therefore occur on the 40 acres recommended for overstory removal and in small isolated patches. Lodgepole pine would be maintained as the dominant species on these sites.

Indirect Effects

The removal of approximately 5 to 15% of the live basal area would slightly increase the density of seedlings per acre. Windthrow of residual trees may occur in areas where the removal of live trees approaches 15% of the live basal area.

Falling dead and live trees would damage surrounding trees and increase the likelihood of decay and infection by canker and root diseases. The incidence of decay would increase proportionally with the incidence of tree damage due to logging activity.

Alternative 1 – No Action

Direct Effects

The standing dead will continue to fall throughout Area 1 increasing the jack-strawed condition described in Chapter 1.0.

Indirect Effects

The eastern portion of Area 1 (Windy Sale) will continue to be dominated by lodgepole pine that will regenerate in the understory as gaps in the canopy continue to open up. Spruce and fir will be absent from these stands (Mauk and Henderson 1984, Contorta/Carex Rossii habitat type).

To the north and northeast of Area 1 (Long, Lost, and Road 57 Sales) lodgepole pine will continue to decline from the overstory as spruce and to a lesser extent fir become well established in the understory. Spruce will become the dominant cover type in the absence of any major disturbance.

Cumulative Effects

Dwarf mistletoe will spread from mature stands into adjacent regeneration. The infection will occur both in the short and long term. This will result in a loss of stand growth and vigor.

TREATMENT AREA 2

Proposed Action

Direct Effects

Individual tree diameter growth would increase at a more rapid pace on the residual trees after treatment than growth occurring under the No Action Alternative. Trees density would be much lower after implementation of the Proposed Action. This area would become a VSS 5 structure almost immediately following treatment because majority of the residual basal area would be concentrated on trees in the larger diameter range (8.0 to 11.9 inches). The canopy closure would shift from a moderately closed to an open structure.

Indirect Effects

The proposed treatment is not a regeneration harvest (a cutting method by which a new age class is created). However, the establishment of lodgepole pine seedlings would increase as a result of lower tree density and reduced canopy closure. Current density in the smallest diameter class (0.0 to 0.9-inch) is less than 800 seedlings per acre. Expected density in this class should exceed 1,000 seedlings per acre after treatment. Prevention of damage to the residual understory would be more difficult than current operating conditions should any future harvesting activity occur in the residual stand.

Figures 3-3 to 3-6. Computer-generated images that simulate stand conditions resulting from the Proposed Action and typical stand conditions under Alternative 2 - No Action. The fallen trees depicted in Figure 3.5 represent harvested trees that would be removed.

Figure 3.3
Current condition, stand age 116 years, overhead and side view.



Figure 3.4
No action in 25 years, stand age 141 years, overhead and side view.



Figure 3.5
Implementation of proposed action, thinning from below, stand age 116 years, overhead and side view.



Figure 3.6
Implementation of proposed action, thinning from below, 25 years after treatment, stand age 141 years, overhead and side view.



Alternative 1 – No Action

Direct Effects

Individual tree growth will continue at a slower pace than the Proposed Action due to higher tree density. Total volume per acre under Alternative 1, the No Action Alternative, will exceed the volume per acre resulting from the proposed action however this volume will be concentrated on a greater number of smaller trees than the Proposed Action scenario.

Indirect Effects

Regeneration underneath overstory trees in the 100 to 120 year age range is currently very sparse. Seedlings will not be established until mortality increases in Area 2 and the canopy structure reverts from a moderately open to an open condition. Although lodgepole pine dominates succession in this area, some spruce and fir may be present or may develop slowly in the understory. However, a majority of the regeneration will be lodgepole pine.

TREATMENT AREA 3

Proposed Action

Direct Effects

No change between total and live VSS classification in Treatment Area 3 indicates that these stands contain a large proportion of live basal area in the 9.0-inch and greater diameter classes. Therefore, removal of dead material and damaged trees would not revert any of this treatment area to a younger stand structure.

Old growth characteristics (See Chapter 2.0, Section 2.2E) would be retained in applicable stands throughout this treatment area resulting in no net loss of old growth area. Harvesting activity would slightly increase fragmentation and diversity at the stand level by the creation of skid trails and landings to access timber.

Logging equipment and tree felling would damage some existing regeneration. Some healthy understory spruce and fir would be inadvertently damaged or destroyed. This would decrease the overall health of stands immediately following harvest activity. This would be a short-term condition. Stage felling would be implemented in most of this area to minimize the damage to the residual stand.

Indirect Effects

Approximately 10% of the live basal area would be removed. This would increase the probability of windthrown trees after harvesting. Damage to the residual stand from logging activities would cause various levels of damage to the boles (tree trunks) of residual overstory trees. Such damage would be entry points for fungus and other pathogens.

Alternative 1 – No Action

Direct Effects

These stands will continue to break up due to decadence, disease, or beetle activity. Canopy closure will revert from a moderately closed canopy condition to an open canopy throughout the treatment area. Spruce, and to a lesser extent fir, will invade the openings created by the death of overmature lodgepole pine (Bradley et al. 1992). Spruce will eventually dominate the stand as the climax species in the absence of a large-scale disturbance.

Indirect Effects

The understory trees will grow into an immature or mid-aged condition beneath the residual overstory. Regeneration of spruce and some fir will increase in openings created by dying lodgepole pine.

Falling dead and live trees will damage surrounding trees and increase the likelihood of decay and infection by canker and root diseases. The incidence of decay should increase proportionally with the occurrence of tree damage caused by falling trees.

3.2 FOREST VEGETATION – UNDERSTORY

3.2A SCOPE OF ANALYSIS

Function and processes related to understory species are briefly discussed for the project area.

3.2B AFFECTED ENVIRONMENT

There are no threatened or endangered plant species within the project area. There are, however, three known populations of sensitive plant *Cypripedium fasciculatum* (Clustered lady's slipper, Brownie's lady slipper) found in one unit of the project area. One population has six plants in a two-foot radius area. The other two populations are individual plants. Based on these minimal populations, the area is considered marginal habitat and outside the concept of "essential habitat" (Franklin 1990). Also, *Cypripedium fasciculatum* has the capability to recover from harvest after tree regeneration reaches the pole stage. Therefore, it is more appropriate to analyze the vegetative habitat of the area and its recoverability from activity than to focus specifically on one plant within this plant community.

Engelmann spruce, lodgepole pine, and subalpine fir dominate the overstory of plant communities within the Trout Slope West area. Grouse whortleberry is a common understory plant where canopy cover of conifers provides shade. There are subalpine meadows dominated by grasses, sedges, and other herbaceous plants within the area, but these are not included with the proposed action.

Agents that have potential to contribute to spread of noxious weeds include wind, water, and animals. Potential spread of seeds of noxious weed by these agents is about equal under all alternatives. However, potential for establishment of these weeds from these sources can be expected to be greater with disturbance associated with roads and other activity associated with heavy equipment. Also noxious weed monitoring on the Ashley National Forest indicates vehicles are the major means of spread of noxious weeds. This indicates alternatives that include greater vehicle use will be associated with greater potential for establishment of noxious weeds.

However, as indicated above, many examples of harvest in the Trout Slope Area with a history of up to 40 years are available for evaluating impacts of noxious weeds in this area associated with timber harvest. This history indicates infestations of noxious weeds will be comparatively minor and that coniferous trees will continue to drive plant community dynamics with little apparent interruption from noxious weeds. The elevation of the area appears to be beyond the capacity of most noxious weeds to be highly aggressive. New weed species might be introduced to the area that have greater ability to compete. However, the record of the past indicates low levels of noxious weed spread in the Trout Slope West area compared to lower elevation areas of the National Forest.

3.2C ENVIRONMENTAL EFFECTS

EFFECTS COMMON TO THE PROPOSED ACTION AND ALTERNATIVES 2 AND 3

Direct and Indirect Effects

Harvesting trees would thin forest cover. Based on past history, early seral and some weedy species can be expected to be associated with disturbance associated with harvest. Some seedbank species such as Ross sedge might be expected to be released where forest cover is thinned considerably. In contrast grouse whortleberry can be expected to decrease where forest cover is reduced. Activities associated with harvest can be expected to disturb understory vegetation including seedling trees.

Identifying and avoiding populations of clustered lady's slipper during harvest would protect these minute populations.

Cumulative Effects

Roads, use of roads, and agents of disturbance including harvest are components of cumulative effects. All of these increase the chance for noxious weed introduction and spread. These can also decrease native plant cover. Insect epidemics and fire are also factors of cumulative effects. Insects have reduced live tree cover in some places within the area of proposed action. Grazing by livestock and wild ungulates are also factors of cumulative effects. Elk commonly use the terminal leaders (primary growth of a plant) of lodgepole pine seedlings, and thus retard the growth of these trees.

Proposed Action

Under this alternative the potential for introduction of noxious weeds by vehicles will be mostly confined to the harvest period. It presents the next lowest potential for noxious weed infestations after the harvest period. However, increased probability of future management associated with this action increases the risk over that of Alternative 3.

Alternative 2

Alternative 2 has the highest potential for introduction of noxious weeds. It presents the highest risk for continuous introductions over time.

Alternative 3

Alternative 3 has the least potential for introduction of noxious weeds.

Irreversible or Irretrievable Commitments

Coniferous trees dominate the system within the area of the Proposed Action. These trees serve as major indicators of plant community function and process. Based on the history of numerous harvested areas within the area of proposed action and elsewhere in the Uinta Mountains, it is reasonable to expect coniferous trees to continue to drive plant community dynamics following harvest. History of other harvested and burned areas indicate release of expected seedbank species such as Ross sedge following harvest, and the return and increase of shade tolerant species such as grouse whortleberry as tree cover increases. History of other harvested areas indicates weedy species associated with early seral conditions following disturbance would not prevent or retard coniferous trees from driving the system. Although elk browsing of lodgepole pine seedlings has retarded height growth of these trees, these trees are growing beyond the reach of elk in numerous harvested areas. The effect is temporary (about 5 to 10 years). The history of numerous other harvested areas indicate there would be no irreversible or irretrievable commitments to vegetation associated with the proposed action regardless of cumulative effects of insects, fire, harvest, roads, and livestock and wild ungulate grazing.

ALTERNATIVE 1 – NO ACTION

There will be no direct or indirect effects to populations of *Cypripedium fasciculatum*.

There will not be any contributing factors to cumulative effects regarding sensitive plants.

This alternative represents the current level of risk of noxious weed introduction and spread. It presents greater risk in the future than for alternatives that propose closing temporary roads.

There will be no irreversible or irretrievable commitments.

3.3 FIRE ECOLOGY

3.3A SCOPE OF ANALYSIS

Fire ecology was analyzed for:

1. The entire 18,500-acre project area by Utah Fire Groups (See Map 5). Each fire group has specific values and characteristics that determine how fire plays a role in the ecology of the landscape.
2. The Proposed Action areas. Live and dead fuels were analyzed in the proposed action areas to determine available biomass for fire consumption.

3.3B AFFECTED ENVIRONMENT

Utah Fire Group Ten

Utah Fire Group Ten occurs over 83% of the project area and 74% of the proposed action area (Areas 1, 2, and 3). This fire group contains the majority of subalpine habitat types, those that are neither very moist nor very cold. The project area for this fire group is represented by a co-climax of subalpine fir and Engelmann spruce. The dominant fire adaptive species for this fire group in the Uinta Mountains is Lodgepole pine, which eventually gives way to the more shade tolerant spruce and fir. Fire exclusion or lack of other stand disturbance will promote spruce and fir over lodgepole and may eliminate lodgepole seed sources completely.

The heaviest down dead fuel loadings (amount of dead combustible material measured for fallen trees and debris greater than 3 inches diameter) occur in this fire group. Fuel loadings have been increased in this area by the mountain pine beetle epidemic and logging slash from past sale activity. Dense spruce and fir understory trees, along with low hanging moss-covered live and dead branches of overstory trees, form readily available ladder fuels (fuels that provide vertical continuity between forest strata) to overstory crowns. With normal seasonal precipitation common to higher elevations, these fuels rarely pose a risk for active wildfire. However, fuels in subalpine stands can be considered prone to extreme fire behavior during extended drought or periods of sustained high winds.

As these stands mature, fuel loading increases in the 3 inches or greater diameter classes, mostly in the form of rotten logs. Deep duff layer accumulations, coupled with rotting logs, will add to the overall intensity of a fire. Furthermore, in the absence of ladder fuels, deep duff may still promote tree mortality through cambium (layer between the conductive tissue of a tree that gives rise to new wood growth) heating. The shallow rooting of spruce and fir will also promote injury or mortality in the event of a duff fire, leaving them susceptible to windthrow, disease, and insect infestation. Evidence suggests that fire returns to this fire group every 300 to 400 years.

Proposed Action Area – Utah Fire Group Ten

Proposed Action areas with the highest fuel loadings represented by Utah Fire Group Ten are Areas 1 (Lost Sale) and Area 3 (Young Peak and Southside Sales). Area 1

averages 44.8 tons per acre down dead fuel and 15.7 tons per acre of live crown biomass. Area 3 averages 36.5 tons per acre down dead fuel and 21.75 tons per acre live crown biomass. Area 2 contains 10.12 tons per acre of down dead fuel and 14.98 tons per acre of live crown biomass.

Utah Fire Group Eight

Utah Fire Group Eight occurs over 9% of the project area and 7% of the proposed action area (Area 1). This fire group is represented by lodgepole pine as the dominant species. Typical stands can be found between 7,500 and 10,300 feet in elevation on soils derived from quartzite (similar to granitic soils) that are generally drier and nutrient poor. According to Pfister and others (1977), lodgepole pine becomes a climax species where (1) repeated conflagration or light under-burning has eliminated the seed source of potential competitors, (2) the absence of catastrophic disturbance permits the development of dense lodgepole stands that prevent any conifer regeneration until the stand deteriorates, and (3) sites are too harsh for the establishment of other species. These harsh growing conditions coupled with a dense canopy closure retard the development of typical forest shrub species.

Typically this fire group experiences relatively few ignitions due to the amount of precipitation associated with thunderstorm activity. The absence of ladder fuels (live and/or dead fuels that allow fire to spread vertically), cool and moist ground conditions, and dense stands that block wind, will slow fire spread. Drought years, however, will increase the potential for higher rates of spread, especially in areas with steeper slopes. Fire occurrence during drought years will likewise promote greater consumption in fuels greater than 3 inches in diameter, and increase the possibility of crown fire. A large fire occurrence is expected every 150 to 300 years in this fire group.

Proposed Action Area – Utah Fire Group Eight

Down and dead fuels in Area 1 can be attributed mainly to the pine beetle epidemic of the 1980s. Remnant beetle-killed snags are numerous and will increase dead fuel loadings over time. Evidence of rotting material greater than 3 inches in diameter is apparent throughout the proposed area and can be expected to add to fire intensities.

Fuel loadings for Area 1 (Windy sales) in Utah Fire Group Eight average 5.18 tons per acre. Fuel loadings for live crown mass average 8.5 tons per acre.

Utah Fire Group Eleven

Utah Fire Group Eleven occurs over 6% of the project area and 20% of the proposed action area (Area 3). This fire group is composed of subalpine habitat types occurring in seasonally moist or wet conditions, or where soils are sub-irrigated and water tables remain high year round. Riparian areas, moist benches and areas where late-melting snow banks occur are included in this group. Fuels in this group resemble those of Fire Group Ten. Fuels greater than 3 inches in diameter make up the bulk of the fuel loading. The potential for Engelmann spruce to reach large diameters on these sites may result in a greater average diameter of the large woody fuels.

Fires are infrequent due to the moist environment and abundance of shrubs and herbaceous material. The forest floor is comprised of a heavy decomposing duff layer. While it is typically moister than the surrounding fire groups, drought conditions still make these stands susceptible to severe fire and mortality. Fires starting in the adjacent Fire Group Ten may help promote burning in stands of this fire group especially under windy conditions. Moreover, the thin bark and shallow roots of spruce and fir increase the likelihood of mortality during a fire event due to the high concentrations of organic material surrounding the trees. Fire return intervals for this fire group is 300 to 400 years, respectively.

Proposed Action Area – Utah Fire Group Eleven

The heaviest concentrations of down and dead woody debris in the project area fall within the proposed Long Sale area, averaging 46 tons per acre. Lodgepole pine mortality due to mountain pine beetle attacks has accounted for numerous snags and heavy accumulations of woody debris. Heavy concentrations of logging slash are also apparent to the west of the Long Park Reservoir, which have increased overall fuel loading. Crown mass in live trees adds an additional 16 tons per acre for possible fire consumption.

3.3C ENVIRONMENTAL EFFECTS

ALTERNATIVE 1 – NO ACTION

Direct Effects

In the absence of fire or more aggressive salvage efforts for standing beetle-killed lodgepole pine, down and dead fuel loadings will increase dramatically for at least the next ten years. While an approximate tonnage cannot be determined, 1 to 3 tons per acre per year could be expected in those areas where beetle infestation in lodgepole pine is more prevalent. The majority of the dead has already fallen to the ground while decay of the remaining standing dead is increasing.

Indirect Effects

Fire behavior calculations for all treatment areas show that crown fires will, in time, occur under common summer weather conditions. One hundred percent mortality is expected in the smaller diameter trees. Greater survival rates will occur in the larger diameter classes. Due to the canopy characteristics of spruce-fir stands (Fire Groups 10 and 11), wildfire effects will be more severe than that of Fire Group 8.

Standing and dead down woody material will increase as mortality occurs in all proposed action areas.

Because lodgepole pine is a fire adaptive species, the absence of fire or other disturbance may eliminate future seed sources in proposed action areas within Utah Fire Group Eight.

Cumulative Effects

Fire suppression will be limited by fire behavior, weather conditions and accessibility. Greater fuel loadings, both standing and dead, have a direct impact on controllability and success in fire suppression activities. Left untreated, prevailing winds could easily push fire eastward toward the nearest structures located at Trout Creek Guard Station. Existing roads are not expected to act as sufficient fire breaks in the event of a wildfire.

EFFECTS COMMON TO THE PROPOSED ACTION AND ALTERNATIVES 2 AND 3

Direct Effects

Fuel effects for each treatment are based on the recommended silvicultural prescription and vary based on the live and dead tree component within each stand.

The proposed treatment of removing sound dead, both standing and down, as well as removing selected “damaged” trees is expected to reduce fuel loadings in all proposed action areas by 3 to 6 tons per acre. A reduction of 1 to 3 tons per acre is expected for the down dead fuel. Fuel loading due to logging slash is expected to increase by 0.25 tons per acre.

In Area 1 (Lost Sale) and Area 2 (Center Sale), thinned openings will allow greater wind speed (1 to 2 miles per hour) to filter through the stands.

Slash deposits in Area 2 (Center Sale) will increase fuel loading to an estimated 12 to 15 tons per acre.

Slash debris created in Area 3 in the 0 to 3 inch diameter fuel classes will increase approximately 2 to 5 tons per acre.

Indirect Effects

The small increase in logging slash in all proposed action areas is not expected to increase current fire behavior expectations under any weather conditions.

Fire behavior in Area 1 will remain practically unchanged in terms of ground fire. Any mistletoe thinning (Lost Sale) in the proposed action area will reduce the threat of crown fire activity due to the decrease in crown biomass available for fire consumption. The subsequent increase in wind speed is not expected to increase the rate of fire spread.

Crown fire is not expected in Area 2 under common summer weather conditions.

Fuel reduction in Area 3 will not be great enough to alter fire behavior and a crown fire is the most likely scenario under common summer weather conditions.

Cumulative Effects

As canopy cover in the proposed action areas is reduced, seedlings density will increase. In 10 to 15 years, the canopy base height of these trees will promote crown

fires. Openings in thinned stands will also increase wind speeds and, in the event of an ignition, enhance fire behavior that may hamper fire suppression efforts.

With the exception of Alternative 3, any new road construction and subsequent maintenance will allow increased access for fire suppression crews. Under mild weather conditions, roads may help act as firebreaks in the event of a wildfire in Area 1 and 2. Existing and proposed road systems in Area 3 are not expected to slow fire spread due to the fire spotting characteristics of spruce and fir.

3.4 WATER RESOURCES

3.4A SCOPE OF ANALYSIS

The project includes portions of Carter Creek, Upper Ashley Creek and Big Brush Creek watersheds (HUC5) and Middle Carter Creek, North Fork Ashley Creek and Upper Big Brush Creek subwatersheds (HUC6), as shown in Table 3-8 and illustrated on Map 6. HUC refers to Hydrologic Unit Code; the 5th-level, 10-digit code is the "watershed" and the 6th-level, 12-digit code is the "subwatershed" as defined by the Unified Federal Policy and as adopted by interagency agreement within the State of Utah. Localized water body effects and subwatershed effects will be evaluated, with watersheds considered in the cumulative effects assessment. The discussion focuses on two stream health factors that may be affected by the proposed action: **water quality** and **stream channel stability**.

Table 3-8. Proposed project in context of watersheds and subwatershed.

Watershed Name (HUC5)	Subwatershed Name/HUC6 #	Subwatershed Acres	Proposed Project Acres	Percent of Subwatershed (HUC6)
Carter Creek	Middle Carter Creek 140401060703	16,275	182	1.1%
Carter Creek	Lower Carter Creek 140401060704	25,048	0	0%
Upper Ashley Creek	North Fork Ashley Creek 140600020202	19,556	1,639	8.4%
Big Brush Creek	Upper Big Brush Creek 140600020401	14,869	244	1.6%

Major water bodies within the project area subwatersheds include:

Lower Carter Creek (no treatment areas): Burnt Creek headwaters, Elk Creek headwaters.

Middle Carter Creek (Treatment Area 3): Deep Creek; East Fork Deep Creek headwaters.

North Fork Ashley Creek (Treatment Areas 1, 2, and 3): North Fork Ashley Creek, Long Park Reservoir, Center Creek, Trout Creek and unnamed tributaries

(e.g., In Treatment Area 3). There are also prominent wetlands at Big Park and Summit Park; no sale activity is proposed in the vicinity of these wetlands.

Upper Big Brush Creek (Treatment Area 1): Oaks Park Reservoir, Big Brush Creek approximately 1 mile below the Reservoir, Big Brush Creek tributary approximately 1 mile above Oaks Park Reservoir (the subwatershed boundary extends to the drainage divide), Government Creek and Ditch.

Relevant soil and water direction in the Ashley Land and Resource Management Plan (Forest Plan) for Management Areas “f” and “n” includes standards and guidelines regarding determining sediment and water yield thresholds to meet aquatic habitat objectives, protecting surface waters from chemical contamination, maintaining/improving stream channel stability ratings, using stream channel stability ratings to determine the percent of openings allowed in watersheds (using equivalent clearcut area (ECA) calculations), establishing ground cover and reducing sediment within five years of projects, stabilizing road corridors and controlling use to reduce soil erosion, and avoiding channelization of natural streams.

3.4B AFFECTED ENVIRONMENT

Water Quality and **Stream Channel Stability** are the key factors, which may be influenced by the proposed action – directly through contributions of contaminants into the stream or stream bank disturbance, and indirectly through erosional processes or increases in water volume. Water quality parameters that may be especially susceptible in a timber removal proposal are dissolved oxygen, temperature, and sediment.

Water Quality Considerations

Beneficial uses of water within the project area include domestic water, water sports, cold-water fisheries and aquatic biota, and agricultural use. Lands within the project area provide municipal water for the communities of Vernal and Green River, Utah.

Municipal Water Bodies

The Ashley Creek drainage is within the source protection zone for the Vernal, Utah municipal water source at Ashley Spring, located below the Forest boundary. Because Government Ditch transports water from the Brush Creek drainage to the Ashley Creek drainage, the portion of the Brush Creek watershed within the project area is also a source protection zone for the Vernal municipal water.

The entire project area is also within the source protection zone for municipal water for the city of Green River, Utah, which obtains its drinking water from the Green River. Therefore, all waters contributing to the Green River above the city of Green River are in the source protection zone.

There are no designated uses or limitations of use identified by the State of Utah for source protection zones. Consideration of effects to drinking water are part of project

assessments within those zones to protect high quality water for domestic uses downstream.

State of Utah Impaired Water Bodies – 303(d) – and High Quality Waters

Below the Forest Boundary, two water bodies are on the State's 303(d) List of Impaired Water Bodies. These are Red Fleet Reservoir (Big Brush Creek drainage – dissolved oxygen) and lower Ashley Creek from Green River upstream 16 miles (Ashley Creek drainage – selenium and total dissolved solids). The principal cause of pollution in the Lower Ashley Creek segment has been analyzed and determined by the State to be primarily from sewage lagoons located off-Forest that have been closed and replaced with a treatment plant (Utah 2003a). Regarding Red Fleet Reservoir, water quality monitoring of Big Brush Creek within the Ashley National Forest indicates that the Forest has not been contributing to the oxygen depletion.

The streams within the proposed project area are designated as high-quality waters by the State of Utah (publication R317-2). The existing high quality is to be maintained and new point source wastewater discharges are prohibited. Best Management Practices (BMPs) are to be employed during construction of dams or roads so that resulting pollution would be limited to the construction period.

Water Quality Standards

The water quality for Ashley National Forest portions of Ashley and Brush Creek and their Tributaries must meet **Class 1C** (protected for domestic purposes with prior treatment by treatment processes as required by the Utah Division of Drinking Water), **Class 2B** (protected for secondary contact recreation such as boating, wading, or similar uses), **Class 3A** (protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain), and **Class 4** (protected for agricultural uses including irrigation of crops and stock watering) (Utah 2003b).

Water Temperature

Stream temperature is influenced by shading of streamside vegetation and by channel width-to-depth ratios. If a stream channel becomes more wide and shallow, depth is reduced; solar warming increases during summer and more of the stream freezes during winter. Suspended sediment can also increase water temperature by increasing sunlight absorption.

Dissolved Oxygen

Sediment suspended in stream water can lower available dissolved oxygen for aquatic biota. Dissolved oxygen is related to temperature, because water can hold more oxygen at lower temperatures. Streambank degradation which results in bank scouring and widening of the channel can increase temperature and reduce dissolved oxygen. Decomposition of organic material can reduce dissolved oxygen; when stream temperatures are increased, this condition is exacerbated. Stream turbulence increases dissolved oxygen; turbulence may be reduced if streams widen and become shallower

and velocity drops. Dissolved oxygen may thus also be affected by channel morphology changes and will be analyzed indirectly through effects on channel stability.

Sediment

Factors contributing to stream sediment include natural sediment transport, natural disturbances such as fire and windthrow, roads and stream crossings, livestock grazing, unrestricted road access with associated off-road vehicle travel, recreation, and fire suppression activities. Regarding timber harvest activity, properly constructed roads have the greatest potential to contribute sediment in the first two years following construction.

Sediment may be generated by the proposed action, either from direct ground disturbance or by increasing water yield and subsequently creating bank scour within stream channels. In general, sources of sediment may stem from either streamside or watershed disturbance. One function of riparian zones is to trap sediment – both that which overtops stream banks during flood flows and that which travels down the hill slopes and drier lands in the watersheds. Some sediment is natural in Western mountain stream systems, particularly during spring runoff. Sediment may have negative effects on cold-water biota, altering macroinvertebrate community composition and potentially filling spawning gravels due to quantity and/or timing.

Stream Channel Stability Considerations

Stream bank stability is related to openings in the watershed that increase water volume (via snow accumulation), as well as to the stability of banks from vegetation and rock. Increasing runoff beyond the ability of a stream to accommodate flows can result in deterioration of the stream channel, particularly in meadow stream types (Rosgen 1996). Patch clearcutting, partial cutting, or thinning of green trees in Western mountain forests can increase streamflow considerably. Clearcutting 25 to 30% or more of central Rocky Mountain watersheds appears to increase peak flows; peak timing may also be advanced in some circumstances. This has been demonstrated in the nearby Dry Fork drainage of the Uinta Mountains north of Vernal (Troendle 1987; Burton 1997).

Timber harvest acreages, along with any roads or skid trails created for access, contribute to openings. As time progresses and openings fill in with growing trees, snow accumulation and runoff are reduced (USFS 1974). Removal of dead trees does not change the distribution of snow accumulation, interception, or evapotranspiration in the same manner and is considered to have a negligible effect, although removal of dense dead trees can reduce interception from dead limbs and stems and incidental removal of young green trees also occurs. The Ashley Forest Plan has recognized these relationships by giving recommendations for the maximum percent of openings (“Equivalent Clearcut Area” or percent ECA) within a small watershed based on stream channel conditions. The existing and Forest Plan-recommended % ECA for the project area subwatersheds are summarized in Table 3-9 based on stream conditions. The Forest Plan provides guidance for small watersheds in “Excellent,” “Good,” “Fair,” and “Poor” conditions. Therefore, conditions have to be classified in these categories based

on data collected, stream type, and condition ratings as presented by Rosgen (1996). Subwatersheds, (HUC6) were used as a basis for rating.

Table 3-9. Percent ECA – Existing and Recommended by Forest Plan based on stream conditions in HUC6 subwatersheds.

Subwatershed	Percent ECA authorized by Forest Plan-Overall Stream Condition method	Percent ECA authorized by Forest Plan - Worst Reach Condition	Percent ECA authorized by Forest Plan - weighted average method	Current ECA (2003) – includes fire history
Middle Carter Creek	~25% - Low Good/High Fair	20% -Fair	27-28%	15.9%
North Fork Ashley Creek	~25% - Good-Fair	20%-Fair	27-28%	18.7%
Upper Big Brush Creek	20% - Fair	20%-Fair	24-25%	14.5%

All three subwatersheds are within the Forest Plan prescribed thresholds and below levels at which research would suggest any resource relevant increase in streamflows due to openings. Individual streams that are in lower condition may exhibit some effects.

Managing Floodplains and Wetlands

Executive Orders 11988-Floodplain Management and 11990-Protection of Wetlands apply to this proposal. In brief, the Executive Order on Floodplain Management requires:

- Prior to an action, determining whether a proposed action is within a floodplain.
- Consider alternatives; if the only practicable alternative requires use of the floodplain, then before the action the agency must minimize potential harm and prepare and circulate a notice containing an explanation of why the action is proposed to be located in the floodplain.
- Early public review is also required for any plans or proposals within floodplains.
- Use of existing processes, such as categorical exclusions (NEPA) is authorized (in fact, the Federal Register which presented the “new” NEPA regulations in 1992 specifically says that the requirement for quarterly public notification of scheduled actions was the basis for removing a 30-day implementation delay requirement on floodplain/wetland projects).
- “Floodplain” is defined, at a minimum, as an area subject to 1% or greater chance of flooding in any given year (adjacent to inland and coastal waters).

The Executive Order on Protection of Wetlands has similar requirements. The agency is to “avoid undertaking or providing assistance for new construction located in wetlands” unless it is demonstrated that there is no practicable alternative and that all practicable mitigation to minimize harm is included;

- Early public review is required, including the development of procedures;

- The agency must consider wetland health, specifically “maintenance of natural systems, including conservation and long-term productivity of existing flora and fauna, species and habitat diversity and stability, hydrologic utility, fish, wildlife, timber, and food and fiber resources;
- “Wetlands” are defined as areas inundated by surface or ground water supporting vegetative or aquatic life requiring seasonally saturated soil conditions, and include river overflows. “New construction” includes draining, filling, dredging, and related activities, as well as new structures or facilities.

Forest Service manuals also provide guidance regarding riparian areas as well as floodplains and wetlands. That direction echoes the direction in the Executive Orders. These are attention given to water bodies, proposed buffer zones, water quality parameters, and stream channel stability characteristics - as well as soils and fishery/aquatic habitat discussions in other sections - contribute to analysis of these values.

NORTH FORK ASHLEY CREEK SUBWATERSHED (TREATMENT AREAS 1, 2, AND 3)

Water Quality

Water quality sampling has been conducted in North Fork Ashley Creek (Treatment Areas 1, 2, and 3) above and below Long Park Reservoir. Dissolved oxygen exceedences were rare and without any discernible pattern; no other exceedences occurred relating to the proposed action.

A 1998 report identified a sediment problem in the one and a half mile segment of the North Fork Ashley Creek immediately above Long Park Reservoir. The Leidy Peak Canal was identified as a primary source (USDA Forest Service 1998). Considerable improvement to the canal has been performed since then (USDA Forest Service 2002). Because of this sediment contributions have been significantly reduced. However because of ongoing processes such as rapid snowmelt, erosion is expected to continue. The proposed action includes harvest activity within the mile and a half above Long Park Reservoir, although “no-cut” stream buffers would be implemented.

Stream Channel Stability

North Fork Ashley Creek (Treatment Areas 1, 2, and 3)

The upper reaches of North Fork Ashley Creek were surveyed in 1994. The entire stream length within the project area was evaluated in 2003. Valley bottom widths were 10 to 100 meters with low to moderate valley side slopes (<30% to 60%). Overall stream condition in 1994 was good; 2003 reconnaissance also indicated the mainstem is in overall good condition (some Fair segments).

Cobble, gravels, and boulders dominate substrates. Gradients (stream channel slopes) are high at 2.7 to 7%. In 1994, banks were rated as 90 to 100% stable, which is very

good since those stable banks were mostly vegetated (vs. unvegetated such as rock). Pools were generally sparse, representing 0 to 25% of the habitat types. Habitat dominance was split between run (33 to 60%) and riffle (20 to 50%) habitats (i.e., non-pool habitats). Field reconnaissance in July 2003 documented large woody debris and well-vegetated banks. Stream widening was noted near Soldier Park. This condition may have been caused by human impacts. A meadow along a tributary was downcut, but the meadow near Long Park Reservoir exhibited high sinuosity, well-vegetated overhanging banks, and no downcutting.

Two proposed stream crossings on North Fork Ashley Creek between Long Park Reservoir and Big Park were visited in 2002 and 2003. One is a proposed ford crossing. Bank approaches are 7 to 12% slope; substrate was estimated as 50 to 60% boulder and 35% cobble. Banks were dominated by sedge and grass with scattered forbs and willow. Large woody debris was estimated at approximately five pieces per hundred feet. The stream gradient was about 5%.

The second crossing proposed is a proposed multiplate culvert at the "bridge site" - a bridge formerly existed here but is now completely gone (including abutments, which were log). Large, flat construction boulder is still embedded in one bank. The substrate is also boulder-dominated (estimated as 90% boulder). Herbaceous vegetation is similar to the proposed ford crossing. Bank approaches are 8 to 10% slope from center stream. On one bank, the old road has some rill erosion; that bank is about 3 feet high at the stream. During higher water (June 2003), water enters the main channel from a side channel alongside the bridge access road; the side channel has the appearance of upland vegetation although marsh marigold was present.

One Treatment Area 3 harvest unit south of North Fork Ashley Creek contained a wet drainage approximately 1 to 2 feet wide. In October 2002 it contained standing water; bank vegetation was similar to the meadow described above. Another area near an old skid trail had water ponded in old trails with some ruts. This indicates soil drainage is not as good as might be expected, given the high amount of rock, likely due to the high clay content. The hillslope in this area was of low gradient, about 2 to 3%. This was an isolated finding.

Ponding of water along some of the old roads in this same area (between the two crossings) indicates a need for improved road drainage prior to hauling to avoid erosion of the roadbed. Some cross-drains constructed in the past are still functional.

Smaller water features also exist in the vicinity of the area between the two crossings, outside the proposed harvest removal sites but within the project analysis area. These include "pothole" formation and a subirrigated-type meadow with multiple channels.

Other Water Bodies in the North Fork Ashley Creek Subwatershed

Center Creek, Trout Creek, Soldier Park and Big Park Creeks were also surveyed in 1994 and revisited in 2003. The 1994 survey characterized the stream channels as

being similar to North Fork Ashley Creek, except that the creek through Big Park had finer, silt-sized material dominant. All had very stable banks, ranging from 90 to 95% stable, with most banks vegetated. Stream gradients were 1.4 to 8%. Valley side slopes were low gradient, generally less than 30%. The low gradients of both valley and side slopes suggest that these areas are less subject to erosion by overland flow; the wider valley bottoms would provide a large buffer to slow water or sediment coming down slopes before reaching water bodies (USDA Forest Service 1992).

The 2003 reconnaissance indicated that the stream channel in Center Creek was in Fair condition overall, with some erosion problems near the road and into the meadow where it was wider and shallower than above. Condition improved below Road 10043 (along North Fork Ashley Creek).

Trout Creek (Treatment Area 2) was in Good condition with an abundance of riparian-dependent bank vegetation and few bare banks, although it is re-establishing a floodplain within an incision.

An unnamed tributary was generally stable but had 1 to 2 foot headcuts in the headwater area; dense sedge seemed to be helping stabilize them.

Soldier Creek (outside Treatment Area 1) had some erosion problems near the road, but condition improved upstream and large woody debris was common toward the spring source. Overall condition is rated Fair. Soldier Park supported healthy riparian vegetation. Stream widening was noted near Soldier Park. This condition may have been caused by human impacts.

Big Park (outside treatment areas) was rated as Good-Fair in two meadows. Some downcutting appears to have stabilized, and some bank damage was apparent.

Ox Park Creek (Treatment Area 1) had abundant overhanging banks and vegetation and supported many fish. Its overall condition is Good.

Collectively, stream channel conditions may be summarized as GOOD-FAIR. The overall condition rating for North Fork Ashley subwatershed is Good to Fair.

LOWER CARTER CREEK SUBWATERSHED (NO TREATMENT AREAS)

Because no changes are proposed to the Lower Carter Creek subwatershed, it is not discussed in detail. The area is the uppermost drainage area of the Burnt Creek and Elk Fork systems, which are intermittent streams. The project area boundary includes approximately 990 acres of this subwatershed, but no cutting or new road building is proposed.

Carter Creek downstream of East Fork Carter is in the subwatershed but outside the proposed project area. A detailed survey was conducted in 1994 within this

subwatershed, from Highway 44 to the bridge at Deep Creek. Large woody debris was common and some beaver activity was noted. Banks were 60 to 90% stable; rock armored some sections but others were bare banks, which were often an effect of beaver or woody debris dams. Cobble was the dominant streambed substrate (59 to 76%). Condition ratings (using Rosgen 1996 interpretation) were “Fair” overall and “Good” in the steeper reach; the lower-gradient meadow areas were not assessed. Bank stability field notes were mostly “good” with some “excellent,” “fair,” and one “poor” assessment in each reach assessed. Isolated areas of impact from camping and livestock were noted, but these effects were localized. The overall rating for this stream is thus GOOD-FAIR.

No further discussion of this subwatershed will occur.

MIDDLE CARTER CREEK SUBWATERSHED (TREATMENT AREA 3)

Water Quality

Deep Creek’s perennial flows extend across Public Land Survey Section 27 before becoming intermittent in Section 28. Water quality samples from Deep Creek downstream of the project met State standards for temperature, dissolved oxygen, and pH. Based on similar data from North Slope Uinta streams outside the project area, as well as water quality data elsewhere within the project area, it is assumed that the headwater drainages near the proposed project area are generally meeting State standards relevant to the proposed action.

Stream Channel Stability

A steep-gradient portion of Deep Creek visited in 2003 had healthy vegetation and rated as “GOOD” condition (Rosgen 1996) when stream bank and bottom characteristics were evaluated relative to stream type. Further upstream, where the channel was dry, the topography becomes less steep.

The East Fork Deep Creek was evaluated in 1994. The upper reaches were characterized by a valley bottom width of 50 to 80 feet with conifer trees dominating. Bank healing was noted, as well as a raw bank. Large woody debris was common, including in “massive” jams. A variety of channel types were noted. Field notes on bank stability included ratings of Excellent, Good and Fair in similar proportions. Using Rosgen 1996 interpretation methods, channel conditions include “excellent,” “good,” “fair,” and “poor.” Overall, this description is considered in GOOD-FAIR condition.

No data is available on Carter Creek within this subwatershed. Assuming conditions are similar to the Lower Carter subwatershed, they would be rated GOOD-FAIR.

Overall condition rating for the subwatershed is GOOD-FAIR.

UPPER BIG BRUSH CREEK SUBWATERSHED (TREATMENT AREA 1)

Water Quality

Within the project area or along its boundary, water quality data has been collected from various depths within Oaks Park Reservoir, the Big Brush Creek outlet, and Big Brush Creek above Oaks Park Reservoir. Only one sample was taken at the outlet, but it demonstrated no exceedences of State standards. Above the Reservoir, 1 of 5 samples exceeded the Total Suspended Solids standard.

Within Oaks Park Reservoir, bottom samples exceeded a dissolved oxygen standard in 2 of 15 samples above the dam, but all mid-lake samples met the standards. The State of Utah does not consider bottom samples when listing streams on the 303(d) List of Impaired Water Bodies (U.S. EPA 2002).

Stream Channel Stability

Big Brush Creek above Oaks Park Reservoir, Government Creek, Government Ditch, and Windy Park were evaluated in 2003. Big Brush Creek substrate material was mostly cobble. Bank vegetation was abundant and large woody debris provided habitat for a number of fish. Impacts include a water measuring device (weir) that is washing out around the edges.

Government Creek exhibited head cuts and hoof effects. Windy Park had vegetative bank cover and appeared fairly tolerant of the Scout camp uses. Government Ditch, near one of the proposed sale units, had mostly bare banks and abundant large cobble and small/medium sized boulder along the water's edge. The unit adjacent had excellent infiltration of recent rains without ponding, rilling, or other erosion on the 10 to 15% slopes; duff was 2 to 3 inches thick and exposed rock was about 15 to 20%. Bank erosion in Government Creek has been monitored on two meander cross-sections about a mile below the project area between 1997 and 2003. One station (inside meander) has shown gradual bank erosion of 1 to 5 feet during 1997 to 2001 (full cross-section only in 2003) but bank-building on the opposite bank has resulted in overall channel maintenance. The other monitored station (outside meander) alternates between bank-building and erosion on a scale of about 0.5 feet and has remained essentially stable across the entire channel. Both have lost undercut banks that existed in 1997 to 1998. Two headcuts (approximately 1 to 2 feet) were identified in 2003 in Section 11, upstream of the treatment area. Overall condition of Government Creek is LOW FAIR.

Windy Park was visited in 2003. A headcut upstream from the Scout camp is approximately 1 to 2 feet deep. The stream is in a healthy condition north of the road and generally holding up well to recreational uses. Condition assessed is GOOD-FAIR.

Other streams in the area (within and outside the project area) are rated as good overall. Overall condition rating for the Upper Big Brush Creek subwatershed is good to fair.

3.4C ENVIRONMENTAL EFFECTS

Table 3-10. Percent ECA of proposed project by subwatershed (HUC6).

Subwatershed	Percent ECA authorized by Forest Plan- Overall Stream Condition method	Percent ECA authorized by Forest Plan - Worst Reach Condition	Percent ECA authorized by Forest Plan - weighted average method	Current ECA (2003) – includes fire history	Proposed additional % ECA	Proposed Total % ECA
Middle Carter Creek	~25% - Low Good/High Fair	20% -Fair	27-28%	15.9%	0.2%	16.1%
North Fork Ashley Creek	~25% - Good-Fair	20%-Fair	27-28%	18.7%	1.5%	20.2%
Upper Big Brush Creek	20% - Fair	20%-Fair	24-25%	14.5%	0.1%	14.6%

The Water Erosion Prediction Project (WEPP) model was run to assess the probability of sediment delivery to streams from the proposed vegetative treatments. No erosion measured in tons per acre would be generated by any of the treatments, and no measurable sediment delivery would result from any of the treatment areas (See Project Record). The Disturbed WEPP portion of the model considers local climate, soil texture, slopes, pre- and post-treatment vegetation cover of the land surface, rock component, vegetative buffers, distance from activity to water, and long-term (e.g., 50-year) precipitation patterns. The X-DRAIN portion of the model considers climate, soil textures, buffer length and gradient, and widths of new roads (skid trails). Since no measurable sediment delivery (tons per acre) resulted from any proposed treatment unit, there would be no cumulative effects of sediment.

The Equivalent Clearcut Acre (ECA) analysis considers the ability of stream channels to withstand additional water that may be generated by the proposal, and thus the contribution of sediment from streambanks. In addition to being useful to evaluate the direct and indirect effects, ECA is a useful cumulative effects tool (Reid 1993); it considers existing vegetative openings on the landscape (such as wildfire, past silvicultural activity, and roads) as well as the vegetative openings, roads/ skid trails, and landings of the proposed project.

MIDDLE CARTER CREEK SUBWATERSHED (TREATMENT AREA 3)

PROPOSED ACTION

The proposal would introduce activity on 1.1% of the watershed (182 acres), all in the upper Deep Creek drainage. Past tree removal (pre-1988) occurred in the same vicinity as the proposed action. The combination of dead removal and selective green tree cutting would create limited ground disturbance and canopy opening. Skid trails would open 4.5 acres and landings another 1.5 acres; these locations would be designated by

the Forest Service to minimize erosion potential. The wetland and stream buffer requirements (Section 1.4C) would generally protect stream banks and wetlands, and ensure retention of vegetation for sediment filtering or deposition by overbank flows. Some smaller or seasonal wetlands may not be readily distinguishable in the field and thus may escape total avoidance so localized impacts may occur. Past harvest units were closer to Deep Creek.

Re-opening roads or road maintenance would disturb ground and increase road-induced sediment for about two years (Luce and Black 2001; Megahan and Kidd 1972). However, the activity area is not immediately adjacent to any streams. Slopes (based on topographic map and land slope indicator) range from nearly flat to about 20%. If the entire 182 acres had activity the same year, the area would still be well within allowed % ECAs. If all were cut in the same year and erosion-generating precipitation events occurred that or the following year (e.g., high-intensity thunderstorms or rain-on-snow events), then slope erosion might accelerate with localized sheet erosion or rilling. The vegetative buffers between the activity areas and Deep Creek (cutting units are several hundred feet from the stream) would result in no measurable effect on sediment or water quality in Deep Creek. There would be no direct impacts to stream banks from activities.

Contract administration and implementation of Best Management Practices (BMPs) would minimize project effects.

The small acreage and % ECA increase from this proposal keeps the subwatershed within % ECA guidelines. Therefore, no indirect impacts to stream banks would occur. ECA recovery would be set back by 0.2%, and the subwatershed would remain well below any ECA threshold.

Direct/Indirect Effects

Water Quality: No measurable effect.

Channel stability: No effect.

Cumulative Effects

For other activities in the project area refer to list of activities in 3.0A. There would be no effect in Deep Creek and thus no effect to the Middle Carter subwatershed (HUC6). There would be no effect to the Carter Creek watershed (HUC5).

ALTERNATIVE 1 – NO ACTION

No ground disturbance would occur within the 182 acres proposed for activity. Recovery of % ECA from past activities would continue. Erosion on roadbeds and banks at the bridge crossing site (North Fork Ashley Creek) would continue.

Direct/Indirect Effects

Water Quality: No effect.

Channel stability: No effect.

Cumulative Effects

Same as Proposed Action.

ALTERNATIVE 2 – OPEN PUBLIC ACCESS

Road work would not substantially change % ECAs from the Proposed Action. The activity would still be within % ECA guidelines. Higher standard roads would reduce the potential for road-related erosion, although periodic maintenance activities or use during wet road conditions would result in surface disturbance and fine materials washing off the road. Since buffer zones and BMPs would also apply to this alternative (e.g., location of landings and skid trails, etc.), the effects would be similar to the Proposed Action.

Direct/Indirect Effects

Same as Proposed Action.

Cumulative Effects

Same as Proposed Action.

ALTERNATIVE 3 – TEMPORARY ROADS CLOSED

The action of closing temporary roads after the sale period was complete would result in gradual revegetation on most of the hillslopes (which are approximately 0-20% slope). Erosion and/or channelizing of water along some temporary roads on higher slopes could occur, resulting in sediment transport. Since buffer zones and BMPs would also apply to this alternative, the effects would be similar to the Proposed Action. Compared with Alternative 2, the periodic disturbance from maintenance would be eliminated after the initial obliteration.

Direct/Indirect Effects

Similar to Proposed Action; reduced long-term road-related erosion.

Cumulative Effects

Same as Proposed Action

NORTH FORK ASHLEY CREEK SUBWATERSHED (TREATMENT AREAS 1, 2, AND 3)**PROPOSED ACTION**

The proposal would introduce activity on 8.4% of the watershed (1,639 acres) around portions of Long Park Reservoir/North Fork Ashley Creek, Ox Park Creek, Center Creek, and Trout Creek. Re-opening roads or road maintenance would disturb ground and increase road-induced sediment for about two years (Luce and Black 2001; Megahan and Kidd 1972).

The % ECA would increase by 1.5% (to 20.2%) if all activity were accomplished in a single year; this would be lower for the first couple of years if sales were staggered over two to three years. These levels are within the % ECA guidelines so stream channels would not be negatively affected indirectly from water increase.

Treatment areas (excluding wetland/stream buffers described in Chapter 1.0, Section 1.4C) are immediately adjacent to water bodies on about 3½ miles of North Fork Ashley Creek (Treatment Areas 1 and 2), 2 miles of its tributaries (Treatment Area 3), ¼ mile of Ox Park Creek (Treatment Area 1), ½ mile of Center Creek (Treatment Area 2), and ½ mile of Trout Creek and its tributaries (Treatment Area 2).

Concentration of activity in larger areas in a single year, such as along the length of North Fork Ashley Creek and its tributaries, would increase the possibility of erosion generated from a high-intensity precipitation event (such as summer thunderstorms or rain-on-snow events) because the full area would be disturbed. While the watershed is rated “Good-Fair” overall, some reaches that were in “Fair” condition would be more susceptible. However, the dead tree and select green tree removal treatments create minimum ground disturbance and openings; these are the primary treatments in the upper North Fork Ashley Creek (around Long Park Reservoir).

The Treatment Area 3 around Long Park also has localized water features within the treatment area, such as a collection channel with standing water and an area of wet upland soils. Some smaller or seasonal wetlands may not be readily distinguishable in the field and thus may escape total avoidance so localized impacts may occur. Construction standards, seasonal travel restrictions, or avoidance may be necessary.

The Treatment Area 2 on North Fork Ashley Creek between Trout Creek and Center Creek includes commercial thinning and patch cuts of dead up to 2 acres in size. Because of the retention of live material in both cases, minimal effects are expected. Slopes here (from topographic map) are mostly flat (10% or less), but reach 30% near the North Fork Ashley Creek. The stream in this reach is in stable condition, despite the presence of mid-channel “islands.” Localized erosion could occur on the slopes immediately above North Fork Ashley Creek. Best management practices, such as those for Middle Carter Creek Subwatershed, are included.

The same Treatment Area 2 is adjacent to Center Creek and Trout Creek. Trout Creek is in generally good condition and adjacent slopes are gentle (around 5%, from topographic map) so prescribed buffers should be adequate. However, Center Creek is more sensitive, with some existing erosion concerns, including an incised channel along the west boundary of the treatment area and an overall “Fair” condition rating. Where it joins North Fork Ashley Creek, slopes increase to around 30%. The stream is in better condition here. Localized erosion could occur on the hillslopes immediately above Center Creek. Best management practices, such as those for Middle Carter Creek subwatershed, are included.

The multiplate culvert installed at the “bridge site” of North Fork Ashley Creek (Treatment Area 3) would be permanent. A stream alteration permit would need to be obtained from the State of Utah/Army Corps of Engineers. Fish passage is not a concern since the stream substrate is retained. Banks at the multiplate site would be “stabilized” in concrete. Any unnatural constriction can concentrate flows through the passageway and accelerate stream velocities immediately downstream, causing bank erosion. Because the stream substrate is boulder-dominated, downcutting would not occur. The high bank rock content would help prevent lateral cutting, but some may occur. A seasonal side channel (wet in June and dry in October) entering North Fork Ashley Creek just upstream of the crossing would provide additional volume and may back up against the concrete support structure during high flows. Design of a permanent structure is assumed to include consideration of existing road surface erosion problems on the approach to the crossing. The Utah Nonpoint Source Management Plan (1998) recommends at least a 50-year/24-hour storm event capacity of permanent crossings, retention of natural stream grade, and timing construction work to minimize water quality impacts (usually late summer).

The ford crossing on North Fork Ashley Creek (Treatment Area 3) is in a suitable area with high boulder/cobble substrate. The grade of the approaches from the bank are around 7 to 12%, which may be too steep; the road grade approaching the banks may need to be reduced to a more gentle grade. Because of the high rock in the area, little erosion or other negative effects are anticipated. After the sale, revegetation and minor rehabilitation may be needed. Effects of the two ford crossings in the unnamed tributaries (also Treatment Area 3) would be similar to that on the North Fork Ashley Creek given similar rock content.

Direct/Indirect Effects

Water Quality and Channel Stability: There is potential for erosion and sediment contributions to stream waters immediately below the steeper slopes along North Fork Ashley Creek (Treatment Areas 2 and 3) and at tributaries to North Fork Ashley Creek near Long Park Reservoir (Treatment Area 3). Because Center Creek (Treatment Area 2) is in a Fair condition and the treatment area is immediately adjacent (excluding buffers in section 1.5), there is potential for sediment contribution or erosion resulting from a high-intensity precipitation event along the portion of Center Creek adjacent to the treatment area in Section 5. However, field assessment by hydrology and fisheries personnel determined that the buffers would be adequate.

The ford crossings would not affect water quality due to rock or otherwise armored approaches and base. The channels would be altered at the fords themselves but would be stable.

The “bridge site” multiplate crossing could create ponding (deposition) upstream and/or velocity acceleration (scouring) downstream during high flows. The frequency would depend on the design capacity. The seasonal side channel just upstream of the road may be backed up by the concrete at high flows, which would alter the stream’s

dynamics and may result in deposition or scouring of the side channel and the low area along the approach road.

Cumulative Effects

Sediment generated above current levels would settle out at low-gradient park areas downstream (such as around Trout Creek and west of Taylor Mountain) at lower flows. Otherwise, it would be transported downstream of the subwatershed. Cumulative effects around Long Park Reservoir may include sediment from the Leidy Peak Canal if that condition has not been fully resolved. A separate anticipated proposal for stream rehabilitation work at a localized spot along North Fork Ashley Creek may reduce sediment in the future. Because of the many streams diluting Ashley Creek below the subwatershed (for example, South Fork Ashley Creek enters at the mouth of the subwatershed), no effects of sediment transported down stream would occur below the North Fork Ashley Creek subwatershed. Therefore, there would be no effect at the scale of the Upper Ashley Creek watershed (HUC5).

ALTERNATIVE 1 – NO ACTION

Direct/Indirect Effects

The lack of treatment would eliminate ground disturbance and openings from associated activities. Existing areas of erosion and instability would continue. Center Creek may naturally exacerbate its incised channel or erosional areas (with possible irreversible or irretrievable effects). Sediment may still be present in North Fork Ashley Creek from Leidy Peak Canal or “Fair” condition reaches. Recreation, livestock grazing, and other uses still affect stream conditions in some areas.

Cumulative Effects

Sediment may be transported downstream of the subwatershed at levels comparable to those currently occurring; levels may increase or decrease in concert with changing forest management practices or natural events. Because of the many streams diluting Ashley Creek below the subwatershed (e.g., South Fork Ashley Creek enters at the mouth of the subwatershed), no effects of sediment transported down stream would occur below the North Fork Ashley Creek subwatershed. Therefore, there would be no effect at the scale of the Upper Ashley Creek watershed (HUC5).

ALTERNATIVE 2 – OPEN PUBLIC ACCESS

Road maintenance work would not substantially change water quality, channel stability, or % ECAs from the Proposed Action. The activity would still be within % ECA guidelines. Higher standard roads would reduce the potential for road-related erosion, although periodic maintenance activities would result in surface disturbance and fine materials washing off the road. Since buffer zones and BMPs would also apply to this alternative (e.g., location of landings and skid trails, etc.), the effects would be similar to the Proposed Action.

The North Fork Ashley Creek ford would not be rehabilitated after activity but would be stable. The “multiplate” at the “bridge site” was permanent under the Proposed Action so no differences are perceived.

Direct/Indirect Effects

Same as Proposed Action.

Cumulative Effects

Same as Proposed Action.

ALTERNATIVE 3 – TEMPORARY ROADS CLOSED

The action of closing temporary roads after the sale period was complete would result in gradual revegetation on most of the hillslopes (which are approximately 0-30% slope). Erosion and/or channelizing of water along some temporary roads on higher slopes could occur, resulting in sediment transport. Since buffer zones and BMPs would also apply to this alternative, the effects would be similar to the Proposed Action. Compared with Alternative 2, the periodic disturbance from maintenance would be eliminated after the initial obliteration, but ongoing erosion could occur on some higher slopes and some sediment could reach North Fork Ashley Creek where slopes up to about 30% are found.

Installation of a temporary culvert or temporary bridge at the “bridge site” would have similar effects to the multiplate crossing. It is assumed that the width would be narrower than the multiplate since the Utah Nonpoint Source Management Plan – Silvicultural Activities accepts a lesser 25-year/24-hour storm event passage for temporary crossings, so problems from ponding and acceleration would be increased over the Proposed Action. The more uniform bottom surface of a culvert would transport water more rapidly than the natural boulder substrate of the stream. The seasonal side channel flow would be restricted more than in the Proposed Action. Negative effects would be localized and would not be discernible below North Fork Ashley Creek. A temporary bridge would have permanent or semi-permanent abutments so construction should meet the 50-year/24-hour storm events. Otherwise, similar problems with the culvert would result.

Direct/Indirect Effects

Similar to Proposed Action except reduced long-term road-related erosion. The bridge site crossing would have more risk of negative stream effects with a reduced crossing span.

Cumulative Effects

Same as Proposed Action.

Within the project area, State water quality samples would not be affected by the proposed action.

UPPER BIG BRUSH CREEK SUBWATERSHED (TREATMENT AREA 1)

PROPOSED ACTION

This alternative includes activity on 1.6% of the subwatershed (244 acres), which increases ECA by only 0.1% if all the treatment were accomplished in a single year. The treatments are removal of dead trees and high-risk green trees. Part of the area has 60 to 70% dead trees and the remainder is 10 to 30% dead. Treatment areas are immediately adjacent (excluding wetland and stream buffers in Section 1.4C) to Oaks Park Reservoir for about 1/5 mile. Slopes in these areas (from topographic map) are less than 10%. The waterfront conditions around Oaks Park Reservoir are considered stable and resilient. Oaks Park Reservoir would trap any sediment generated. Best management practices are included, as in the other subwatersheds.

A similar treatment area lies just above Government Creek for about 1/2 mile. Government Creek has areas of mass wasting, headcuts near the road, and is in "Fair" overall condition. This increases its vulnerability to activity. Disturbance of the entire area in one year would increase erosion vulnerability to high-intensity precipitation such as a concentrated thunderstorm or rain-on-snow event. This treatment area was examined in June 2003. Despite recent heavy rains, there was no evidence of ponding or erosion on the treatment hillslope, though there was some ponding on the road. A duff layer improved infiltration over the underlying soil, which had noticeable clay content. Removal of the duff layer would likely reduce infiltration and increase runoff. However, the flat road and a flat meadow area lie between the unit and Government Creek; water would slow and sediment would be deposited in these areas before reaching the stream.

Direct/Indirect Effects

Possible increased sheet erosion during high-intensity precipitation events compared to the No Action Alternative. No discernible effect in streams.

Cumulative Effects

No discernible difference downstream of the subwatershed, so no effect at the scale of the Big Brush Creek watershed (HUC5). Other factors influencing streams would continue to offer sediment; Oaks Park Reservoir would trap sediment generated upstream. Government Creek instability continues.

ALTERNATIVE 1 – NO ACTION

Direct/Indirect Effects

The principal differences are elimination of treatment near the two streams and along Oaks Park Reservoir, which eliminates the possibility of additional hillslope erosion in high-intensity precipitation events. Sediment contributions from existing areas of instability, such as the headcuts in Government Creek, would continue.

Cumulative Effects

No discernible difference downstream of the subwatershed at the Big Brush Creek watershed (HUC5) scale. Other factors influencing streams would continue to offer sediment; Oaks Park Reservoir would continue to trap sediment generated above.

ALTERNATIVE 2 – OPEN PUBLIC ACCESS

Road work would not substantially change % ECAs from the Proposed Action. The activity would still be within % ECA guidelines. Higher standard roads would reduce the potential for road-related erosion, although periodic maintenance activities would result in surface disturbance and fine materials washing off the road. Since buffer zones and BMPs would also apply to this alternative (e.g., location of landings and skid trails, etc.), the effects would be similar to the Proposed Action.

Direct/Indirect Effects

Same as Proposed Action.

Cumulative Effects

Same as Proposed Action.

ALTERNATIVE 3 – TEMPORARY ROADS CLOSED

The action of closing temporary roads after the sale period was complete would result in gradual revegetation on most of the hillslopes. Erosion and/or channelizing of water along some temporary roads on higher slopes could occur, resulting in sediment transport. Since buffer zones and BMPs would also apply to this alternative, the effects would be similar to the Proposed Action. Compared with Alternative 2, the periodic disturbance from maintenance would be eliminated after the initial obliteration. Because slopes are generally less than 10%, temporary road beds would remain essentially stable with little channeling of water or erosion.

Direct/Indirect Effects

Similar to Proposed Action; reduced long-term road-related erosion.

Cumulative Effects

Same as Proposed Action

IRREVERSIBLE COMMITMENTS

Existing areas of erosion and instability such as those in Center Creek, and caused by rapid snowmelt along the Leidy Peak canal, may exacerbate, leading to soil being lost from banks and washing downstream. The lost soil would be either deposited in low-gradient areas or transported further downstream.

3.5 SOILS

3.5A SCOPE OF ANALYSIS

Soil conditions were analyzed for the project area. Soil data for the treatment areas comes from several surveys over the past 30 years. Most of the soil sampling was done in conjunction with the Land System Inventory started in 1976 with intensive but broad level mapping and sampling done across the Forest during a three to four year period. This inventory closely approximates a 3rd Order soil survey. In the 1980 and 1990s some soil sampling was done in this area to validate the landtypes and make changes where necessary. During July and August of 2003, mapping field trips and soil sampling trips were made to the proposed units. Sampling was done in project areas that did not have previous sampling done.

3.5B AFFECTED ENVIRONMENT

The majority of the soils sampled for this project and from previous sampling in the area show redoximorphic features in the soil. Redoximorphic features in the sampled landtypes show up from iron as characteristic color patterns of mottling or manganese as nodules or staining. The iron and manganese precipitate out during periods of wetting and drying of the soil. The location of these features is an indicator of how close to the surface the soil may become wet. (Descriptions of soils are found in the Project Record).

SNOpack TELEmetry (SNOTEL) site information for the years 1961 to 1985 shows that the average yearly precipitation was 27 to 31 inches a year. With the precipitation almost equally divided between the periods of April to September and October to March. Because of this climate regime the soil in any of the affected landtypes may become saturated to the surface when harvest activities take place.

Soils of natural forest ecosystems possess certain chemical, physical and biological properties unique to the conditions under which they developed. They are usually stable and resilient over long periods and relative to these periods are temporarily altered by varying degrees of disturbance such as fire. As with fire, the degree and length of disturbance will determine a soil's recovery to a productive state. Because of the relative infertility of quartzite and shale parent materials in the project area, there is a greater dependence on the organic component of the soil for nutrients.

On the Ashley National Forest harvesting and subsequent site preparation with ground-based equipment have mainly impacted the top 6 to 12 inches of the soil either by compaction, displacement or burning. Compaction affects productivity in two ways:

First, soil hydrologic function is impaired by the break down in soil structure, decreasing pore space and limiting water and air availability within the soil. Percolation time is slower than a non-compacted condition. An example is the puddles in a dirt road with compaction slowing water infiltration. During wet periods runoff from these areas have

caused erosion and sedimentation delivery from skid trails and roads to streams. It has been noted in harvest units 10 to 15 years old that rutting and soil displacement off skid trails and landings have created micro-ponds after heavy precipitation that stay too wet for tree growth. Second, productivity is affected by compacted and displaced soils.

Generally landtypes with predominantly lodgepole pine and lower elevation have soils that will be dryer than higher elevation spruce-fir sites. Soil wetness in these areas depend more on summer and fall precipitation. The Southside Sale and the Long Sales are in a subalpine habitat with Engelmann spruce and a lodgepole pine component. Within the sale boundary there are several streams with Trout Slope 4 Land Type (forested riparian) adjacent to the streams and areas of Alpine Moraine 1 Land Type with a mosaic of ridge and swale or knob and kettle topography and wet meadows (see Project Record). High water tables are common within these sale areas.

Most detrimental soil disturbance is expected to occur on designated skid trails and landings. Skid trails and landings are expected to be 4 to 5% of a treatment area. Other harvest activities such as the endlining process (pulling trees by cable to the skid trail) may be used in some instances but usually do not cause detrimental topsoil displacement. The amount of disturbance on the skid trails will depend on soil moisture, the number of trips and amount of slash left on the skid trail for surface protection. The anticipated percentage of the harvest unit that could be detrimentally impacted is well within the amount permitted by the Forest and Region 4.

3.5C ENVIRONMENTAL EFFECTS

ALTERNATIVE 1 – NO ACTION

Direct and Indirect Effects

Under the No Action Alternative there will be no additional mechanical disturbance connected with harvest. Unmaintained temporary roads, landings or skid trails used by the public will continue to have compaction with eroding conditions on some segments. Within the Trout Slope West project boundary several clearcut harvest units 10 to 15 years old still have evidence of localized detrimental soil puddling (displacement of wet soil).

In the absence of harvest, large woody fuels will continue to build especially in areas with a high percentage of dead trees. Chances of large fires will increase. Hot ground fires in heavy fuels have the potential to burn the soil organic component hot enough to cause hydrophobic conditions, loss of natural seedbank and soil structural changes. Under hydrophobic conditions water, will run off the soil rather than soaking in, thereby increasing potential for erosion and sedimentation.

Cumulative Effects

Compaction will continue on unmaintained temporary roads, skid trails and landings that are being used by recreation traffic. Some of these road segments will continue to erode without proper drainage. Recreation use within the Trout Slope West project area includes hunting, camping, firewood gathering. These have contributed and will continue to contribute to localized areas of compaction and erosion. Unmanaged OHV use is contributing to increasingly large linear areas of compaction and vegetation loss. Other old harvest routes are almost obscured by trees and understory vegetation where freeze-thaw processes and vegetation are continuing to loosen compacted soils.

Irreversible Commitments

There would be no irreversible soil commitments of resources under the No Action Alternative. If disturbance is not widespread or severe, disturbance intervals of normal rotations should not lead to a decline in productivity (Poff 1996). There will be an irretrievable commitment of soil productivity on temporary roads and skid trails having continued public vehicle use. No new detrimental soil disturbance is expected under this alternative.

EFFECTS COMMON TO THE PROPOSED ACTION AND ACTION ALTERNATIVES

Meadows and parks, large enough to be mapped out, will not have landings, roads, or skid trails. Known areas of geologic instability such as landslide or slump prone areas also will not have any harvest activity take place on or across them. Map 7 shows perennially wet or unstable areas that are large enough to be mapped. Land type scale mapping does not allow delineation of all unsuitable places.

PROPOSED ACTION

Heavy equipment will create varying degrees of compaction on skid trails and landings depending on number of trips and the soil type (Froehlich et al. 1983). The 10 miles of temporary roads will be reconstructed/improved to conditions suitable for a Level 3 maintenance classification (see roads, section 2.1A). There will be some short-term road related erosion during road reconstruction and/or improvement but with proper drainage facilities and sloping for water runoff there should be less long-term road related erosion. After logging activities have ceased, roads will be reclassified at a Maintenance Level 1 for intermittent use. With basic custodial maintenance there may be some road deterioration.

Cumulative Effects

When the 10 miles of temporary roads become part of the Forest Road system for future management activity they become part of a Total Soil Resource commitment (TSRC). These conversions have the greatest and most permanent impact on the soil resource. Essentially this is the conversion of a productive site to an essentially non-productive site for a period of 50 years or more. Examples are permanent skid trails, roads,

campgrounds and recreation trails. There will not be impacts from motorized recreation use in the areas behind the gates. There will still be some localized disturbance from camping, hunting and firewood gathering in the surrounding areas where public access is permitted.

Irreversible Commitments

There would be no irreversible soil commitments of resources under this alternative. If disturbance is not widespread or severe, disturbance intervals of normal rotations should not lead to a decline in long-term soil productivity (Poff 1996). Calculated skid trails and landings are expected to be ≤ 5 percent. Detrimental soil disturbance is expected to be within the Region 4 Soil Quality Standards.

ALTERNATIVE 2 – OPEN PUBLIC ACCESS

Direct and Indirect Effects

Heavy equipment will create varying degrees of compaction on skid trails and landings depending on number of trips and the soil type (Froehlich et al. 1983). The 10 miles of temporary roads will be reconstructed/improved to conditions suitable for a Level 3 maintenance classification (see roads, section 2.1A). There will be some short-term road related erosion during the reconstruction and/or improvement but with proper drainage facilities and sloping for water runoff there should be less long-term road related erosion than their previous unmaintained condition. After logging activities have ceased, roads will remain at a Maintenance Level 3 and open to the public. With this classification roads should be in a more stable state than Level 1. There will be some road related erosion during periodic maintenance.

Cumulative Effects

When these 10 miles of road will become part of the Forest Road system open to public use they become part of a Total Soil Resource commitment (TSRC). These conversions have the greatest and most permanent impact on the soil resource. Essentially this is the conversion of a productive site to an essentially non-productive site for a period of 50 years or more. Examples are permanent skid trails, roads, campgrounds and recreation trails. When harvest activities cease there will be continuing localized impacts from recreation use such as camping, hunting and firewood gathering. The potential is there for unmanaged OHV use causing vegetation loss, soil erosion and compaction. The higher elevation landtypes above Area 3 are especially sensitive to any mechanical disturbance.

Irreversible Commitments

There would be no irreversible soil commitments of resources under this alternative from harvest activities. If disturbance is not widespread or severe, disturbance intervals of normal rotations should not lead to a decline in long-term soil productivity (Poff 1996).

Calculated Skid trails and landings are expected to be ≤ 5 percent. Detrimental soil disturbance is expected to be within the Region 4 Soil Quality Standards.

ALTERNATIVE 3 – TEMPORARY ROADS CLOSED

Direct and Indirect Effects

Heavy equipment will create varying degrees of compaction on skid trails and landings depending on number of trips and the soil type (Froehlich et al. 1983). The 10 miles of temporary roads will be reconstructed/improved to conditions suitable for a Level 3 maintenance classification (see roads, section 2.1A). There will be some short-term road related erosion during the reconstruction and/or improvement but with proper drainage facilities and sloping for water runoff there should be less erosion during ongoing harvest activities than their previous unmaintained condition. After logging activities have ceased roads will be closed to all motorized use. There will be some road closure related erosion while stream crossings are being stabilized and until vegetative ground cover becomes reestablished.

Cumulative Effects

There will not be motorized impacts on roads, skid trails and landings that were used during harvest activities. Over time freeze-thaw processes and vegetation will loosen compacted soils. There will still be some localized disturbance from recreation uses such as camping, hunting and firewood gathering in the surrounding areas where public access is permitted.

Irreversible Commitments

There would be no irreversible soil commitments of resources under this alternative. If disturbance is not widespread or severe, disturbance intervals of normal rotations should not lead to a decline in long-term soil productivity (Poff 1996). Calculated Skid trails and landings are expected to be ≤ 5 percent. Detrimental soil disturbance is expected to be within the Region 4 Soil Quality Standards.

3.6 FISHERIES AND AQUATIC HABITAT

3.6A SCOPE OF ANALYSIS

The analysis area for Colorado River cutthroat trout (CRCT) includes the Ashley Creek drainage, North Fork Ashley Creek subwatershed, Big Brush Creek subwatershed, and Carter Creek watershed. The Ashley Creek drainage is a tributary to the Green River and is made up of North Fork and South Fork Ashley Creek, Ashley Creek, Big and Little Brush Creek, and Dry Fork Creek. The analysis area includes the Ashley Creek drainage due to fluvial migration of CRCT. The majority of the project area is located within the North Fork Ashley Creek.

Surveys (see project record):

- Fish distribution survey data for species was collected by the Utah Division of Wildlife Resources (UDWR) and obtained by the Forest Service to analyze fisheries in the analysis area.
- The Forest Service also conducted fish distribution surveys throughout the project area in 2003.

3.6B AFFECTED ENVIRONMENT

Management Indicator Species

Colorado River Cutthroat Trout (*Oncorhynchus clarki plueriticus*)

Colorado River cutthroat are the only trout species endemic to this area. Behnke (1992) gives a description of CRCT historical distribution. Colorado River cutthroat trout populations have been significantly reduced from this distribution by habitat degradation such as over utilization, habitat fragmentation, and introduced nonnative trout species (Young et al. 1996). In the analysis area, CRCT populations in subwatersheds, streams, and streams segments vary in strength. These populations are affected by competition and interbreeding with non-native trout, and habitat alterations. Some populations have been completely replaced by non-native, introduced fish species. The Inland West Watershed Initiative map shows existing CRCT status throughout the project area (see Map 8).

Table 3-8 shows current fish species presence throughout project area streams. The North Fork of Ashley Creek subwatershed and many of its tributaries have been identified as having CRCT presence. The 2003 fish surveys in Big Brush Subwatershed showed no presence of CRCT. The 2003 fish surveys in Carter Creek Subwatershed show presence of CRCT. Samples for CRCT from North Fork Ashley Creek have been submitted for DNA analysis but the results have not been received. Until genetic results are complete the Forest Service will assume the CRCT are pure.

Table 3-11. Current fish species present in project area (based on 2003 surveys).

North Fork Ashley Creek Subwatershed			
Stream	CRCT	Brook trout	Rainbow trout
North Fork Ashley Creek	X	X	X
Big Park	X	X	X
Ox Park	X	X	
Center Creek	X		
Two Unnamed streams (Southside Sale)	X		
Big Brush Creek Subwatershed			
Stream	CRCT	Brook trout	Rainbow trout
Upper Big Brush		X	X
Windy Park		X	X
Government Creek		X	
Anderson Creek		X	
Carter Creek Subwatershed			
Stream	CRCT	Brook trout	Rainbow trout
Little Elk Creek	X		X
Elk Creek	X	X	
Deep Creek	X	X	X
Burnt Creek		X	X

Macroinvertebrates

Macroinvertebrates were not specifically surveyed within all streams in the analysis area. Macroinvertebrates were last sampled in Ashley Creek in 1997. The Diversity Index (DAT) of 15.4 indicates good conditions. The Diversity Index (DAT) is a measure of number of taxa, habitat, and feeding preferences of individual taxa. The Biotic Condition Index (BCI) rating of 70 indicated fair conditions. The BCI indicates, as a percentage, how close an aquatic ecosystem is to its potential. According to the macroinvertebrate analysis, a biomass of 1.4 g/m² indicates adequate nutrients for a good fishery for Ashley Creek.

Green River Threatened and Endangered Fish

The Green River contains four fish species Federally listed as threatened or endangered and two more species listed by Utah as species of special concern. The four federally listed species include the humpback chub (*Gila cypha*), bonytail chub (*Gila elegans*), razorback sucker (*Xyranchen texanus*), and the Colorado pikeminnow (*Ptychocheilus lucius*). The flannelmouth sucker (*Castostomus latipinnis*), and the bluehead sucker (*Catostomus discobolus*) are listed by Utah as species of special concern.

Other native fish species that may be present in the cumulative effects analysis area include Speckled dace (*Rhinichthys osculus*), Mountain sucker (*Catostomus platyrhynchus*), and Mottled sculpin (*Cottus bairdi*).

Other non-native species present in the project analysis area include Rainbow trout (*Oncorhynchus mykiss*) and Brook trout (*Salvelinus fontinalis*).

Amphibians

Surveys were not specifically conducted for amphibians in the project area. However, they were documented when encountered during fish distribution surveys. According to the UDWR Ashley Creek Drainage Aquatic Management Plan amphibians that may be found in the drainage include Boreal chorus frog (*Pseudacris maculata*), Great Basin spadefoot (*Spea intermontana*), Northern leopard frog (*Rana pipiens*), Tiger salamander (*Ambystoma tigrinum*), and Woodhouse's toad (*Bufo woodhousii*) (UDWR 2000). Amphibian habitat includes the use of upland montane sites in the vicinity of breeding ponds usually within 100 to 300 meters, especially around springs and seeps (Keinath and Bennett 2000).

3.6C ENVIRONMENTAL EFFECTS

Potential environmental effects to fisheries and aquatic habitat for the Proposed Action and Alternatives 2 and 3 are very similar and will be discussed as one.

EFFECTS COMMON TO THE PROPOSED ACTION AND ALTERNATIVES 2 AND 3

Direct/Indirect Effects

North Fork Ashley Creek Streams: Center Creek, Ox Park, Trout Creek, and Two Parallel Unnamed Streams in Treatment Area 3

All of these streams are fish bearing and have CRCT populations. Indirect impacts associated with timber harvest include an increase in surface runoff, soil water content, and ground water levels due to roads, skid trails, and landings (Chamberlin et al. 1991). Minimal impacts from implementation of these alternatives would occur due to elements in the project design, which require use of buffers along streams, hardened stream crossings, and no new road construction. Most of these streams would have no direct impacts since there would be no stream crossings and 300-foot stream buffers would be used due to presence of fish. In Alternative 2, road related impacts, due to public and administrative use, and periodic maintenance, would continue. In Alternative 3, work to permanently close roads would lead to a short-term increase in sediment delivery but would not adversely impact fisheries. In the long-term, habitat conditions would improve.

North Fork Ashley Creek, North and South parallel tributaries in Area 3 are expected to have some direct impacts. Failure to retain stream and riparian buffers during past timber activities has resulted in evidence of bank instability and surface erosion along the unnamed tributaries in Area 3. Stream ford crossings and a culvert would be developed on these streams for access to Southside Sale Area 3. Development of these access points would lead to a short-term increase in sediment deposition to North Fork Ashley Creek. Elements in the project design would reduce these impacts. The stream crossings would be modified or hardened with rock to protect the stream banks from eroding. Hardened low-water crossings are preferable to culverts for fish passage because high water flow is unimpaired and low water migration is easy to provide for. Road crossings such as culverts can become barriers to fish migration, create excessive water velocity, and become clogged by debris (Furness et al. 1991).

One type of culvert that may be used for this project is a structural plate-arch called a multi-plate (Proposed action and Alternative 2). This type of culvert is the most desirable culvert for fish because the natural streambed is left mostly unchanged, and there is no significant change in water velocity. Roads, or road use, can affect streams directly by accelerating erosion and sediment loading and alter stream channel morphology (Furness et al. 1991). Access of the temporary roads to Area 3 may increase runoff and sediment deposition into North Fork Ashley Creek and the two parallel tributaries where the access points cross the streams. The two parallel, unnamed streams in Area 3 are perennial fish bearing streams. Buffers of 300-feet (from the edge of the active stream channel) are recommended for riparian protection.

Big Brush Creek Streams: Upper Big Brush Creek, Government Creek, Anderson Creek, and Windy Park.

According to the 2003 fish distribution surveys no CRCT are in these streams. However they do contain strong populations of brook trout so may serve as possible CRCT reintroduction projects in the future. There would be no direct impacts since no stream crossings would occur and 300-foot stream buffers would be used due to presence of fish. These streams would be subjected to the indirect impacts stated before. A short-term increase in surface runoff and erosion may occur due to improved roads, skid trails, landings, and openings created from the harvest. However, Oaks Park Reservoir would trap this sediment preventing delivery downstream from the reservoir.

Carter Creek Subwatershed

None of the project sale areas are located adjacent to or near any streams in the Carter Creek Subwatershed so no measurable direct/indirect effects to fisheries and aquatic habitat will occur. Since there would be no measurable impact to Deep Creek, Elk Creek, Little Elk Creek, and Burnt Creek fisheries then no impact would occur downstream in Carter Creek. All of these streams contain CRCT except Burnt Creek.

Impacts to Amphibian Habitat

Increased sedimentation associated with bank disturbance and vegetation removal may result in habitat degradation and loss of food sources for amphibians. Amphibian populations decline sharply after timber harvest, and with narrow streamside buffers

(Duncan 2003). Furthermore, populations are slow to recover in second growth forest, and different species do so at different rates (Duncan 2003). The recommended buffer widths will help conserve habitat conditions for CRCT, amphibians and any other riparian dependant organisms.

Green River Threatened and Endangered Fish

This project and its alternatives are expected to have no effects upon Green River fish species and their habitat. The Ashley Creeks confluence with the Green River is nearly 60 miles southeast of the project area. The Ashley Creek Drainage has become isolated from the Green River for much of the year except during high flows. Ashley Creek is diverted for agricultural and municipal water use. This prohibits any of these fish species from migrating into Ashley Creek.

Cumulative Effects

The analysis area for cumulative effects extends downstream to include Ashley Creek. Cumulative impacts to fisheries and aquatic habitat from past, present, and future activities within the analysis area include, cattle and sheep grazing, roads and trails, off road ATV use which impacts riparian areas, dispersed camping along riparian areas, introduced non-native fish species interbreeding and competing with native cutthroat trout, other timber projects, firewood gathering, habitat fragmentation caused from reservoirs, and water diversions, and a stream habitat restoration project planned for 2004 on the North Fork Ashley Creek.

Chamberlin et al. (1991) describes two types of cumulative impacts to fisheries habitat, type-1 and type-2. Type-1 cumulative effects include incremental change, effects that individually are not overwhelming, but that, compounded, will continue to force the stream into new configurations to the detriment of fish habitat. Type-1 cumulative effects can be corrected if necessary management actions are taken. Type-2 cumulative effects cause irreversible change such as changes to basic watershed processes from which recovery is not possible because of very long time requirements, and/or permanent shifts in social and economic objectives that preclude the required management action.

North Fork Ashley Creek Subwatershed

There is a potential for changes to sediment supply to streams during high precipitation events. Areas where soil disturbance and compaction caused by skid trails, roads, and landings may produce a type-1 incremental cumulative effect. All the action alternatives may supply an incremental sediment supply along with roads, stream crossings, grazing, recreation and past and future timber projects.

Proposed Action: The direct and indirect impacts may continue beyond the close of the timber project since the roads will be maintained for future Forest Service activities.

Alternative 2 (Open Public Access): Open access and continued maintenance of the non-system roads would increase runoff and sediment deposition into North Fork

Ashley Creek and the two parallel tributary's. The direct/indirect effects would extend beyond the close of the timber sale for as long as the roads are maintained.

Alternative 3 (Temporary Roads Permanently Roads): The cumulative effects are expected to be the same as the proposed action throughout the implementation of this project, but these effects will decline over time after closure of this project. Habitat conditions would continue to improve when access to the project area is closed. These cumulative impacts would be reduced due to the elements in the project design.

Upper Big Brush Creek Subwatershed

No cumulative effects to fisheries in Big Brush Creek are expected from the implementation of all action alternatives.

Carter Creek Subwatershed

No cumulative effects to fisheries in Carter Creek are expected for the implementation of all action alternatives.

Irreversible Commitments

Type-2 cumulative effects to native fisheries in this project area include existing roads, reservoirs such as Oaks and Long Park, water diversions, and non-native trout introductions.

ALTERNATIVE 1 – NO ACTION

Direct/Indirect Effects

Continued erosion processes would have no measurable impacts to fisheries and aquatic habitat. Current habitat conditions and processes would continue to improve so no new direct/indirect impacts would occur.

Cumulative Effects

No new measurable effects are expected.

3.7 WILDLIFE

3.7A SCOPE OF ANALYSIS

This section discusses the habitat conditions and potential occurrence of terrestrial wildlife species of conservation concern in the project area, including species federally listed or proposed as threatened or endangered, and species the Forest Service has identified as sensitive (see Appendix B, Table B-1). It also addresses species listed in the Forest Plan as management indicators for the habitats present in the project area, as well as migratory birds of concern.

3.7B AFFECTED ENVIRONMENT

Federally Threatened, Endangered, and Proposed Species

Appendix B, Table B-3 lists the threatened, endangered and proposed species that are known or suspected to occur on the Ashley National Forest and the habitats typically used by each species. Only two species (Canada lynx and bald eagle) use habitats like those in the project area.

Canada Lynx

The Canada lynx is a Forest Service sensitive species that is listed as threatened under the Endangered Species Act. There are 10 specimens of lynx that have been reliably traced to the Uinta Mountains, with collection dates ranging from 1916 to 1972 (Bates 1999). None of those specimens came from the project area. However, there are also several track reports and sightings which are considered probable lynx observations, including one near East Park from around 1950 and one near Oaks Park from 1980 (McKay 1991). Interviews with local residents who trapped in the Uinta Mountains indicated that a lynx was taken from the Iron Springs area prior to its designation as a protected species in 1975. Iron Springs is approximately four miles south of East Park Reservoir. Based on this evidence, it is likely that lynx historically occurred in the project area.

Even though both the Utah Division of Wildlife Resources and the Forest Service have done track surveys, no confirmed reports of lynx or lynx tracks exist since 1980, (Ashley National Forest unpublished data). A few people report seeing a lynx each year. Due to the difficulty of separating lynx and bobcat based on brief field observations or tracks (Zielinski and Kucera 1995; McKelvey et al. 1999a) the credibility of these reports is unknown. Surveys designed to collect physical evidence of lynx (e.g., photographs or hair samples) are the only reliable way to verify presence of the species (McKelvey et al. 1999a). A survey grid consisting of 125 hair snares was set out and monitored on the north slope of the Uinta Mountains during September and October from 1999 thru 2001 (Ashley National Forest unpublished data). A total of 24 hair samples were obtained from this grid. Laboratory analysis showed that none were from Canada lynx (Ashley National Forest, unpublished data).

The primary forest types used by lynx in the western United States are lodgepole pine, Engelmann spruce and subalpine fir (Agee 1999; McKelvey et al. 1999b; Squires and Laurion 1999). The forest cover should consist of a variety of stands ages and structures in order to provide both denning and foraging habitat. Climax stands of lodgepole pine do not supply habitat for lynx (Ruediger et al. 2000). Persistent climax stands are found in the Windy, Road 57, and the Center sales.

Foraging habitat for lynx has typically been described in terms of suitability for their primary prey, snowshoe hares. Hares have been shown to use young conifer stands that are densely stacked with seedlings or saplings tall enough to provide browse for

snowshoe hares above the typical winter snow depth (Koehler and Brittell 1990). Hodges (1999) reviewed snowshoe hare ecology in southern boreal and montane forest and found that hare occurrence was correlated with horizontal understory cover from approximately 1 to 3 meters (3 to 9 feet) in height. The density of stems and lateral cover seemed to be more important than the species composition of stands used by hares (Hodges 1999). However, McKelvey et al. (1999b) noted that lynx strongly selected for lodgepole pine stands in north central Washington, and attributed that finding to the higher hare abundance in lodgepole versus other available habitat types. Buskirk et al. (1999) suggested that snowshoe hare abundance should be high in both sapling stands and old “gap phase” forests, where tree mortality and snag loss created gaps in the canopy that allowed increased understory production. Gap-phase forest would also provide habitat for red squirrels, an alternate prey species used by lynx (Buskirk et al. 1999). Thus foraging habitat may be defined as either sapling or old forest structures with high densities of small diameter woody stems 1 to 3 meters tall (3 to 9 feet).

Denning habitat is defined by the presence of understory structures that provide security and cover for kittens. Suitable understory structures are often found in mature and old forest structures with substantial amounts of large woody debris; however, it may also be provided by early successional forests where windthrow and snags are present (Aubry et al. 1999). In 2003, Colorado researchers found six active dens with a total of 16 kittens. These animals are part of the reintroduction program in that state. Every den was located in upper elevations (10,360 to 11,670 feet) and all were in Engelmann spruce/subalpine fir forests in areas of extensive downfall (Shenk 2003).

Other forest structural stages, such as closed-canopy mid-age to mature forests with little understory cover, are generally not selected for either foraging or denning but may serve as “travel habitat” (Koehler and Brittell 1990). Recent clearcuts which are more than 100 meters wide may be avoided by lynx due to the lack of cover (Koehler 1990), and may not be recolonized by prey species (primarily snowshoe hares) until as much as 20 to 25 years post-harvest (Koehler and Brittell 1990).

The Trout Slope West project area is dominated by lodgepole pine and mixed lodgepole/Engelmann spruce/subalpine fir stands. Due to the high percentage of beetle-killed trees in the project area, many stands with a mature tree component also have large amounts of coarse woody debris and a dense understory of young trees. Such stands fit the definition of “gap-phase forests” given above, and therefore provide both foraging and denning habitat for lynx. These stands occur over about 49% of the landscape, VSS classes 4b, 5 and 6 in Figure 3-2. Young to mid-aged stands, VSS3 and 4a, trees with diameters ranging from about 3 to 8 inches and typically 40 plus years old; (see Trout Slope Landscape Assessment) occupy about 17% of the landscape. These stands may be used as traveling habitat, but lack the complex understories that seems to attract lynx. The other 29% of the landscape consists of clearcuts ranging from 6 to 57 years of age, with most falling between 15 to 20 years. The utility of these clearcuts to lynx depends on the height and density of the young trees that have reoccupied the site. Some of these clearcuts have not regenerated to conditions that provide optimum snowshoe hare habitat, but some are trending toward

those conditions as the trees continue to grow over time. It should be noted however, that some of these sites are not capable of providing the tree densities that are required for quality snowshoe hare habitat.

Presently, snowshoe hares occur throughout the project area, and survey data suggest hare densities are higher on the western half of the project area than elsewhere on the Vernal Ranger District (Ashley National Forest, unpublished data).

The *Lynx Conservation Assessment and Strategy* (LCAS) is a plan that was developed to provide a consistent and effective approach to conserve Canada lynx on federal lands in the conterminous United States. It provides guidelines and standards that, if followed, would provide a mechanism that could eventually lead to the de-listing of the lynx. Some of these standards were developed for timber harvesting practices and are meant to preserve an array of habitat that are used by lynx. Two of the standards that are most relevant to the proposed action are:

- 1) Allow no more than 30% of a Lynx Analysis Unit (LAU) to become unsuitable at any one time, and
- 2) Allow no more than 15% of an LAU to become unsuitable in any given 10-year period.

The Trout Slope West project area falls within three (LAUs). An LAU is defined along a subwatershed area and generally approximates the home range size of a mature female lynx. Portions of Big Brush Creek-Little Brush Creek (BC), Carter Creek (CC) and Upper Ashley Creek (UAC) LAUs are located within the proposed project (see Map 9). About 5.2% of BC, 22.2% of CC and 17.7% of UAC have become unsuitable from forest management practices, primarily within the last 20 to 25 years.

Within the last 10 years, 4.2% of BC, 1.0% of CC, and 2.4% of UAC LAUs have become unsuitable for lynx habitat.

Table 3-12. Total habitat disturbance by LAU over last 30 years.

LAU	ACRES	LYNX HABITAT ACRES	LYNX HABITAT ACRES IN PROPOSED ACTION AREA	PAST HARVESTING ACTIVITY WITHIN LAU	TOTAL HARVESTING DISTURBANCE WITHIN LAU INCLUDING PROPOSED ACTION	% TOTAL DISTURBANCE OF PRIMARY HABITAT AREA IN LAU
CARTER CREEK	46,173	37,511	182	4,237	4,419	9.6%
		37,511				
BIG BRUSH CREEK/ LITTLE BRUSH CREEK	28,323	28,323	246	6,276	6,522	23.0%
		28,324				
UPPER ASHLEY CREEK	34,629	30,530	1,638	6,154	7,792	25.5%
		30,530				

Table 3-13. Potential disturbance within LAUs within the last 10 years, including proposed action area.

LAU	ACRES	PROPOSED ACTION ACRES IN LAU	TIMBER HARVEST RELATED DISTURBANCE ACRES SINCE 1994	TOTAL HARVESTING DISTURBANCE AREA POTENTIAL WITHIN 10 YEARS	% 10 YEAR DISTURBANCE AREA OF TOTAL LAU AREA
CARTER CREEK	46,173	182	448	630	1.4%
BIG BRUSH CREEK/LITTLE BRUSH CREEK	28,323	246	1,211	1,457	5.1%
UPPER ASHLEY CREEK	34,629	1,638	834	2,472	7.1%

*ALL PROPOSED ACTION AREA WAS CONSIDERED 'DISTURBANCE ACRES' FOR THE ANALYSIS PRESENTED IN TABLE 3-13. THIS IS A CONSERVATIVE APPROACH BECAUSE NOT ALL OF THE ACRES WITHIN THE PROPOSED TREATMENT AREA WOULD BE IMPACTED BY LOGGING ACTIVITY.

The majority of Area 1 (Windy sale and Road 57 sale) and Area 2 Center sale are persistent climax stands of lodgepole pine. As stated earlier, these stands do not

provide quality foraging or denning habitat for lynx or their prey base. In areas where beetle killed trees have fallen and the canopy has opened there may be isolated pockets that may provide some foraging and denning opportunities. They also may provide limited quality travel corridors.

The northern one-third of the Area 1 Lost sale, and most of Area 3 is higher quality habitat because of the composition of old growth that includes a spruce/fir component. There is more quality denning habitat in this area that has accumulated from the falling of dead trees and blowdown of older large trees. The checkerboard of past clearcuts, intermixed within the old growth, is regenerating to the point that it is supplying foraging habitat (dense sapling stands with a height between 3 to 9 feet) for snowshoe hares. Additionally, there appears to be higher density of red squirrels than in the rest of the project area. Because of its relative remoteness, there is much less human intrusion than the lower elevation areas of the proposed project.

Bald Eagle

The bald eagle is a common winter visitor to the Ashley National Forest. There have been documented summer sightings. The latest sighting of a single bald eagle was at East Park Reservoir in the late summer of 2003; however, no nest was located. No nesting has been documented on the Forest. The project area contains a relatively high amount of visitor and administrative use. There have been no reports from either the public or Forest Service personnel of any suspected nest sites. This eagle is a highly visible bird and is attracted to large areas of open water or stream courses. These areas are some of the most highly visited sites on the Forest and it is unlikely that nesting eagles would be undetected. Therefore it is the judgment of the Forest Service that nesting in the project area has not previously occurred.

Wintering bald eagles perch and forage throughout the length of the Flaming Gorge Reservoir and the Green River corridor. They may feed on carrion found along roadsides that may attract bald eagles to the project area.

Habitat needs for wintering bald eagles in Utah include a combination of nighttime roosts, scattered perch sites, and an adequate prey base. Typical roost sites are generally found in deciduous and coniferous stands along rivers, lakes, or along drainages or draws up to several miles from daytime perch sites. Prey species consists of waterfowl, small mammals, fish, and carrion (NatureServe 2003).

Forest Service Sensitive Species

Appendix B, Table B-2 lists the sensitive species that are known or suspected to occur on the Ashley National Forest and the habitats typically used by each species. Only four species (great gray owl, boreal owl, northern goshawk, three-toed woodpecker) use mixed conifer and lodgepole pine habitats in the project area.

Great Gray Owl

Great gray owls have been detected during calling surveys in the Uinta Mountains on several occasions (Ashley National Forest unpub. data). There are two, possibly three, recent locations and one historic record on the Ashley National forest, all in mixed conifer. The Uinta Mountains are at or just beyond the southern limit of the great gray owls' normal range, therefore they are considered casual or irregular in Utah (Behle 1981). A statewide bird distribution study listed the great gray owl as an "accidental" species (meaning it was considered outside its normal range) in extreme northern and northern eastern Utah. The Utah Partners in Flight Conservation Strategy (Parrish et al. 2002) did not include this species in the list of 231 species of native birds that breed in Utah. It is therefore likely that the detections made during Forest Service surveys represent dispersing individuals rather than a resident population. If so, this owl may be present in suitable habitat in some years and absent in others, depending on conditions in more northerly portions of its range.

In the southern portion of their range, great gray owls nest in relatively dry coniferous or mixed deciduous/coniferous forests, especially Douglas-fir, lodgepole pine, and aspen (Duncan and Hayward 1994). Detections on the Ashley National Forest show they will also use mixed lodgepole pine, Engelmann spruce, and subalpine fir forests for nesting and foraging (see Appendix B, Table B-2). They use old stick nests constructed by other species and depressions in broken tree tops for nests (Duncan and Hayward 1994). It is possible for great gray owls to occur within the project area, however none were detected during spring surveys in 2003.

Boreal Owl

Boreal owl surveys on the Ashley National forest have detected few individuals. Currently, there is documentation of five boreal owl occurrences on the Ashley National Forest (see Appendix B, Table B-2, Ashley National Forest unpub. data). They are secondary cavity nesters, that need large (13 inch or greater) diameter trees for nesting (Hayward 1994). In the southern portions of their range in North America (Rocky Mountains, Blue Mountains, and Cascades) published research documents boreal owls in subalpine forest habitats characterized largely by subalpine fir, and Engelmann spruce (Hayward 1994). Surveys have been done in the project area but no owls were detected. Although there are large diameter trees that could be suitable for nesting in the project area, no nesting owls have been detected.

Three-toed Woodpecker

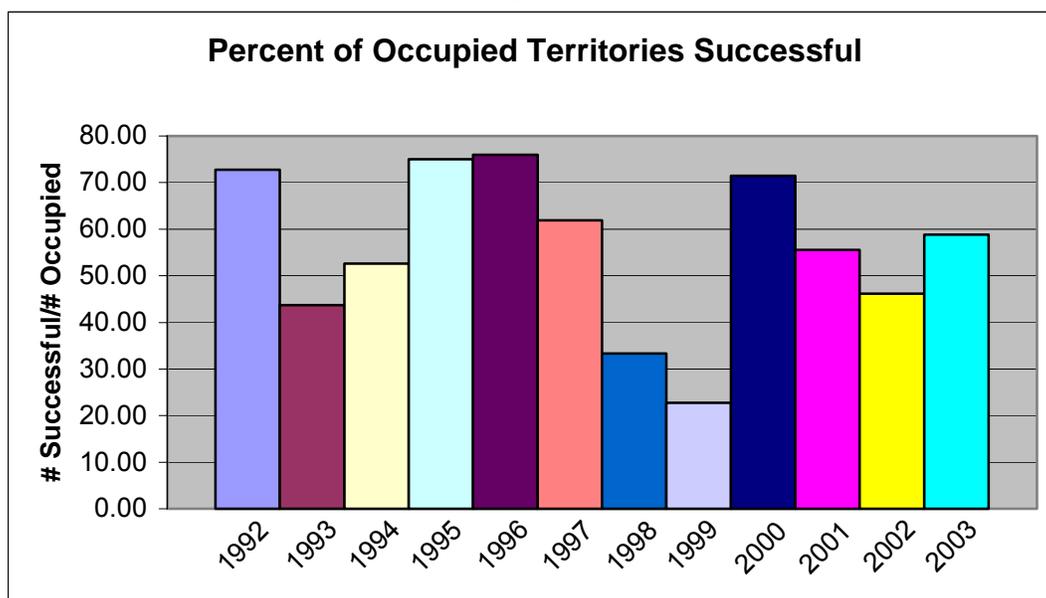
Three-toed woodpeckers are a resident of coniferous forests, especially where fire or insect outbreaks have left large numbers of dead, damaged or diseased trees (DeGraaf et al. 1991). Three-toed woodpeckers also need large diameter (greater than 11 inch dbh) trees for nesting and foraging (Ashley National Forest unpub. data). Past surveys have indicated that three-toed woodpeckers occur throughout the Uintah Mountains. They have been found in lodgepole pine, Douglas-fir, and mixed conifer cover types on the Ashley (Ashley National Forest unpub. data). They use large diameter trees for both nesting and foraging. Surveys have shown that three-toed woodpeckers occur within the project area boundary.

Northern Goshawk

The northern goshawk uses a wide variety of forest types on the Ashley, but the majority of known breeding territories are in lodgepole pine or mixed conifer stands (Ashley National Forest unpub. data). Nest areas contain one or more stands of large, old trees with dense canopy cover. Clumps of large conifer or aspen trees, and high canopy cover with interlocking crowns also provide suitable nesting and foraging habitat (Reynolds et al. 1992). Large trees provide important nesting, denning, and roosting sites for goshawk prey such as tree squirrels, large woodpeckers, and blue grouse. Large trees also provide hunting perches for goshawks (Reynolds et al. 1992). Nests are located near the bottom of moderately steep slopes, benches, and plateaus adjacent to drainages or near other water sources (Graham et al. 1999).

The Ashley National Forest has been conducting goshawk inventory and monitoring surveys since 1992. Figure 3-14 below shows the trend over the last eleven years.

Figure 3-14. Percent of occupied northern goshawk traditional territories that were successful in the Uinta Mountains, 1992-2003.



Of the 13-year total of 236 active nests, 162 (69%) fledged young. Success for occupied territories over the same period averaged 67.7%. Occupancy rate on the Ashley has decreased overall from 1996-1999 (Figures 2 & 3). A large increase occurred in 2000, but then it decreased again. Occupancy has fluctuated since data collection began, however, there is no statistical indication that a trend is apparent (Ashley National Forest data 2003). According to Hoffman and Smith (2003) an ongoing severe drought may be depressing populations rangewide in the interior west.

The treatment areas contain suitable nesting habitat for goshawks. There is a known nest within Treatment Area 2, another nest is ½ mile south/southeast of Treatment Area 1, and one nest is about ¼ mile north of Treatment Area 3. The project area includes foraging, nesting and post fledging habitat for this species.

Flammulated Owl

The flammulated owl is associated with ponderosa pine and/or Douglas-fir forest and have not been found in lodgepole pine or mixed conifer (Ashley National Forest unpub. data). They have been found to nest in aspen dominated forest in northern Utah (Oleyar 2000) but not on the Ashley National Forest. No surveys for the flammulated owl have been done in the proposed treatment area. Based on the lack of habitat within the project area, flammulated owls are unlikely to occur.

Broad-Tailed Hummingbird

In Utah, the primary breeding habitat for broad-tailed hummingbirds is lowland riparian with secondary breeding habitat as mountain riparian. Broad-tailed hummingbirds typically require streamside and riparian areas adjacent to open patches of meadows or grasses with foraging during the early stages of the breeding cycle (Parrish 2003). Broad-tailed humming birds usually nest on low horizontal branches of willow, alder, cottonwood pine, fir, spruce or aspen, and often nests above water. There is suitable habitat within the project area, but buffers will be established along streamsides within the treatment areas preventing harvest of suitable habitat for the broad-tailed hummingbird.

Management Indicator Species

The Ashley National forest has several Management Indicator Species throughout the forest, the northern goshawk, the golden eagle, the red-naped sapsucker, the warbling vireo, the Lincoln's sparrow, the song sparrow, the white-tailed ptarmigan, the greater sage-grouse, elk and mule deer. There are only three species that are indicators for the habitat within the project area, the northern goshawk, elk and mule deer.

Elk and mule deer are listed as management indicator species in the Forest Plan because of their economic importance as hunted species; they are also considered habitat generalists (species not dependent on any specific habitat type). The project

area provides spring, summer, and fall range for elk where the main portion of their diet consists of sedges and grasses and summer range for deer where the main portion of their diet is grasses and forbs. Due to high hunting pressure, hiding cover and access/road management are the most important variable to big game management in this area. Utah Division of Wildlife Resources (UDWR) has a herd size objective for both species. The target herd size on the Ashley National Forest is 48,500 head. The current mule deer herd size estimate is 37,400 head. The elk target herd size objective is 11,100 head. The current elk herd size estimate is 11,360 head. According to the latest published report from the state, extended drought conditions are the primary reason mule deer herds are below the UDWR objective herd size (UDWR 2003).

The northern goshawk is a sensitive and a management indicator species for forested areas and is discussed above.

Birds of Conservation Concern (Migratory Birds)

Section D, item 2, of the of the draft 12/09/02 Memorandum of Understanding between the USDA - Forest Service, USDI - Bureau of Land Management, and USDI - Fish and Wildlife Service provides direction to “avoid or minimize the unintentional take of migratory birds to the extent practicable.” Section D, item 3 provides direction applicable to site-specific actions and directs the responsible official to review the effects of actions on migratory birds prior to approval of a decision/action. Items 3 (a) and (b) clarify the need “to identify if any species of concern are likely to be present in the area of the proposed action” and to “utilize best available demographic, population, or habitat association data in the assessment of impacts to Fish and Wildlife Service Birds of Conservation Concern.” Williamson’s sapsucker is the only migratory species on the Birds of Conservation Concern list within the project area.

Williamson’s sapsucker is associated with montane coniferous forest, especially fir and lodgepole pine. In migration and winter they are also found in lowland forest (NatureServe 2003). In most places aspen snags are preferred over conifer snags for nesting. They forage exclusively on conifer sap and phloem during pre-nestling period and non-breeding season. Their diet shifts to mainly ants after hatching of young. They also may take other insects during breeding season. The Ashley National Forest is within their breeding range. They arrive in the spring and leave in the fall. Breeding Bird Surveys (BBS) have been done on the Ashley National Forest, and have found that the Williamson’s sapsucker is present on the Ashley National Forest.

Utah Partners in Flight Avian Conservation Strategy

The Utah Partners in Flight (PIF) working group recently completed a statewide avian conservation strategy (Parrish et al. 2002). The Conservation Strategy was also used to determine which migratory bird species needed to be reviewed for the proposed project. The Utah Partners in Flight Conservation Strategy (Parrish et al. 2002) has a list of 231 species of native birds that breed in Utah. The strategy identifies 24 bird species that are “priority species” for conservation in Utah due to declining abundance or

distribution, or vulnerability to various local and/or range-wide risk factors. This list of priority bird species is intended to be used as a tool by federal and state agencies in prioritizing bird species that should be considered for conservation action” (Parrish et al. 2002). One application of the strategy and priority list is to give these birds specific consideration when analyzing effects of proposed management actions, and to implement the recommended conservation measures where appropriate. There was only one priority species, the three-toed woodpecker, which is associated with Englemann spruce and lodgepole pine forests (it is discussed in the Sensitive Species Section).

3.7C ENVIRONMENTAL EFFECTS

PROPOSED ACTION

Federally Threatened, Endangered, and Proposed Species

Canada Lynx

Direct Effects (Common to all Areas)

The lynx, if present, may be displaced from the project area from the noise and human activity associated with tree removal. This would continue for the life of the project. The animal could leave the area entirely or occupy undisturbed habitat adjacent to the proposed project. The chances for this to occur are remote because of the lack of evidence that the lynx presently resides in the project area.

Indirect Effects (Common to all Areas)

The proposed action would result in an increase in disturbance to habitat in all three LAUs. The BC LAU would have a total of 5.6%, the CC would increase to 23%, and the UAC would increase to 25.5%. All three would remain below the 30% threshold identified in the LCAS. In addition, 5.1% of CC, 1.4% of CC, and 7.1% of UAC could potentially become unsuitable as lynx habitat within a 10-year period. This figure includes the total acreage in the proposed project. Again, this is below the LCAS standard that requires that no more than 15% of an LAU becomes unsuitable within a ten-year period.

Some of the older clearcuts that were once unsuitable have regenerated to where they now supply some foraging habitat. We used the more conservative measure of assuming that past disturbance is no longer suitable habitat in our percentage calculations. See Table 3-13. However, thinning, and removal of down logs would decrease the quality of thermal cover and denning areas. Additionally, there would be a short-term loss of hare foraging habitat, due to damage to the residual stand during logging operations. There would also be a loss of red squirrel habitat by the removal of trees. This could be partially mitigated by leaving all trees with active nests and a one-tenth acre buffer surrounding the nest tree.

There is a possibility that unforeseen disturbance events, such as wildfire or disease outbreaks, could add to the percentage of unsuitable lynx habitat in the project area. If such an event were to occur, the amount of lynx habitat within the respective LAU and management activities would have to be reevaluated. However, during the next 20 years some of the existing clearcuts may provide marginal lynx foraging habitat, as young trees grow taller. Due to site conditions within the project area such as elevation and land type, immature stands will not reach what is considered optimum densities for snowshoe hare habitat.

Indirect Effects Area 1 (Windy sale, Road 57 sale) and Area 2 (Center sale)

There is the potential to increase the foraging opportunities for snowshoe hare in the long-term in this area, by the opening of the forest canopy from thinning. This would allow more sunlight to reach the forest floor and seedlings, saplings and, shrubs would gain a competitive advantage. The beneficial impacts to lynx are not expected to be large because lynx appear not to occupy pure, or nearly pure, lodgepole stands.

Indirect Effects Area 1 (Lost sale) and Area 3 (Young's Peak, Southside and Long sale)

The impacts to the northern quarter of the Lost Sale are expected to be neutral. No overstory removal is proposed and only the mistletoe infected trees along the edges of the area are proposed for removal. Because of the past harvesting practices and the lack of a large spruce/fir component the lower three fourths is poor quality foraging and denning habitat. Sapling regeneration is occurring in the past clearcuts; however, the adjacent leave strips are too small to provide adequate thermal and hiding cover. There is potential cover in adjacent areas that is outside the proposed forest management area.

Area 3, overall, contains the highest quality habitat in the proposed project location. It contains the highest elevations and the largest proportion of old growth spruce/fir stands.

There would be a short-term loss of hare foraging habitat due to damage to the residual stand during logging operations. It is expected to be higher in these areas because of the difficulty of removing large diameter trees that have fallen. In the long-term, this loss may be off set or conditions improved from present by opening the canopy cover. The removal of the down trees may also reduce the quality of denning habitat. The amount of down woody debris that is required to provide suitable denning habitat has not been quantified and may differ across different forest types. Retention of potential denning sites will be applied to the proposed treatment areas (See Chapter 2, Section 2.2C). This would be a long-term effect and would last until trees mature, die, and fall to the forest floor. There would also be a long-term loss of red squirrel habitat by the select cutting of diseased, but live, trees.

Bald Eagle

No nests have been found in the project area. However, if bald eagles are present in the project area and logging operations are active, they may be displaced. If nesting were to be initiated in the future, timber harvest activities would be halted, a one mile buffer around the nest would be applied, and consultation with the Fish and Wildlife Service would be reinitiated.

If bald eagles are feeding on carrion, they may be temporarily displaced by moving vehicles on log hauling routes. Displacement due to logging activity would not occur between December 20 and May 15 because it would not be permitted during this period. This proposed project may affect, but is not likely to adversely affect the bald eagle.

Forest Sensitive Species

Direct/Indirect Effects (Area 1, 2, and 3)

Great Gray Owl and Boreal Owl

No direct impacts to great gray and boreal owls are expected because they nest in the early spring months when logging operations will not be active. There is potential foraging habitat within the project and treatment areas. Because of small amount of treatment compared to overall habitat quantity present, they would not be impacted.

Three-toed Woodpeckers

Impacts are expected for three-toed woodpeckers. If logging occurs during the courtship nesting and fledging period (May 15 to September 1) several adverse impacts are possible. These include (1) abandonment of nesting territory, (2) abandonment of eggs and/or young, (3) direct destruction of nesting trees with possible loss of eggs or young, and (4) decrease of recruitment (entry of a group of young into the population annually) for the year. These birds are most sensitive to disturbance during courtship through early egg laying. The likelihood of abandonment decreases as the nesting period progresses. After September 1, young have fledged (left the nest), and impacts from logging would no longer occur.

Indirect impacts are also possible. This species requires snags for feeding, perching, nesting and roosting (Utah Partners in Flight 2002). A wide variety of snags are required for drumming (pecking on the trees in order to attract a mate) and nesting (Imbeau 2002). Imbeau recommends that 5 to 10 snags per hectare remain. Thinning would reduce forage and nesting habitat, however sufficient snags would remain after logging to supply sufficient habitat for three-toed woodpeckers. According to the BBS there is no downward trend for three-toed woodpeckers (U.S. Geological Survey 2004). This project may impact individuals but is not likely to cause a trend to federal listing or loss of viability.

Northern Goshawk

Individual goshawks may be impacted but is not likely to cause a trend to federal listing or loss of viability. Management constraints for timber harvesting under “Management Recommendations for the Northern Goshawk in the Southwestern United States” will be followed (see Section 2.2B, Goshawks). This species requires large diameter trees for nesting and foraging (Graham et al. 1999). There is little to no suitable habitat in Area 1 and therefore the proposed project would not reduce the amount of forage or nesting habitat. In Areas 2 and 3 thinning would reduce forage and nesting habitat in the short term. Once the trees increase in diameter and debris and snags accumulate, nesting and foraging habitat could increase. Surveys will be completed before project initiation to determine if any new or previously unknown nests exist in the treatment areas.

Management Indicator Species

Area 1, 2, and 3

Direct impacts are expected for elk and deer. During logging operations they may be displaced from the area. Indirectly they could benefit from thinning, in the long term. The proposed action could increase summer and fall forage, in the form of increased browse and grass species.

The Northern goshawk is described above under Forest Sensitive Species.

Area 1 – Lost Sale

In Area 1, within the proposed lost sale, past forest management practices have eliminated the overstory. Strips of uncut trees, 300 to 500 feet in width, were interspersed in the clearcuts to provide thermal and hiding cover for deer and elk. Removal of these strips would eliminate this habitat. Currently these leave strips have no understory vegetation, or no low branches from existing trees, and provide minimal hiding and thermal cover. The surrounding past clearcuts have not grown to an adequate height (10 to 20 feet). It is estimated that regeneration following treatment will take approximately 30 years to reach adequate heights for thermal and hiding cover (see Section 3.2, Forest Vegetation – Understory).

Positive indirect impacts are expected for elk and deer. It is expected that an additional 40 acres of forage area will be created by overstory removal of these leave strips.

Birds of Conservation Concern (Migratory Birds)

Area 1, 2, and 3

Impacts can be expected for Williamson’s sapsuckers, during logging operation they may be displaced from the treatment areas. If logging occurs during the courtship nesting and fledging period (late May to early August) several adverse effects are possible. These include (1) abandonment of nesting territory, (2) abandonment of eggs

and/or young, (3) direct destruction of nesting trees with possible loss of eggs or young, and (4) decrease of recruitment (entry of a group of young into the population annually) for the year. These birds are most sensitive to disturbance during courtship through early egg laying. The likelihood of abandonment decreases as the nesting period progresses. After September 1, young have fledged (left the nest), and impacts from logging would no longer occur.

This impact is expected to be minimal due to the fact that aspen is their primary choice for nesting, and there is little aspen within the project area (less than 100 acres). According to data compiled from surveys from 1966 to 2002, the North American Breeding Bird Survey shows Williamson's sapsucker in the region to have a slightly negative trend (U.S. Geological Survey 2004), because there is little nesting habitat within the project area, the proposed action should not result in an increase in their current trend. Foraging habitat may be removed from all three treatment areas, but since there is suitable foraging habitat adjacent and within the project area, indirect impacts are not expected to cause an increase in a downward trend for Williamson's sapsucker.

Cumulative Effects/Impacts

Three lynx analysis units (LAUs) for a total of approximately 109,120 acres were used to determine the wildlife cumulative effects analysis area. Federal actions considered for cumulative impact consists of activities that have occurred, are occurring, or are reasonably foreseeable within the cumulative effects boundary. These activities include the timber harvesting, livestock grazing, fuel wood collection, road maintenance, and dispersed recreation (see Section 3.0A).

There have been several past clearcuts and thinning projects on the Vernal Ranger District. In the tables below, past clearcuts are listed within each LAU. These clearcuts and thinned areas currently provide good foraging habitat for elk and deer, as well as for great gray owls. In some areas these past clearcuts have created potential snowshoe hare foraging and cover habitat from the regeneration of saplings.

Past clearcuts have caused fragmentation of habitat for some species. These clearcut areas are unsuitable foraging and nesting habitats for goshawks, as well as three-toed woodpeckers. Some of these clearcuts may still be unsuitable hiding and thermal cover for elk and deer.

Table 3-15. LAU 19 – Upper Ashley Creek. Past and present timber harvests.

LAU	Total Acres	% Timber projects acres within LAU
Timber Projects 1937-1952	652.3	1.9%
Timber Projects 1956-1972	2,048.5	5.9%
Timber Projects 1973-1982	1,402.4	4.0%
Timber Projects 1983-1992	1,073.6	3.1%
Timber Projects 1993-2003	2,557.1	7.4%
Unknown	58.6	0.1%

Table 3-16. LAU 22 – Big Brush Creek, Little Brush Creek. Past and present timber harvests.

LAU	Total Acres	% Timber projects acres within LAU
Timber Projects 1945-1962	381.4	1.3%
Timber Projects 1964-1972	180.5	0.6%
Timber Projects 1974-1982	1,406.3	5.0%
Timber Projects 1983-1992	2,470.0	8.7%
Timber Projects 1993-2003	1,745.9	6.2%
Unknown	338.4	1.2%

Table 3-17. LAU 27 – Carter Creek. Past and present timber harvests.

LAU	Total Acres	% Timber projects acres within LAU
Timber Projects 1969-1972	331.1	0.7%
Timber Projects 1974-1982	472.3	1.0%
Timber Projects 1983-1992	2935.9	6.4%
Timber Projects 1994-2003	680.0	1.5%
Unknown	50.2	0.0%

Within the cumulative effects area, summer grazing by livestock is expected to continue. There are two cattle and three sheep allotments within the cumulative effects area. Cattle and sheep grazing is an historical and ongoing activity occurring from May to October. Cattle grazing can lead to direct competition with elk and mule deer for grass and browse as well as prey species utilized by birds of prey. Monitoring indicates that the current level of utilization is consistent with maintaining suitable habitat for wildlife species analyzed in this EIS (see Project Record).

Personal use firewood cutting is allowed within 100 feet of the Hacking Lake Road. Only downed wood is allowed to be collected from June 1 to December 20. Currently this action has had minimal effect on any of the previously discussed terrestrial wildlife species due to the fact that there is suitable foraging and nesting/denning habitat adjacent to the firewood cutting area. Since this area is already highly used, increases in disturbance to each of these terrestrial species mentioned in this section are not expected.

Ongoing forest based recreational activities associated with the Vernal Ranger District is expected to continue. Most recreational activity occurs during the summer and fall and involves the use of roads and trails in the area along with limited dispersed camping. Recreational activities are expected in association with Utah hunting and fishing seasons. These activities are known to displace wildlife while they are ongoing. This is especially true during the hunting season when these animals are displaced by heightened human activity.

Regular maintenance of hard gravel roads can be expected, and will occur sporadically on other roads and trails. This action would have little effect on any of the wildlife species mentioned in this section because these areas are already highly disturbed areas, and most wildlife species avoid these areas when vehicles are present.

ALTERNATIVE 1 – NO ACTION

Federally Threatened, Endangered, and Proposed Species

Direct/Indirect Effects

Bald eagle

Alternative 1 maintains current habitat trends. Under this alternative, the proposed treatment areas would continue as they are. Therefore no additional direct or indirect affects are expected for bald eagles.

Canada lynx

Alternative 1 maintains current habitat trends. Under this alternative, the proposed treatment areas would continue as they are. Therefore no additional direct or indirect affects are expected for Canada lynx.

Forest Sensitive Species

Direct/Indirect Effects

Alternative 1 maintains current habitat trends. Under this alternative the proposed treatment areas would continue as they are. There are few large diameter trees in the Treatment Area 1, but there are large diameter trees within Area 2 and 3. Large diameter trees are also essential for the boreal, and great gray owl, three-toed woodpeckers, and goshawks for nesting (Hayward 1994; Ashley National Forest unpub. data). Forest types within parts of Treatment Area 1 (Windy Sale, and Road 57 Sale) appears to be suitable foraging habitat for goshawks, boreal owls, and great gray owls, but the chance for them to nest within these treatment areas is low due to lack of large diameter trees. Under the No Action Alternative, it would take a longer period of time if

ever to reach the diameter for quality nesting habitat having an indirect effect to northern goshawks, great gray, and boreal owls, and three-toed woodpeckers. Areas adjacent to Area 1 Lost Sale, and Areas 2 and 3 currently have suitable nesting and foraging habitat for three-toed woodpeckers, goshawks, boreal, and great gray owls. Therefore no direct impacts are expected for northern goshawks, great gray owls, three-toed woodpeckers, and boreal owls within Areas 2, and 3, and Area 1 (Lost Sale).

Management Indicator Species

Direct/Indirect Effects

Alternative 1 maintains current habitat trends. Under this alternative regeneration of trees saplings and understory vegetation will continue in open areas between the proposed treatment areas. The trends within the proposed treatment area stands would remain the same. The trends for foraging habitat quality, thermal, and hiding cover for elk and deer would remain the same.

The goshawk, a MIS for old and mature forests on the Ashley National Forest, was discussed under the Forest Sensitive Species section.

Migratory Birds

This alternative maintains current habitat trend. Under this alternative the proposed treatment areas would continue as they are. Therefore no additional direct or indirect impacts are expected for Williamson's sapsucker.

Cumulative Impacts

Federally Threatened, Endangered, and Proposed Species; Forest Sensitive Species; Management Indicator Species; and Migratory Birds

Alternative 1 maintains current habitat conditions. Under this alternative the trends in the proposed treatment areas would continue as they are. Cumulative impacts are expected to be low to none. Currently cross-country OHV (off-highway vehicles) use is no longer permitted, and grazing has had little to no impacts to three-toed woodpeckers, lynx, northern goshawks, great gray owls, boreal owls, bald eagles, deer, elk, and Williamson's sapsuckers. Past timber sales are regenerating so habitat fragmentation would not increase under the No Action Alternative.

ALTERNATIVE 2 – OPEN PUBLIC ACCESS

Direct/Indirect

Under Alternative 2, effects for each of the species discussed are the same as the Proposed Action with the exception of roads and recreation. There may be a moderate change to existing recreation trends in the proposed treatment area south of the North

Fork Ashley Creek (Area 3). Opening and maintaining these roads at a Level 3 Maintenance classification would increase disturbance to three-toed woodpeckers and goshawks if present. This may result in the bird's leaving the area, which may lead to nest abandonment. Deer and elk would also avoid the areas when people are present. Implementation of this alternative may impact individuals but is not likely to cause a trend to federal listing or loss of viability.

The effects of recreational activities on lynx populations have not been studied. However, limited anecdotal observations do not support the hypotheses that dispersed recreation results in significant behavioral disturbance to lynx (Ruggiero, L. et al, 1999).

In Area 1 and 2, changes to recreational trends may slightly increase disturbance for deer and elk.

Cumulative

Area 1 and 2

Cumulative effects for wildlife are expected to be low to negligible since these areas are already highly used by recreation and management activities. The addition of the proposed distance of new roads is not great enough to cause a negative impact.

Area 3

Opening and maintaining these roads at Level 3 Maintenance classification would increase recreation in these areas. Currently this area is infrequently used and leaving these roads open after timber harvest could increase disturbance to wildlife. Most wildlife species tend to avoid roaded areas. Three-toed woodpeckers, northern goshawks, great gray owls, and boreal owls would avoid these areas due to increase in vehicle traffic. This may cause a reduction in nesting area for each of the species. Implementation of this alternative may impact individuals but is not likely to cause a trend to federal listing or loss of viability.

ALTERNATIVE 3 – TEMPORARY ROADS CLOSED

Direct/Indirect

Under Alternative 3, effects to three-toed woodpeckers, lynx, northern goshawks, great gray owls, boreal owls, bald eagles, deer, elk, and Williamson's sapsuckers would be the same as the proposed action except for road use. The permanent closure of the temporary roads at the cessation of harvesting activity would reduce recreation to non-motorized use and dispersed camping. No additional effects are expected for these species.

Cumulative

Cumulative effects are expected to be the same as the proposed action.

3.8 RECREATION

3.8A SCOPE OF ANALYSIS

This section describes the current condition and the effects of alternative implementation within the North Fork area as related to Recreation, which includes the project area.

3.8B AFFECTED ENVIRONMENT

Constituent Information

Visitors to the area, for the most part, are recreationists, who vary from season to season throughout the year. In the summertime, they drive for pleasure, sightsee, camp, picnic, fish, watch wildlife, mountain bike and 4-wheel drive. Hiking and riding the various trails is popular, and people use the roads and trails that are open for off-highway vehicle (OHV) use. Recreation use for the area has been on a slight decline for the past few years, due to the drought and summer fire restrictions. As weather patterns and fire restrictions change, a slight increase in overall recreation use would be expected.

During the fall, the recreation profile changes to hunting activities from August through November. The hunters make extensive use of the roads and dispersed campsites. Often their campsites consist of large family groups. They use popular sites nestled in the trees and along popular streams. The hunters use this area quite extensively by horseback.

During the winter months and early spring, the area is very popular for snowmobilers and to a lesser degree cross-country skiers. A network of snowmobile trails is groomed each year in the area. The large meadows are used for snowplay and provide access to the popular Leidy Peak and high country.

Most of the use in the area is from local residents of the Uintah Basin and from the Wasatch Front near Salt Lake City, Ogden, and Provo. They often use the area as a destination and will stay up to a week. There is a lot of visitation on the weekends for short durations, such as day use for watching wildlife, sightseeing, fishing, and hunting.

Timber harvest has been an important historical activity since the 1870s. Pat Carrol Park is recorded as the first sawmill site on the Ashley National Forest. Pat Carrol wanted to be ready for the new railroad that would be built into the Uintah Basin, so he cut railroad ties. Recreational firewood cutting and removal has been popular in the area for past several years.

A special use summer home area is located at Oaks Park Reservoir, which is within the analysis area boundary, yet outside of the project area boundary. The Trout Creek

Ranger Station, located at Trout Creek Meadow, is available for public use as a rental cabin throughout the year. This Station is outside of the proposed treatment area.

The Red Cloud Loop Road 10018, a National Forest Scenic Backway cuts through the southeast corner of the analysis area. Other major roads include the East Park Road 10020, North Fork Road 10043, Oaks Park Reservoir Road 10024, Windy Park Road 10545, Center Creek Road 10037, Ranger Peak Road 10057, Soldier Park Road 10038, Highline Timber Road 10675, and Summit Park Road 10026. Other minor roads are situated throughout the area and are associated with past timber harvest activities. All-terrain vehicle (ATV) traffic is permitted only from December 20 through May 15 on Forest Road 10018 and on Forest Road 10043, from the Summit Park Junction to Hacking Lake. Forest Road 10038 is closed to ATV Traffic. Motorized vehicles are restricted to other established, pre-existing routes in place as of the October 8, 2003 Special Order. The Highline Trail is closed to ATV traffic between Summit Park and Trout Creek Peak.

The Carter Military Trail extending from Summit Park, southeasterly to Government Park is a historic military supply line used during the late 18th century, connecting Fort Bridger, Wyoming with Fort Thornburg, near Vernal. It is open for foot and horse travel.

Trails open for foot and horse travel include the Highline Trail 1025, and Pat Carrol Park Trail 1031. Other trails open for foot, horse and OHV use include the Leona Spring-Manila Park Trail 1009, and the Trout Creek Trail 1029.

3.8C ENVIRONMENTAL EFFECTS

PROPOSED ACTION

Public recreation access on temporary roads would be closed to motorized traffic during the project implementation. Motorized traffic would be closed to the public after completion. Access for foot, horse and bicycle traffic would be open. This would result in a net loss in motorized recreation use upon the beginning of project implementation. Some illegal ATV use would occur behind the locked gates after implementation, especially during the big game hunting seasons. Compared with similar situations along the Red Cloud Loop Road and in the Northeast Park area, the illegal use is sporadic and occasional.

There would be less of a hazard for people camping near trees within treatment areas, because of the dead tree removal. There would be fewer dead trees falling across roads and trails within treatment areas, thus making it easier for the public to use the roads and trails. People hiking or riding out through treatment areas would find it easier to get through the trees because of the removal of dead and fallen trees. Hunters would find more openings in the treated areas for longer sight distances. Roads would have a slight improvement in surface condition. A slight increase in overall use would be expected. A slight increase in motorized activity would be anticipated.

There would be more logging truck activity on Forest roads during the lifetime of the project. Forest visitors would notice some additional noise from chainsaws and other equipment activity near treatment areas.

An inventoried roadless area (IRA) is adjacent to and surrounds the project area boundary. This IRA will be evaluated at a future time for its wilderness characteristics. The proposed action identifies three treatment areas within the project area boundary, which are adjacent to the IRA. Noise from chainsaw and equipment operations could be heard from within adjacent areas of the IRA. These effects would be only during the time of operation for each specific treatment area. They would not occur continuously through a five-year timeframe.

ALTERNATIVE 1 – NO ACTION

There would be no change from the existing trends of recreation use. Approximately 6 to 7 miles of temporary roads would remain open to motorized traffic, including 4-wheel drive traffic. Approximately 3 to 4 miles of temporary roads would be open for ATV use.

The dead trees would continue to rot out at the base and fall over in what is called a “jackstrawed” pattern. Campers would use the Forest as they have in the past, experiencing a risk to have a tree fall over as they camp near the tree line and walk through the proposed treatment areas. They would encounter a greater number of fallen trees along roadways, trails and in the forested environment, as the trees rot out at the base and the weakened trees continue to fall over.

There would be no change for effects in the inventoried roadless area.

ALTERNATIVE 2 – OPEN PUBLIC ACCESS

Temporary roads would be closed to the public during project activities. Following sale closures, the roads would be open to motorized traffic and all forms of public access. This would result in a slight to moderate increase in overall recreational use from Alternative 1. A moderate increase in motorized activity would be anticipated, because of the additional available roads. There is the potential for increased illegal off-road travel in Area 3 due to improved access across the North Fork Ashley Creek.

ALTERNATIVE 3 – TEMPORARY ROADS CLOSED

Temporary roads would be closed during project activities and permanently closed following sale closures. This would result in a net loss in motorized recreation use upon the beginning of project implementation. Some illegal ATV use would occur behind the locked gates after implementation, especially during the big game hunting seasons. Compared with similar situations along the Red Cloud Loop Road and in the Northeast Park area, the illegal use is sporadic and occasional.

CUMULATIVE EFFECTS

Proposed Action This would lead to an overall net loss in access by motorized traffic. This is similar to other closures along Red Cloud Loop Road and Northeast Park area.

Alternative 1 No cumulative effects anticipated.

Alternative 2 A slight to moderate increase in overall recreation use and increased potential for illegal off-road travel in the long-term.

Alternative 3 Same as Proposed Action Alternative.

3.9 VISUAL AND SCENIC INTEGRITY

3.9A SCOPE OF ANALYSIS

This section describes the current condition and the effects of alternative implementation within the North Fork Area as related to visual and scenic integrity, which includes the project area.

3.9B AFFECTED ENVIRONMENT

Landscape Character

The Trout Slope West area includes essentially the surrounding drainage areas for the North Fork of Ashley Creek and Trout Creek. This whole area could be described as long sweeping alpine meadows, surrounded with large stands of lodgepole and fir. Prominent rolling mountainous peaks stick out in the background, some of which extend above timberline. Clear streams cut through the meadows and offer the water necessary for nearby willows and lush green grasses.

Scenic Integrity

Scenic Integrity is high, with the streams, meadows and peaks as dominant natural features for the casual visitor. Hacking Lake, Long Park Reservoir, and the Potholes add interest as to the flat water element, but one has to leave the beaten path to experience these features. Vegetative patterns appear intact from the main traveled routes. As the public visits the area, they will see past timber sales in varying degrees of regeneration. The vegetative patterns seem to appear from a distance as a part of the characteristic landscape. The high occurrence of dead trees within the landscape causes concern to the general public, who visit the area. The dead trees detract from the high scenic integrity for the area. They are seen from a short distance as individual trees, yet from a distance as a grayish coloration, detracting from the normal green color of the coniferous forest.

Visual Quality Objectives (VQO)

The visual quality objectives prepared for the Ashley National Forest Land and Resource Management Plan include varying VQOs for the project area. Most of the project area falls within the Partial Retention category, with a few areas designated as Modification.

The VQOs are a visual measure of standard for management activities on Forest System Lands. The Partial Retention VQO provides for management activities to remain visually subordinate to the characteristic landscape. The Modification VQO provides for management activities to dominate the original characteristic landscape and must appear as a natural occurrence (USDA Forest Service Handbook #462).

An additional short-term management goal, not identified in the Forest Plan is the “Rehabilitation” objective. It is used to upgrade landscapes containing visual impacts, which do not meet the quality objectives set for a particular area. (Ibid. p. 40).

3.9C ENVIRONMENTAL EFFECTS

PROPOSED ACTION

The proposal includes a variety of activities for the treatment of dead, dying trees, thinning, and overstory removal. These treatments are in areas alongside popular roadways and also further back in the forested environment. They are in large, adjacent to or overlapping old timber sales. The proposal would be consistent with predetermined VQOs for the area. As important, the proposal would also be consistent with the Rehabilitation objective, because it would provide for the removal of many dead and dying trees and allow for new young growth and vegetative diversity.

ALTERNATIVE 1 – NO ACTION

There would be no change from the existing situation. The dead trees in the potential treatment areas would remain visible to the recreating public.

ALTERNATIVE 2 – OPEN PUBLIC ACCESS

The effects would be the same as for the Proposed Action Alternative, except the public would have a greater opportunity for driving for pleasure and viewing scenery because of more accessible roads.

ALTERNATIVE 3 – TEMPORARY ROADS CLOSED

The effects would be the same as the Proposed Action Alternative.

CUMULATIVE EFFECTS

No cumulative effects are anticipated.

3.10 CULTURAL RESOURCES

A cultural resources survey was conducted within the proposed treatment areas in July 2003. This survey, combined with surveys of past harvesting activities has resulted in the preparation of a consultation report sent to the Utah State Historic Preservation Office (SHPO) on October 21, 2003. In a letter dated December 12, 2003, Utah SHPO concurred with the reports recommendation of No Historic Properties Affected. The Heritage report and the Utah SHPO letter of concurrence are included in the project record. All sites of historical significance, if identified, will be protected.

3.11 SOCIO/ECONOMIC ANALYSIS

3.11A SCOPE OF ANALYSIS

Social

The majority of the active timber purchasers of timber sales offered by the Ashley National Forest are based in Duchesne and Uintah counties, Utah. These counties are grouped with Daggett County, Utah, into the Uinta Basin Multi-County District (MCD). An MCD is a planning group of counties with similar economies, cultural, and geographic attributes. The following analysis will focus on the Uintah Basin MCD since purchasers within this group represent 85% of all active timber purchasers on the Ashley National Forest.

Table 3-18. Active timber purchasers by county where business is based, Ashley National Forest, 2003.

COUNTY	NUMBER OF TIMBER PURCHASERS	% OF TIMBER PURCHASERS BY COUNTY
UINTAH, UT	18	66.7%
DUCHESNE, UT	4	14.8%
DAGGETT, UT	1	3.7%
SUMMIT, UT	1	3.7%
SWEETWATER, WY	1	3.7%
UINTA, WY	1	3.7%
WASATCH, UT	1	3.7%
TOTALS	27	100.0%

Source: Ashley National Forest, 2003

Economic

The economic analysis discusses estimates of net costs/benefits, total revenue generated by the project, and revenue generated for local counties.

3.11B AFFECTED ENVIRONMENT

The Uintah Basin MCD has an estimated 2003 total population (all age classes) of 42,241 people living in 13,971 households. Total employment is 21,799 workers. Uintah County contains the greatest 2003 population of this MCD, 26,378 total people. The total 2003 populations for Duchesne and Daggett counties are 14,906, and 957 respectively. (State of Utah (a)).

The forestry and logging industry in the Uintah MCD is a minor component of the tri-county economies. In 2001 there were a total of five logging businesses with a combined total annual payroll of \$417,000 (see Table 3-20). The total 2001 annual payroll for all Uintah MCD industries is \$508,092,000 (U.S. Department of Commerce, U.S. Census Bureau). Workers in the forestry and logging industry were estimated to total 32 employees (see Table 3-19). This labor force represents less than 0.2% of the overall civilian labor force and 1.1% of the agriculture industry (forestry and logging employment statistics are subsets of the data for the agricultural industry).

Table 3-19. Number of Employees by Major Industry and for the Forestry and Logging Industry for the Uintah Basin Multi-County District (MCD), 2001.

COUNTY	CIVILIAN WORK FORCE	WORK FORCE BY MAJOR INDUSTRY - AGRICULTURE	WORK FORCE BY INDUSTRY - FORESTRY AND LOGGING
DAGGETT, UT	413	76	0
DUCHESNE, UT	5,928	920	7
UINTAH, UT	11,147	1,850	25
TOTALS	17,488	2,846	32

Source: U.S. Department of Commerce, U.S. Census Bureau.

Note: The work force totals presented for the forestry and logging industry for Duchesne County are presented under the Forestry, fishing, hunting, and agriculture support category. Further classification for the forestry and logging industry is withheld to avoid disclosing data for individual companies.

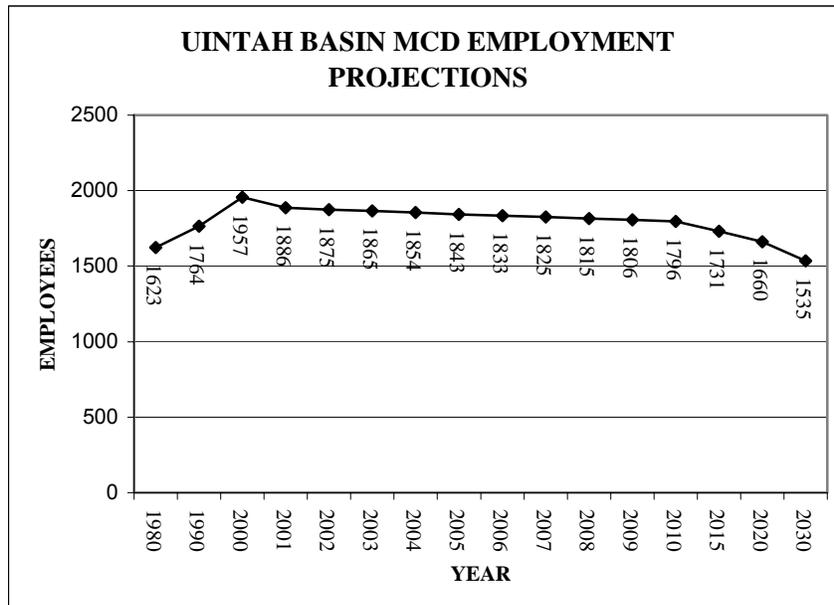
Table 3-20. Number of Logging Businesses by Employee Size-Class for the Uintah Basin Multi-County District (MCD), 2001.

COUNTY	TOTAL ESTABLISHMENTS	NUMBER OF ESTABLISHMENTS BY EMPLOYMENT SIZE-CLASS			ANNUAL PAYROLL
		1-4	5-9	10-19	
DAGGETT	0	0	0	0	\$0.00
DUCHESNE	1	1	0	0	\$92,000.00
UINTAH	4	2	1	1	\$325,000.00
TOTALS	5	3	1	1	\$417,000.00

Source: U.S. Department of Commerce, Census Bureau.

Economic projections are available for major industries in the State of Utah (See Figure 3-21). Employment in the agriculture industry peaked in 2000 at 1,957 employees. Projections indicate that the employment level in this industry will slowly decline. Although the industry will remain stable between 2003 and 2010, the total employees in this industry will decline to 1,535 employees by 2030. No projected year shows an increase in agricultural employees. Trends for the agricultural suggest that, at best, the forestry and logging industry may remain stable, but increases in employment and production are unlikely.

Figure 3-21. Employment Projections for the Agriculture Industry, Uintah Basin Multi-County District (MCD).



Source: State of Utah (b).

3.11C ENVIRONMENTAL EFFECTS

There are no irretrievable or irreversible social or economic effects related to the Proposed Action or any alternatives. No indirect effects were identified for the Proposed Action or any alternative.

EFFECTS COMMON TO THE PROPOSED ACTION AND ALTERNATIVES 2 AND 3

Social

Direct effects of the Proposed Action and Alternatives 2 and 3 would include more timber sales on the market for a minimum of three years. This will help sustain the small forestry and logging industry in the Uintah Basin MCD over the next several years. It is unlikely that the timber volume (9 million board feet estimated) that will be offered for sale from the Trout Slope West Timber Project will stimulate more jobs. The cumulative effect of the Ashley National Forest offering a continuous supply of wood products for sale will encourage the existing forestry and logging businesses to continue to produce forest products and provide employment for existing employees.

Economic

Timber sales offered in connection with any approved activity would be below cost sales (the cost of sale preparation including the EIS, sale administration, monitoring, noxious weed control, etc. would exceed the revenue generated). The revenue generated by the project based on current standard timber rates is estimated to be approximately \$750,000. A portion of this revenue would contribute to the annual allocation of revenue to local counties. A detailed analysis of cost and revenues is provided in the Project Record.

ALTERNATIVE 1 – NO ACTION

The direct effect of the No Action Alternative will be a decline in production and employment in the forestry and logging industry in the short-term. This decline will exceed the employment trend predicted by the State of Utah Governor's Office of Planning and Budget for the agriculture industry.

3.12 ENVIRONMENTAL JUSTICE

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and Departmental Regulation 5600-2 direct federal agencies to integrate environmental justice considerations into federal programs and activities. Environmental justice means that, to the greatest extent practicable and permitted by law, all populations are provided the opportunity to comment before decisions are rendered on, are allowed to share in the benefits of, are not excluded from, and are not affected in a disproportionately high and adverse manner by, government programs and activities affecting human health or the environment.

Implementation of any of the alternatives will be consistent with this Order and will not have a discernible effect on minorities, American Indians, women, or the civil rights of any United States Citizen. Nor will it have a disproportionate adverse impact on minorities or low-income individuals. No civil liberties will be affected. Public involvement and comment was sought and incorporated into this document. The Forest Service has considered all public input from individuals or groups regardless of age, race, income status, gender, or other social/economic characteristics. (See project record – scoping letters).

Executive Order 12898 also directs agencies to consider patterns of subsistence hunting and fishing when an agency action may affect fish or wildlife. While the decision resulting from this analysis may alter the amount of access in the project area provided by the Ashley National Forest, the decision would not alter opportunities for subsistence hunting by Native American tribes. Native American tribes holding treaty rights for hunting and fishing on the Ashley National Forest were provided an opportunity to comment on the proposal. (See project record – scoping letters)

Based on experience with similar projects on the Vernal Ranger District, none of the alternatives would substantially affect minority or low-income individuals, women, or civil rights. The implementation of this project is expected to provide job opportunities in the tri-county area (See Socio-Economics Section 3.11). Some of these communities include minority populations that may benefit from the economic effects. Small or minority-owned businesses would have the opportunity to compete for some of the work.

3.13 OTHER REQUIRED DISCLOSURES

NEPA at 40 CFR 1502.25(a) directs “to the fullest extent possible, agencies shall prepare environmental impact statements concurrently with and integrated with ...other environmental review laws and executive orders.”

The Forest Service has consulted with the following agencies listed below as required under the following Acts and laws:

- Utah State Historic Preservation Office (SHPO) in accordance with the State National Historic Preservation Act for causing ground disturbing actions in historical places;
- U.S. Fish and Wildlife Service in accordance with the Endangered Species Act implementing regulations for projects with threatened or endangered species.

CHAPTER 4.0 CONSULTATION AND COORDINATION

4.1 PREPARERS AND CONTRIBUTORS

The Forest Service consulted the following individuals, Federal, state and local agencies, tribes and non-Forest Service persons during the development of this environmental impact statement:

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State of Utah, Department of Community and Economic Development, Division of State History/Utah State Historical Society, Salt Lake City, UT

U.S. Department of Agriculture, Forest Service, Forest Health Protection, Ogden, UT

4.2 DISTRIBUTION OF THE ENVIRONMENTAL IMPACT STATEMENT

This environmental impact statement has been distributed to individuals who specifically requested a copy of the document. In addition, copies have been sent to the following Federal agencies, federally recognized tribes, State and local governments, and organizations representing a wide range of views regarding timber harvest.

Individuals

Megan Barker, Logan, UT
Lynette Brooks, Sandy, UT
Vince Desimone, Park City, UT
Sean Kearney, Fresno, CA
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Stacey Williams, Dutch John, UT

Federal Agencies

U.S. Department of Defense, Department of the Army, U.S. Army Corps of Engineers, Colorado/Gunnison Basin Regulatory Office, Grand Junction, CO

U.S. Department of Interior, Fish & Wildlife Service, Utah Field Office, West Valley City, UT

U.S. Environmental Protection Agency, Region 8, Office of Ecosystems Protection, Denver, CO

Organizations

High Uintas Preservation Council, Hyrum, UT
Utah Environmental Congress, Salt Lake City, UT

State, County, and City Government

Daggett County Commission, Manila, UT
Uintah County Commission, Vernal, UT

Business and Industry

Louisiana Pacific Corporation, Rigby, ID
Simper Lumber, Vernal, UT

APPENDIX A – REFERENCES

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APPENDIX B – THREATENED, ENDANGERED, AND SENSITIVE WILDLIFE SPECIES AND MANAGEMENT INDICATOR SPECIES

TABLE B-1. Federally threatened (T), endangered (E), and proposed (P) species occurring in Uintah County, Utah (USFWS 2002), and Forest Service sensitive (S) species, management indicator (MI) species, and Migratory Birds (M) species occurring on the Ashley National Forest and their likelihood of occurrence in the Trout Slope West proposal area.

Species	Status	Occurrence	Basis for occurrence determination
Elk and mule deer	MI	Present	Frequently observed in area
Northern goshawk	S, MI	Possible/Present	Suitable habitat exists; known to occur nearby
Three-toed woodpecker	S	Present	Suitable habitat exists; known to occur on Ashley
Red-naped sapsucker and warbling vireo	MI	Not expected	Indicator habitat (monotypic aspen stands) not present.
Flammulated owl	S, M	Not expected	No suitable habitat exists; known to occur on Ashley
Canada lynx	T	Possible	Potential habitat; within historic range but no recent sightings
Great gray owl	S	Possible	Suitable habitat exists, but Uinta Mountains are near the southern limit of range and it may not be resident in Utah
Golden eagle	MI, M	Unlikely	Occasionally observed along Highway 191; indicator habitat (cliffs) not present in project area
Wolverine	S	Unlikely	Potential habitat, but no confirmed occurrences in Utah since 1924
Boreal owl	S	Probable	Suitable habitat exists
Bald eagle	T	Not expected	Occasionally seen in open country in fall/winter, usually near open water; no suitable habitat in project area
Lincoln's and song sparrows	MI	Not expected	Indicator habitat (riparian shrubs) not present
Peregrine falcon	S, M	Not expected	No sightings, no suitable cliff habitat
Spotted bat	S	Not expected	Outside normal elevation range of the species; lack of roosting habitat
Townsend's big-eared bat	S	Not expected	Outside normal elevation range of the species; lack of roosting habitat
Common loon	S	Not expected	Only Ashley occurrences are on Green River corridor during migration (outside of project area)
Trumpeter swan	S	Not expected	Only Ashley occurrences are on Green River corridor during migration (outside of project area)

Species	Status	Occurrence	Basis for occurrence determination
Whooping crane	E	Not expected	Only Ashley occurrences are along Green River corridor during migration (outside of project area)
Mexican spotted owl	T	Not expected	Preferred habitat types not present; outside known distribution of this species
Sage grouse	MI	Not expected	Indicator habitat (sagebrush/grassland) not present
White-tailed ptarmigan	MI	Not expected	Indicator habitat (alpine meadow) not present
Mountain plover	PT, M	Not expected	No suitable habitat
Black-footed ferret	E	Not expected	No suitable habitat
Southwestern willow flycatcher	E	Not expected	No suitable habitat; outside known distribution of this subspecies
Northern Harrier	M	Not expected	No suitable habitat
Swainson's Hawk	M	Not expected	No suitable habitat
Ferruginous Hawk	M	Not expected	No suitable habitat
Prairie Falcon	M	Not expected	No suitable habitat
Gunnison Sage Grouse	M	Not expected	No suitable habitat
Snowy Plover	M	Not expected	No suitable habitat
Solitary Sandpiper	M	Not expected	No suitable habitat
Marbled Godwit	M	Not expected	No suitable habitat
Wilson's Phalarope	M	Not expected	No suitable habitat
Burrowing Owl	M	Not expected	No suitable habitat
Short-eared Owl	M	Not expected	No suitable habitat
Black Swift	M	Not expected	No suitable habitat
Lewis's Woodpecker	M	Not expected	No suitable habitat
Williamson's Sapsucker	M	Possible	Suitable habitat exists; known to occur on Ashley
Gray Vireo	M	Not expected	No suitable habitat
Pinyon Jay	M	Not expected	No suitable habitat
Bendire's Thrasher	M	Not expected	No suitable habitat
Crissal Thrasher	M	Not expected	No suitable habitat
Sprague's Pipit	M	Not expected	No suitable habitat
Virginia's Warbler	M	Not expected	No suitable habitat
Black-throated Gray Warbler	M	Not expected	No suitable habitat
Grace's Warbler	M	Not expected	No suitable habitat
Sage Sparrow	M	Not expected	No suitable habitat
Chestnut-collared Longspur	M	Not expected	No suitable habitat
Broad-tailed hummingbird	M	Possible	Suitable habitat exists

Table B-2. Sensitive Wildlife Species of the Ashley National Forest

Species	Status	Habitat Use and Local Distribution	References
Peregrine falcon	S	Known to nest on cliffs along Flaming Gorge Reservoir; sightings and one confirmed nest in canyons in the Stream Canyon and Glacial Canyon Landtype Associations. Usually found where rivers, marshes or other wet habitats are associated with cliffs, so the canyon landtype associations are the most likely sites outside of Flaming Gorge Reservoir.	Ashley NF wildlife surveys/sighting records
Spotted bat	S	Various habitats and elevations, but most often collected in dry, rough desert terrain. Distribution thought to be limited by availability of roosts (primarily under loose rock or in crevices in rock cliffs). On the south slope of the Uintas, they have been located near steep-walled stream canyons such as Ashley Creek, Black Canyon and Brush Creek. There was also one location on the South Unit in pinyon/juniperper/sage at 7,400 feet.	Watkins 1977 Lengas 1994 Oliver 2000 Perkins 2001
Townsend's big-eared bat	S	Various habitats and elevations, but in Utah primarily found in shrub steppe and pinyon/juniper habitats. Needs caves or mines for hibernation and maternity roosts; occasionally uses old buildings. Sensitive to disturbance at these roosts. Have been located in two caves on the Ashley. Limestone Hills, Limestone Plateau and various canyon landtype associations contain most of the suitable habitat on the Ashley, since they have rock formations that are likely to contain caves.	Kunz and Martin 1982 Ashley NF cave survey data Oliver 2000
Boreal owl	S	Spruce/fir or mixed conifer forest*; may use aspen if suitable conifer is nearby. Possible but unlikely in pure lodgepole. Secondary cavity nester; needs large (13"+) diameter trees for nesting. Availability of suitable nest sites can limit population size. Five boreal owls have been located on the Ashley, all in spruce/fir or mixed conifer.	Hayward 1994 Ashley NF survey data
Great gray owl	S	Conifer or conifer/hardwood forests. Two (possibly 3) recent locations and one historic record on Ashley, all in mixed conifer. Uses old stick nests constructed by other species, depressions in broken tops of trees, etc. for nesting. Uinta Mountains are at or just beyond southern limit of normal range; species is considered casual or irregular in Utah.	Behle 1981, Behle et al. 1985 Duncan and Hayward 1994 Ashley NF survey data
Flammulated owl	S	Ponderosa pine or Douglas-fir forests. Has been located in both of these forest types throughout the Ashley; has not been found in lodgepole or mixed conifer. Stream Pediment, Stream Canyon, Glacial Canyon, Limestone Plateau and Limestone Hills Landtype Associations contain nearly all the suitable habitat on the south slope of the Uintas. Secondary cavity nester.	McCallum 1994 Ashley NF survey data
Wolverine	S	Tundra, boreal forests, coniferous forests of western mountains. Needs a diversity of habitats to support its prey base, especially large mammals (scavenged ungulate carrion is an important food source). Habitat may be better defined as large, sparsely inhabited areas with adequate food than by topography or vegetation. Appears to be sensitive to habitat fragmentation and human disturbance; consequently often restricted high elevation, remote portions of mountain ranges. Uinta Mountains, especially the High Uinta Wilderness, appear to contain suitable habitat; however, the last confirmed record of wolverine occurring anywhere in Utah is from 1924 and it may be extirpated from the the state.	UDWR 1998 McKay 1991 Banci 1994
Common loon	S	Flaming Gorge Reservoir during migration	Ashley NF wildlife sighting records
Three-toed woodpecker	S	Coniferous forests, or conifer mixed with aspen. Has been found in lodgepole, Douglas-fir, spruce/fir and mixed conifer on the Ashley. Excavates a new cavity for nesting each year. Forages by prying off loose, scaly tree bark to find insects. Trees used for both nesting and foraging average 11" dbh or more. Management recommendations include maintenance of some snags greater than 12" dbh, and with some bark still present.	Evans and Conner 1979 Thomas et al. 1979 Goggans et al. 1988 Ashley NF survey data
Northern goshawk	S	Most forest types. Uses a wide variety of forest types on the Ashley, but majority of our known breeding territories are in lodgepole or mixed conifer stands, especially in the Trout Slope LTA. Home ranges include a variety of stand ages and structures, but older-age stands with a high density of large trees, relatively high canopy closure and high basal area are preferred for nesting. Stands with large trees and relatively open understories are preferred for foraging. Sensitive to disturbance during the nesting season.	Graham et al. 1999 Rodriguez et al. 1998 Reynolds et al. 1992 Ashley NF survey data
Trumpeter Swan	S	Swans from Wyoming transplant programs have been seen on the Flaming Gorge NRA during the winters of 2000 and 2001. Preferred winter habitats provide ice-free waters with slow currents, extensive beds of aquatic plants, low levels of human disturbance, and few trees or shrubs to obscure their view.	Personal communication with S. Patla, Wyoming Game and Fish; Mitchell 1994; Shea 1995

*Mixed conifer defined as Engelmann spruce, subalpine fir and lodgepole pine on the Ashley.

Table B-3. Listed, proposed and candidate threatened and endangered wildlife species of Daggett, Duchesne and Uintah Counties, Utah.*

Species	Status	Habitat Use and Local Distribution	References
Western Yellow-billed Cuckoo	C	Nests in lowland riparian habitats (typically in cottonwood/willow habitats) with dense understory vegetation, usually within 100 meters of water. In Utah, nesting habitat is thought to occur between 2500 to 6000' elevation. There are no records of occurrence on the Ashley, but suitable habitat may exist in the low elevation portions of stream and glacial canyons where cottonwood trees are found in combination with conifers and aspen.	Parrish et al. 1999
Bald Eagle	T	Winter only; usually near Flaming Gorge Reservoir and Green River corridor; occasionally near other waters until freeze-up	Ashley NF wildlife sighting records
Mexican spotted owl	T	Historic range exists in the BLM-managed Tavaputs Plateau south of the Uintah Basin. One individual heard on nearby Dinosaur National Monument in summer 1996; also located in Desolation Canyon on at least two occasions. Typical habitat on the Colorado Plateau (Utah) and southern Rocky Mountains (Colorado) is steep-sided canyons containing pockets of usually coniferous overstory trees mixed with smaller Gambel oak and box elder trees. In Southern UT owls have not been found above 7200' (cutoff for suitable habitat considered 8000'). Suitable habitat may exist in the Stream Canyon and possibly Glacial Canyon landtype associations. No locations recorded on the Ashley.	pers. comm. with NPS personnel pers. comm. with UDWR personnel USDI Fish + Wildlife Service 1995
Mountain plover	PT	Uses shortgrass prairie over most of its range. In NE Utah, only known population occurs in black sage/shadscale/grass communities between 5000' and 6300' elevation, where plant heights average 3 to 10 inches and prairie dogs are present. Suitable habitat may exist in Gilsonite Draw area of the Duchesne RD (black sage flats and some grassy [burned] swales in landtype 140).	Day 1994 UDWR 1994 DeGraaf et al. 1991
Canada lynx	T	Mesic mid- to high-elevation forests including Engelmann spruce, subalpine fir, lodgepole pine and possibly Douglas-fir. Uses aspen when it is mixed with or adjacent to suitable conifer forests. Needs areas of dense understory cover and/or thickets of young trees for foraging, mature forests with large amounts of coarse woody debris for denning. Abundance and population persistence linked to snowshoe hare populations; red squirrels are secondary prey. Last confirmed occurrence in Uinta Mountains was 1972.	Ruediger et al. 2000 McKay 1991 Koehler and Aubry 1994
Southwestern Willow Flycatcher	E	Nests in swampy thickets, especially of willow but sometimes of other species such as tamarisk, where vegetation is 4 to 7 meters or more in height. Associated with mid- to low-elevation riparian habitats (less than 8500'). Known to occur in extreme southern Utah, may occur along major riparian corridors elsewhere in the state.	NatureServe 2001 UDWR 1998
Black-footed ferret	E	Black-footed ferret distribution is coincident with prairie dog colonies. Habitat is therefore restricted to open or slightly brushy areas at relatively low elevations in the western U.S. An experimental population was recently established in Uintah County southeast of Vernal, UT on lands managed by the BLM; this species does not presently occur anywhere else in Utah. Potential habitat may exist on the Flaming Gorge NRA. No other portions of the Ashley NF appear to be suitable habitat for this species.	UDWR 1996 USDI-BLM 1999

* U.S. Fish and Wildlife Service species and habitat list for Utah, as of August 2002. Terrestrial wildlife species only – see USFWS list for aquatic species and plants

APPENDIX C – PUBLIC COMMENTS, CONTENT ANALYSIS, AND SUMMARY OF COMMENTS AND FOREST SERVICE RESPONSES

The following government agencies, companies, organizations, and individuals sent comment letters to the Ashley National Forest on the Trout Slope West Timber Project Draft Environmental Impact Statement (DEIS), dated February 2004 (12 comment letters were received before the April 12, 2004 deadline):

Federal, State, and Local Government Agencies (3 comment letters)	Businesses and Organizations (3 comment letters)	Individuals (6 comment letters)
4. Uintah County Commission – David Haslem, Jim Abegglen, Michael J. Mckee	1. Utah Environmental Congress and Wildlaw Southwest Offices – Joel Ban	2. Matthew C. Lindon
6. United States Department of the Interior, Office of Environmental Policy and Compliance – Robert F. Stewart, Regional Environmental Officer	7. High Uintas Preservation Council – Dick Carter	3. Margaret Pettis
12. United States Environmental Protection Agency, Office of Ecosystem Protection – Larry Svoboda, Director NEPA Program	8. Western Wood Products, Inc. – Ed Coates	5. David Jorgensen
		9. Jan Ellen Burton
		10. R. Kelly Young
		11. Russell Case
		13. Lynette Brooks
		14. Vince Desimone
		15. B. Sachau

The following pages list written comments received on the Trout Slope West Timber Project DEIS. Each Individual Letter is followed by the Agency's Response. For each letter specific comments were identified and classified by subjects. A list of Content Analysis Codes is provided at the end of this Appendix.

LETTER #1

1-0-1-1

April 12, 2004

George Weldon
Ashley National Forest Supervisor
Attn: Trout Slope West
355 N. Vernal Ave
Vernal, Utah 84078

Dear Mr. Weldon:

These comments are submitted in response to the Draft Environmental Impact Statement for the Trout Slope West Timber Sale, and are being submitted on behalf of the Utah Environmental Congress (UEC) and the Wildlaw Southwest offices. The UEC has been involved in previous scoping for this project and will continue to participate as the project moves through the NEPA process. Please remember to send any and all documents related to the project to our office as they are produced.

The purpose and need of this timber sale is to recover the economic value of dead and live trees that were impacted by a Mountain Pine beetle infestation in the early 1980s. (DEIS, p.20). The project area is located in a section of the Ashley that has already been heavily logged and is characterized by a patchwork of clearcuts. Id.

Under all of the alternatives the Forest Service would rely on temporary roads, and would not be required to build new roads. These roads would be closed to public access during and after harvest, and then added to the Forest road system. (DEIS, p. 24). This proposed use of roads is inconsistent with the definition of a temporary road under federal regulations. Temporary roads are only authorized to be used temporarily, and do not become part of the forest transportation system, which are necessary for long term resource management. 36 C.F.R. §212.1.

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1 We also believe that based on the new use of the so-called 'temporary roads' a roads analysis is warranted. Preparation of such an analysis is warranted pursuant to the Forest Service Manual, "when proposed road management activities would result in change in access, such as changes in current use, traffic patterns, and road standards, or where there may be adverse effects on soil and water resources, ecological processes, or biological communities, those decisions must be informed by roads analysis". See FSM 7712.13 and 7712.1. This project will change access to the roads utilized for timber harvest which may adversely impact soil and water resources. As such impacts to these resources should be informed by a roads analysis.

The Forest Service must analyze all reasonable alternatives

2 Pursuant to the National Environmental Policy Act, when an agency prepares an EA or EIS it must discuss a full range of alternatives. The description of alternatives is arguably the most important section of an EIS, and is said to be the "heart" of the EIS. 40 C.F.R.

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1502.14. Specifically the Agency is to "rigorously explore and objectively evaluate all reasonable alternatives". Id. The first problem with the development of alternatives for the DEIS is that the alternatives are not true alternatives. The proposed action and the two other 'action' alternatives are essentially the same, which defeats the purpose of creating different alternatives. The only significant difference between the alternatives is that under alternative 3 temporary roads would be closed at the termination of timber activities.

The other problem with the range of alternatives is that the Forest Service dismissed analysis of a fire alternative despite the fact that lodgepole pine are dependent upon stand replacement fire.¹ "Rocky Mountain lodgepole pine thrives under the influence of fire, and on many sites fire is essential to Rocky Mountain lodgepole pine dominance. In a Colorado study comparing subalpine forest stands of similar age (250 to 320 years), Rocky Mountain lodgepole pine regeneration was significantly greater (p<0.05) in areas that experienced surface fire than in areas where fire had not occurred. Rocky Mountain lodgepole pine comprised 41% of total species composition where surface fire was a factor, compared to 15% without fire".

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Fire is essential part of the lodgepole pine's life cycle because of its serotinous cones. "Serotinous cones are an adaptation to stand-replacing fire, and the seed supply is nearly always available on the tree. No matter what season the fire occurs the seeds will reach the ground soon after, unless the cones burn. Most Rocky Mountain lodgepole pine stands are composed of trees containing both serotinous and nonserotinous cones. The ratio of serotinous to nonserotinous cones seems to be related to the fire history of the site. Other characteristics that contribute to Rocky Mountain lodgepole pine success and site dominance following fire are early seed production, prolific seed production, high seed viability, high seedling survival, and rapid growth." Id. The Forest Service's *Sub-Regional Assessment of Properly Functioning Conditions for Areas Encompassing the National Forests of Northern Utah* also directly informs this situation and the related mountain pine beetle-stand replacement fire dynamic in the Uinta Mountains. The EIS must be informed by this and other regional PFC assessments. The proposed action should be modified accordingly.

The purpose and need of this project is to recover merchantable timber because of a pine beetle outbreak in the early 1980s. Researchers have found that beetle outbreaks are strongly correlated to fire outbreaks. Beetle caused mortality creates conditions suitable for large fires and in turn these large fires ensure the perpetuation of lodgepole pine.² Beetle outbreaks and subsequent fire outbreaks are a part of lodgepole pine's life cycle. For these reasons the use of fire in this area should have at least been addressed as an alternative for this project to comply with NEPA.

¹ See *Fire Ecology Species: Pinus contorta var. latifolia* at http://www.fs.fed.us/database/feis/plants/tree/pinconl/fire_ecology.html.

² *Sub-Regional Assessment of Properly Functioning Conditions for Areas Encompassing the National Forests of Northern Utah, May 1998 at UM-18*

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For these reasons, the use of prescribed natural and/or prescribed fire should have been addressed and fully analyzed as an action alternative for this project to comply with NEPA.

The Forest Service must ensure that they comply with Old Growth Standards in the Ashley National Forest LRMP

4

The first statement about old growth in the DEIS is that "old growth is difficult to define", and then the DEIS states that old growth standards are inadequately described. In light of heavy clearcutting in this area the Forest Service must be careful to protect existing old growth. The Forest Service is correct in that it must define what it considers old growth, especially with respects to the alleged existence of 3,000 acres of old growth in the project area. The standards are not as vague and unclear as the DEIS would have the reader believe. The Forest Service is to maintain a minimum of 5% old growth in each management area that this standard is applied to. This standard applies to management area "n" where this project is located, and so the Forest Service must guarantee a minimum of 5% old growth in this management area. If this can not be done, then the proposed action must be modified, or the proposal dropped.

The standard is to maintain 160 acres of contiguous old growth with old growth characteristics for old growth dependent species. This standard concerns old growth dependent species which require sufficiently large patches of old growth to survive. Old growth dependent species in the project area, such as Goshawk, rely on 160 acres of contiguous old growth at a minimum, and so this standard should be complied with where trees with old growth characteristics exist. The EIS must present old growth inventory data and/or survey results, and use that data to inform the central discussion of where and how many patches of old growth 160 acres and greater are located, in both the project area and in the larger Forest Plan management area. The standard is not vague, as claimed in the DEIS, and the proposed action must be in compliance with this standard. If it is not, then the proposed action must be modified accordingly, or dropped. The standard is not so vague that the standard should be rendered meaningless. The Forest Service must comply with these old growth standards using survey methodology and standards that are consistent, and maintain the requisite amount of old growth using definitions of old growth in good faith.

Because the DEIS concedes that "retention of old growth characteristics are not consistent with the proposed treatment, and that loss of areas with old growth characteristics would occur in small patches only" (DEIS, p. 64), we are seriously concerned that the proposed action will violate Ashley NF Forest Plan direction, standards, and guidelines. Given that there are already significant cumulative effects to the old growth in the project area from past clear cutting, combined with the fact that the DEIS admits that the proposed action is inconsistent with retention of old growth characteristics, we are concerned that you may already be in violation of your Forest Plan direction, and that approval of the proposed action would also constitute a violation of your Forest Plan. Because this is a central concern and a possible violation of the NFMA, this site-specific environmental analysis must be informed by accurate old

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4 growth surveying/monitoring data that is concisely presented and rigorously analyzed in the body of the EIS as a driving issue. The proposed action must not violate your Forest Plan direction, standards, and guidelines for old growth.

5 We are not convinced that the Forest Service has plans to adequately protect *Cypripedium fasciculatum* or Clustered lady's slipper. The conclusion that these plants are outside their "essential habitat" is arbitrary and capricious. This conclusion is based on the fact that they have not been widely found in this area. However the Forest Service does not cite its historical distribution before logging had occurred in this area. There is evidence that these species do not respond positively to logging. Thinning of lodgepole overstories may cause some risk to existing populations of the brownie lady slipper a sensitive plant species.³

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The Final EIS for this project must thoroughly analyze impacts to water quality and scientifically validate the effectiveness of mitigation measures.

6 The importance of water quality is a primary concern in this area since the Ashley creek drainage is within a source protection zone for the municipal water source of Vernal and Green River, Utah. There are problems with water quality downstream from the project area, as indicated by the two water bodies on Utah's 303d TMDL list. Both the Red Fleet Reservoir and lower Ashley Creek are on this list, and so further water quality deterioration must be curtailed. We are not convinced that the Forest Service has adequate baseline data and current data on water quality to ensure compliance with the Clean Water Act. Sedimentation is a problem in this area because of the high concentration of logging, grazing, and other management activities.

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A recent case in Montana federal district court held that the Forest Service is prohibited from logging activities when it is unknown how much sediment a stream can handle.

"The project occurs in several drainages with designated water quality limited stream segments. The project will result in sedimentation to streams. The Forest Service argues that the initial increase caused by the project will be followed by a greater decrease over current levels after the project is completed. That may or may not be true. However the Forest Service is working by speculation here because neither it nor the state of Montana has established TMDLs. By the Forest Service's own estimates, fish are likely to be threatened. Before the Forest Service decides to do anything that will increase sedimentation, even if the proposed action should ultimately decrease long-term sedimentation, *the Forest Service must know how much the stream can carry away.* Without a baseline, there is no way but speculation to determine how the sediment impacts water quality, adversely or beneficially". *Sierra Club, Inc. & Alliance for the Wild Rockies, Inc. v. Austin*, CV 97-0035DWM (D. MT., 2002), (emphasis added)

³ See Properly Functioning condition assessments, May 1998 at 19.

7 The streams in the project area are known to contain various species of trout including the sensitive species Colorado Cutthroat Trout. Unless the cumulative impacts of management activities are analyzed so that it can be determined whether the quality of fish habitat can be enhanced or maintained the project should not be implemented. It should also be analyzed to what extent downstream TMDL areas can handle any increased level of contaminants such as additional sediment loading.

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8 We are not confident that the Ashley NF proposed activities will comply with NFMA and the Clean Water Act with respects to how water quality will be impacted by this project and cumulative effects. Water quality standards are being met in some areas, but in other areas there are water quality problems. As discussed below, channel instability and erosion are noticeable problems in many areas, such as immediately above the N. Fork of Ashley Creek. (DEIS, p. 86). There is also potential for erosion and sediment contribution to stream waters at tributaries to the N. Fork of the Ashley. Id. at 87.

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8 The Forest Service has the obligation to maintain or improve stream channel stability. (Ashley LRMP, p. IV-37). Channel stability was recently surveyed and based on these surveys channel stability was generally rated good to fair. Baseline conditions of channel stability would be helpful in contemplating the general condition of stream channels. However, based on current conditions, the Forest Service is probably not in compliance with the applicable standard. Several channels mentioned in the DEIS are functioning below standard, including Center and Soldier Creeks, and the channel near Soldier Park has erosion problems. (DEIS, p. 80). Bank instability is also an issue in Government Creek, North and South tributaries, and other unnamed tributaries. (DEIS, p. 90).

9 Discussion of impacts to soils is inadequate. In the DEIS there was no discussion of compaction from past timber sales or the currently proposed sale. There was no discussion of how heavy equipment will compact soil that is in many places moist, thereby exacerbating already disturbed soil conditions. "Compacted sites restrict root penetration, limit water percolation and behave shallow in depth—which hinders long term site productivity".⁴ Although soil sampling occurred recently in 2003 there are areas in the project area that presumably have not been sampled since the 1980s and 1970s. (DEIS, p.92) We request that all areas that have not been sampled in 10 years or more be sampled. Since the management emphasis in this area is very intense, detailed and vigilant soil surveying is warranted.

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10 The Forest Service is to give priority to structural habitat improvement work in streams containing Colorado River cutthroat trout (CRCT) strains. (Ashley LRMP, p. IV-30). Based on limited monitoring data, CRCT have not been found in the project area, with the exceptions of Carter Creek and the North Fork Ashley Creek. Under the proposed project surface runoff, soil water content, and skid trails will be increased. This will likely impact CRCT habitat. The DEIS predicts that these impacts will be mitigated through 300 feet buffers, and the fact that the DEIS claims there is no new road construction. (DEIS, p.98). However there is no evidence that any of these measures will actually be effective, and there appears to be new road construction.

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⁴ See Soil Quality Standards and Guidelines, Intermountain region

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At many points within the DEIS the Forest Service points to best management practices (BMPs) and other mitigation measures purportedly preventing further resource deterioration. (See DEIS, p. 86, 88, 89, 99). The DEIS lacks detailed and adequate discussion of the cumulative effects of logging and how these BMPs would prevent damage. The DEIS is devoid of a single reference for any scientific studies that indicate that BMPs such as stream buffers can reduce sediment delivery to ecologically insignificant levels. In *Wilderness Society v. Bosworth*, the court order struck down the validity of BMPs when they had not been shown to mitigate the potential sediment risk the project would increase. The court also found that it is not reasonable to just summarily rely on BMPs to mitigate this environmental impact. *Wilderness Soc'y v. Bosworth*, 118 F. Supp. 2d 1082 (D. Mt. 2000).

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Presumably because of past timber sales and the currently proposed activity, sediment levels will temporarily increase, but will subsequently decrease. (DEIS, p. 98). The DEIS does not present science that substantiates this claim. Based on the current deteriorated conditions of several streams in the project area, such a prediction is arbitrary and capricious absent any scientific support. The cumulative effects analysis of past timber sales and grazing activities on water quality is inadequate. Missing was any detail of specific past timber sales and specific data as to how these projects had impacted water quality.

The FEIS must provide credible evidence that the Forest is in compliance with the Lynx Conservation and Assessment Strategy (LCAS) standards and guidelines, as well as the Endangered Species Act

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The DEIS claims that the forest is in compliance with the LCAS standards which prohibit certain areas from becoming unsuitable at any time, or within any 10 year period. The DEIS does describe which types of habitat Lynx prefer, but is lacking an adequate description of the methodology the FS utilizes to determine suitable habitat. Maintenance of suitable Lynx habitat would focus on retention of live and dead trees as well as coarse woody debris. (LCAS, p.18). This project would concentrate logging in lodgepole pine areas that have been killed by beetle outbreaks. Lynx habitat to a certain extent requires retention of these trees since they provide suitable habitat.

In addition, timber harvests in general adversely impact Lynx habitat, especially denning habitat. "Timber management may reduce the amount and/or quality of foraging habitat available for an individual lynx. Timber management can affect the spatial arrangement of foraging habitat and denning habitat. The proximity of foraging habitat to denning habitat can influence kitten survival. Timber harvest may reduce the amount of coarse woody debris in an area, needed throughout the home range to protect kittens and to maintain red squirrel habitat." (LCAS, p. 74). The Forest Service concedes that the amount of down woody debris that would provide suitable denning habitat has not been quantified. (DEIS, p. 112).

The Lynx analysis section of the DEIS has failed to ensure that there exists adequate denning habitat for lynx as proscribed in the LCAS. "Within a LAU, maintain denning habitat in patches generally larger than 5 acres, comprising at least 10 percent of lynx habitat. Where less than 10 percent denning habitat is currently present within a LAU, defer any management actions that would delay development of denning habitat structure. Maintain habitat connectivity within and between LAUs". (LCAS, p. 79). Based on the current proposal and past timber sales, it is doubtful that there is enough denning habitat within the project area. Because the project area is in a section of the Ashley NF that has been heavily logged, it is equally questionable if there is habitat connectivity within the Lynx Analysis Units.

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The Forest Service appears to have not consulted with the U.S. Fish and Wildlife Service on threatened species Bald eagle and Canadian lynx, this is in violation of the Ashley LRMP and the Endangered Species Act. (LRMP, p. IV-31) and ESA §7. The LRMP states that FWS is to be consulted when a project has the potential to impact a threatened or endangered species. The DEIS did not provide evidence of consultation with Fish and Wildlife Service. In the back of the DEIS the USFWS is mentioned as a consulting agency although any recommendations they made are not clearly articulated in the DEIS.

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For both Sensitive and Management Indicator Species (MIS) the Forest Service is to complete inventory of these species on the forest to determine their occurrence, abundance, distribution habitat requirements and population trends. (LRMP, IV-29 and 31). Population trend analysis is generally lacking for the species analyzed with the exception of goshawk, which included a detailed graph of population trends. NEPA also mandates that the cumulative impacts from past management activities, particularly timber sales, be discussed. Most of the MIS and sensitive species population trends are downward, and this is likely due to the substantial amount of logging in the area. As mentioned earlier, the Forest is probably out of compliance with the old growth standards, guidelines and other direction. This may be contributing to the continuation of the downward MIS species population trends.

Species such as the Boreal owl, Goshawk, and Three-toed woodpecker require large diameter trees for nesting (DEIS, p.107), but there was no discussion as to how this habitat has been impacted by past logging. For goshawk, the Ashley National Forest SIR applies, which provides standards and guidelines for goshawk habitat management. Goshawk's dependence on old growth habitat is established in this document, but at this time it appears that the old growth standards, guidelines and other direction is not being met. Maintenance of viable goshawk habitat should include the following considerations:

- The forest will be managed to maintain vegetative diversity, providing wildlife habitat for a large variety of wildlife species. Special emphasis will be given habitat such as ...old growth timber. (LRMP, page IV-3).
- Maintain habitat connectivity by ensuring that high quality habitat patches are no more than 60 miles apart, preferably less than 20 miles apart (Strategy, page 6).
- Leave areas of uncut timber between openings created by clearcuts large enough to meet all resource needs. (LRMP, page IV-35).

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In light of the above direction and the Goshawk SIR the FEIS must include more detail as to whether there is adequate old growth, habitat connectivity, and enough uncut timber stands between clearcuts to further promote goshawk viability. It bears repeating that there is a notable lack of old growth in this area, and the high concentration of clearcuts has likely hampered goshawk and other old growth dependent species. This may be in violation of NFMA's mandate to maintain at least the Minimum Viable Population of all native and desirable non-native wildlife.

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The Ashley NF is obligated to maintain habitat capable of supporting 5,600 elk and 43,700 deer (LRMP, p. IV-28). Populations of both of these species is on a downward trend, and this project will displace these species from the area. (DEIS, p. 113). Additionally, the Forest is required to map elk calving areas and antelope fawning areas as well as establish and maintain thermal and security cover to meet big game habitat objectives. (LRMP, IV-29). The Ashley has provided no evidence that these standards were complied with, and this project will do nothing to promote the habitat needs of big game. This project is in violation of the forest plan and NFMA since it will eliminate thermal and hiding cover habitat for big game. (DEIS, p. 113).

Uinta mountain snail

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The Uinta mountain snail is endemic to the south slope of the Uinta Mountains, and has an incredibly limited population and range. The UEC has petitioned the U.S. Fish and Wildlife Service to list this endemic under the ESA. To date, that petition has not been resolved. Regardless, the population(s) and habitat for this endemic have been and still are significantly impacted by road construction and timber harvest. The Forest has limited monitoring data on this native species, and what little monitoring data exists appears to raise very serious concerns that minimum viability of this species has not been met. We ask the Forest to consult with the US Fish and Wildlife service for impacts to this snail. We understand that this may or may not be required because the petition for listing has not yet been resolved, but we believe that it is the responsible management decision to make in this case. This may also help to work towards compliance with NFMA's mandate to monitor and maintain minimum viable populations of all native and desirable nonnative wildlife.

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Migratory Bird Treaty Act, Executive Order 13186, and Neotropical migrants

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The site-specific analysis for this project must include a rigorous analysis of effects to migratory birds, and use that analysis to inform the development of the proposed action and the range of alternatives. The Migratory Bird Treaty Act (MBTA) makes it unlawful to take, kill, or possess migratory birds, their parts, nests, or eggs. Executive Order 13186 issued in January of 2001 re-instituted the responsibilities of Federal agencies to comply with the MBTA. It's well known that many migratory bird species are currently declining across the region, and this timber sale will kill individual migratory birds and impact populations/habitat. This makes compliance with both the MBTA, and Executive Order 13186 critical with implementation of this timber sale. We recommend the Forest

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conduct a rigorous evaluation using the newest data and research to minimize impacts to migratory birds (and their habitat), including a focus on all species on the 2002 List of Birds of Conservation Concern as well as all species that are listed among the Partner's in Flight Priority Species. To help meet responsibilities under Executive Order 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds), the UEC recommends that you modify the proposed action such that it is implemented outside critical breeding seasons for migratory birds, minimize temporary and long-term habitat losses, and mitigate all unavoidable habitat losses. If some portion of your mitigation includes off-site habitat enhancement, it should be in-kind and either within the watershed of the impacted habitat or within the foraging range of the habitat-dependent species.

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To be in compliance with the language and intent of the MBTA and EO 13186, and NEPA's mandate for rigorous analysis, the EIS must be modified so that it discloses and rigorously analyzes how the proposed activities would or would not be in compliance with the Migratory Bird Treaty Act and Executive Order 13186. We remind the Forest that agencies are instructed to "develop and implement, within 2 years, a Memorandum of Understanding (MOU) with the Fish and Wildlife Service (Service) that shall promote the conservation of migratory bird populations." (EO 13186 § 3) We are not aware of any current MOUs. The Ashley National Forest must demonstrate within the EIS for this project that such an MOU has been developed and entered into with the USFWS. We request a copy be provided within or as an appendix to the draft or final documents, and not simply included in the project file.

IRA, roadless, and proposed wilderness

The DEIS is arbitrary and capricious because states that the project area contains no Inventoried Roadless Area when the western side of the project area appears to include Inventoried Roadless Area (IRA). The site-specific environmental analysis must be modified accordingly.

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The UEC hereby incorporates by reference GIS coverage of our roadless area inventory and citizen's National Forest wilderness proposal into these comments. This has been submitted to your Forest Supervisor and/or Forest Planners. It is also available in GIS and PDF formats at www.uec-utah.org. The UEC requests that the development and analysis of the proposed action and range of alternatives treat our roadless area inventory and our citizen's National Forest wilderness proposal as driving issues because some of the proposed cutting units are inside units contained in this inventory of roadless areas and our citizen's National Forest wilderness proposal.

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Wilderness
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Given that portions of the cutting units specified in the proposed action are inside our roadless area inventory and citizen's National Forest wilderness proposal, we believe that our roadless area inventory and wilderness proposal should be driving issues because: (1) citizens have expressed interest in and have proposed the affected areas for wilderness designation, (2) your 1986 Forest Plan is older than NFMA's statutory limit of 15 years, and you will soon enter Forest Plan revision. (In fact, you have already initiated preliminary NFMA data collection for the Forest Plan revision, as evidenced by your

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1998-2000 roadless inventory submitted as IRA to the W.O.) Forest Plan Revision is a mandated process that involves developing a roadless inventory (pursuant to the same System-wide criteria that UEC used Chapter 7 of Forest Service Handbook 1909.12) and subsequent evaluation of that inventory for wilderness recommendations to Congress. Approval of actions to harvest timber inside qualifying roadless lands while the Forest is concurrently preparing for your upcoming Forest Plan revision (and evaluating that same land for wilderness recommendation to Congress) may be significant evidence of biased decision making.

Thank you for the opportunity to comment on this project and we look forward to reviewing the final version of the EIS.

Sincerely,

Joel Ban
Wildlaw Attorney

FS RESPONSE TO LETTER #1

1. The proposed action would change the status of these roads to system roads (defined as “Classified” in 369 C.F.R. §212.1) (See DEIS p. 24). A roads analysis at the project scale is not required but may be undertaken at the discretion of the Responsible Official (See FSM 7712.13c).

Impacts to soil, water resources, vegetation, and wildlife have been analyzed and are presented in Chapter 3 of the DEIS.

2. The environmental effects resulting from changes to the existing road system within the project area (or no action) was a principle concern of many of the stakeholders who submitted comments during the scoping phase of the project (See DEIS, Section 1.9, p. 29). The effects of road use to wildlife species was also identified as a key issue. In order to address these key issues, the Interdisciplinary Team was required to develop road access alternatives to present to the Responsible Official. Furthermore, few silvicultural methods are available for the stated primary purpose and need of the recovery of beetle-killed timber. Variations of harvest methods that resulted in different cutting patterns would not address the key issue concerning access into the proposed treatment areas. Therefore the alternatives were developed to present the Responsible Official with a comprehensive analysis that would allow for an array of access options.

Alternatives that included different proposed treatment areas was a consideration that received much discussion during the preparation of the DEIS. The Interdisciplinary Team decided to perform analysis by specific treatment areas (3 total) and sale units within those areas (7 total) with similar characteristics and/or distinct effects (See DEIS, Map 3, Proposed Action, p. 17). The Responsible Official may include or remove any one of these treatment areas or sale units from the approved treatment. The alternatives described in detail in the DEIS therefore, present the Responsible Official with a “built in” range of area considerations within the framework of access alternatives.

3. See DEIS, Section, 2.3B Alternative 5 – Prescribed Fire, p. 37-38 regarding consideration of prescribed fire as an alternative. Prescribed fire was eliminated from detailed study for the following reasons:

- Prescribed burning will not meet the purpose and need of product recovery.
- The conditions that support crown fires exist in all three treatment areas. The probability of successfully maintaining a prescribed surface fire is very low. A stand replacing crown fire would reduce the jack-strawed condition but would also destroy advanced tree regeneration and a majority of the live trees within a stand.

- Fire in lodgepole pine and spruce-fir forest naturally occurs on a large scale of hundreds to thousands of acres. Control of a small, prescribed fire in these cover types is very difficult.
- Fuel loading is very high in Treatment Areas 1 and 3. Soil sterilization due to high fire intensity is possible in portions of these treatment areas.

Furthermore, fire would not accomplish the purpose and need of protection of existing tree regeneration or the objective for Area 2, accelerating the development of predominantly green stands to a more mature structure (See DEIS, p. 1.1).

The UECs comments of lodgepole pine ecology are correct in context; the underlying issue is product utilization and prescribed fire controllability for this cover type. Where lodgepole pine is seral, forests are perpetuated through the effects of periodic fires. Fires tend to eliminate competitive tree species such as Douglas-fir, the true firs, and spruces. Lodgepole pine usually seeds abundantly following fire. Large accumulations of dead material caused by periodic beetle infestations result in very hot fires when they do occur (Brown 1975). Hot fires will eliminate not only the shade tolerant species, but also the lodgepole pine itself. Low intensity surface fires are more likely to kill lodgepole while larger firs may remain. The intensity needed in a prescribed fire to convert the existing stands to an early seral lodgepole pine stage would threaten any existing healthy stands in and adjacent to the project area. Expected fire behavior, including spotting from embers and flame lengths, would produce a threat to the entire landscape and would not be confined to the project area.

4. The comment that the Forest Service is to maintain a minimum of 5% of old growth in Management Area 'n' is correct. Further analysis was conducted at the landscape scale for Management Area 'n'. This analysis is presented in the Forest Vegetation Section of the FEIS. Although an inventory of old growth for the Ashley does not exist, approximately 32,068 acres of forested stands that exhibit old growth characteristics were identified. This represents 5.8% of Management Area 'n'. This acreage is based solely on forested stands for which stand exam data has been collected. Data is available for approximately 28% of Management Area 'n'. This data is typically collected in stands and areas where timber management activity has occurred and rarely includes large unfragmented areas designated as inventoried roadless area.

Over 3,000 acres of forested stands, exhibiting old growth characteristics, do occur in the project area. A majority of this acreage is in non-contiguous stands smaller than 160 acres. The only proposed treatment area that contains a contiguous block of old growth greater than 160 acres is Treatment Area 3, south of the North Fork Ashley Creek (See DEIS, Section 3.1B, Affected Environment, Forest Vegetation-Overstory, p. 62). Although this area was considered contiguous old growth, it is fragmented by past harvesting activity. Mitigation measures have been proposed for this area that would ensure the retention of

old growth characteristics (See DEIS, Section 2.2E, Retention of Old Growth Characteristics, p. 34-35).

Descriptions of the old growth analysis conducted for both the project area and Management Area 'n' forest-wide are presented in the Project Record. Old growth stands were identified through queries on linked stand exam inventory and spatial data in Geographic Information System software (ESRI ArcMap 8.3).

In summary, the proposed treatment does not violate the Forest Plan direction. Proposed activity will not result in the reduction of old growth in Management Area 'n' below the 5% threshold. Mitigation measures have been proposed to protect contiguous old growth in the project area.

5. Thank you for your concern regarding *Cypripedium fasciculatum* (common names are Clustered lady's slipper and Brownie's lady slipper). Although Franklin's (1990) conclusion that the population within the project area is outside the essential habitat may be disputed, sufficient protection of this species has been proposed (See DEIS, Section 2.2G, Sensitive Plant Species, p. 35). The dominant trees in the area have an average height of 60 feet. Therefore, a 200-foot buffer applied around these populations would prevent exposure to full solar radiation.

6. The DEIS discusses the 303(d) listed water bodies in Section 3.4B – Water Resources/ Affected Environment (p. 76). The State of Utah has determined that the principal source of pollution for the Ashley Creek segment was the old sewage lagoons off-Forest that have been closed and replaced with a treatment plant. Red Fleet Reservoir is listed for dissolved oxygen; Forest Service monitoring data of Big Brush Creek above the Forest boundary indicates that water leaving the Forest Service is not the cause. Supporting data is in the project folder and is available from the U.S. Environmental Protection website's STORET database (www.usepa.gov/storet, station #498319).

7. The cumulative effects of management activities on the fisheries (including the Colorado River Cutthroat Trout) and aquatic habitat have been updated in the FEIS, See Section 3.6C. No cumulative effects are anticipated for the Carter Creek and the Upper Big Brush Creek subwatersheds. In the North Fork Ashley Creek subwatershed, anticipated cumulative effects of the proposed action and action alternatives 2 and 3 are an incremental sediment increase associated with the proposed activity, roads, stream crossings, grazing, recreation and past and future timber projects (DEIS, P. 100). Cumulative effects would be reduced due to proposed project design elements and mitigation (See DEIS, Sections 1.4C, p. 25, and 2.2, p. 33). The analysis area for TSW includes the Ashley Creek drainage outside of the project area.

8. As described in Section 3.4B of the DEIS (*Water Quality* sections of the various subwatersheds, pages 78-79, 81-82), water quality in all the

subwatersheds is considered to be excellent with only isolated exceedences of State standards which are not indicative of a problem.

The citation on page 86 regarding N. Fork Ashley Creek does not describe an existing problem; rather, it states:

“The stream in this reach is in stable condition ... localized erosion **could occur** on the **slopes** immediately above North Fork Ashley Creek.”

This is describing a stable stream with possible overland sediment movement on hillslopes above the stream. Effectiveness of stream buffers (p. 87) is supported by modeling (FSWEPP model, see response to comment #11-12).

Baseline conditions of channel stability are summarized in section 3.4B – *Stream Channel Stability* sections of the subwatershed descriptions; these conditions are used to determine the amount of harvest openings that could be allowed without deterioration of existing conditions. (More detailed information on stream condition ratings is located in the project record.) Stream channel condition ratings assigned do not represent a standard (i.e., a “fair” rating is not “below standard”); it is necessary to apply ratings in order to apply the Forest Plan standard and guideline regarding timber harvest. The Forest Plan does include a standard and guideline to “Maintain or improve current stream channel stability ratings” (Forest Plan, p. IV-37); this is identified under the Objective to “Increase water yields through resource management activities.” Increasing water yield is not a purpose of this project. However, timber harvest activities have the potential to create this effect. For that reason, the other Forest Plan guidelines under that Objective that provide guidance on the amount of openings related to stream channel conditions (Forest plan, page IV-38) have been incorporated through the determination of stream channel conditions and applicable ECA (Equivalent Clearcut Area) percentages to ensure protection of channel stability and water quality (DEIS, p. 75, 77-86). The proposal is well within the Forest Plan allowances.

9. See DEIS, Section 3.5, Soils, p. 92-93 for discussion regarding the main types of soil disturbance and observations of disturbance from previous harvest activity. The limiting factors of heavy equipment have been thoroughly identified and documented through past and recent soil sampling and observations of past operations. See DEIS, Section 1.4C, Project Design Elements for a discussion regarding operational considerations for seasonally wet soils and soils that are wet for majority of the growing season (forested riparian).

The soil sampling conducted for this project is estimated to be adequate for the assessment of soil characteristics necessary to identify proper operational practices. Such practices will prevent excessive soil disturbance. Compacted sites for the selection cuts are typically restricted to skid trails and landings. The approximate percentage of the activity areas (harvest units) that would have skid trails or landings is estimated to be within the Region 4 Soil Quality Standards.

10. The North Fork Ashley Creek habitat improvement project that would be implemented in 2004 is discussed, See DEIS, Section 3.4C, p. 88, and Section 3.6C, p. 100. The Ashley National Forest is not bound to INFISH guidelines legally but decided to use the INFISH buffers as a starting point to protect riparian habitat. Use of riparian buffers to ameliorate direct effects from timber harvest has been well documented. There will be no new road construction (DEIS, p. 24).

11-12. The stream buffers that would be implemented with proposed activity (DEIS p. 25) are based on the Inland Native Fish Strategy by the Forest Service, which is referenced. Stream buffer effectiveness is supported by and a component of the FSWEPP model, which has been applied to this proposal and is identified in the DEIS, p. 83. This model was developed by researchers for evaluating sediment contributions to water bodies from management activities such as timber harvest. Details are located in the project record. Effectiveness of BMPs, including buffers, is supported strongly by reviews of field conditions and published literature (in the project record).

The Equivalent Clearcut Area (ECA) analysis is a cumulative effects analysis as well as a project proposal assessment in that it considers the effects of existing openings from past vegetation manipulation (including wildfire) on stream channels, the condition of stream channels, and the potential for effects from the addition of the actions evaluated. This is discussed in detail in the project record and is summarized in the DEIS on pages 77-83 (see Table 3-10 on page 83).

Proposed best management practices (BMPs) include many coordinated efforts to proactively provide protection identified in the DEIS. These include coordination between hydrology and forestry specialists at various phases of sale and contract preparation. Monitoring of BMPs and adaptation as needed to meet goals is prescribed during and after sale activities. In this way, BMPs would be altered as needed to accomplish protection goals. BMPs are also identified in the Forest Service Soil and Water Conservation Practices Handbook and the State of Utah Nonpoint Source Pollution Management Plan for Silvicultural Activities (which also references the Forest Service Handbook). Literature in the project record identifies roads as a primary cause of timber-sale related sediment, and notes that such sediment is greatest in the first couple of years following disturbance, supporting a temporary sediment increase followed by decrease.

13. The DEIS provides considerable detail in the analysis of lynx habitat and their prey species habitat (p. 101-105). While it is true that exact requirements for lynx survival on the Ashley National Forest are not known, the prescribed requirements for habitat protection were extrapolated from other areas that support a viable lynx population or reintroduction efforts. It is also true that the project area is probably the most managed area on the forest. However, travel corridors for lynx between lynx analysis units (LAUs) would not be eliminated by

the action alternatives because corridors for travel would still remain (See DEIS, Map 9, p. 53).

The United States Fish and Wildlife Service (USFWS) was consulted during preparation of the DEIS for both species as well as other threatened and endangered species that may be present in the project area. The Ashley received a concurrence letter of our finding of “not likely to adversely affect” for the Canada lynx and bald eagle. In addition, biologists from the FWS made two site visits to the proposed project area early in the preparation of the document. See Appendix E for the USFWS Biological Assessment/Biological Evaluation Consultation Letter. The Biological Assessment/Biological Evaluation is in the project record and may be viewed at the Vernal District Office.

The Forest Service is required to 1) complete an inventory for both sensitive and management indicator (MI) species, 2) to determine occurrence, abundance, and distribution and habitat requirements, and 3) to determine trends for MI species. Population trends for MI species are discussed in the DEIS, Chapter 3, p. 107-109 and 113-114).

Section 3.1, Forest Vegetation – Overstory, has been revised to include a more detailed description of the old growth component of the forest. See also the response to comment #4.

14. Uinta mountain snails are primarily found in calcium and limestone soil types. This soil type does not occur within the project area.

15. The 2002 list of birds of conservation concern and partner’s in flight priority species has been reviewed. Only three species from this list, the three-toed woodpecker, broad tailed hummingbird, and Williamson’s sapsucker are found in habitat occurring in the project areas. These species are discussed in the DEIS, Section 3.7B, p. 107-109.

An MOU has been developed and is included in the Project Record.

16. The project area does not contain Inventoried Roadless Area (IRA) based on the Ashley National Forest roadless inventory delineated from data submitted in 1999 for the Roadless Area Conservation Rule.

17. Inventoried Roadless Area delineation and Wilderness designation are beyond the scope of this analysis. These proposed designations should be considered during the ongoing Forest Plan revision process.

LETTER #2

2-I-1-2

** High Priority **

- 1 The condition of the trout slope is a disgrace to those who manage public lands. The patchwork of clear cuts fragments habitat and destroys water quality for the benefit of a few. WTR 1700/WLD19
- 2 action option. I support the No ALT 200
- 3 Close the roads, let the land heal. When we lose our wilderness and wild animals, we lose the wildness in ourselves. TRAN 1600

Matthew C. Lindon, P.E.

Dam Safety Hydrological Engineer
Utah State Engineer's Office
Utah Department of Natural Resources
1594 West North Temple Street Suite 220
PO Box 146300
Salt Lake Utah 84114-6300

801-538-7372
801-538-7467 Fax
801-244-1745 Mobile

mattlindon@utah.gov
www.waterrights.utah.gov

Home
4964 East Meadows Drive
Park City Utah 84098-5921
435-655-0269
435-655-0269 Fax

Moderation, balance, attitude and tolerance

FS RESPONSE TO LETTER #2

1. Past clearcuts have fragmented wildlife habitat in the project area. No new clearcuts are proposed. Selective timber harvest would not increase fragmentation at the landscape scale. The only area that may be temporary affected would be the western portion of the Lost Sale (Area 1). The proposed overstory removal in this area would remove mature trees from leave strips adjacent to past clearcuts. These clearcuts have not regenerated to a height adequate for thermal and hiding cover for big game species, and this proposal would reduce the amount of current cover. However, these leave strips are narrow (300 to 500 feet). Although this width was considered sufficient for hiding cover at the time they were created (1982 to 1983), contemporary science suggests that these strips are too thin to provide adequate cover. Cover in this sale will be reduced until the trees in the old clear cut grow several feet taller (approximately ten years).

Concerns regarding openings' effects on water quality are discussed in Chapter 3.4B – Water Resources/Affected Environment under Stream Channel Stability Considerations and Equivalent Clearcut Area (ECA) assessments (p. 77-78) and in Chapter 3.4C Water Resources/Environmental Effects on page 82. These discussions demonstrate that the openings in the project area is well within the level needed to protect water quality, and would continue to be so with the harvest activity proposed.

2-3. The Responsible Official will consider the No Action Alternative and the permanent closure of the 10 miles of temporary roads under Alternative 3.

LETTER #3

3-I-1-2

----- Forwarded by Robbin Redman/R4/USDAFS on 04/12/2004 07:38 AM -----

margaret.pettis@cach
e.k12.ut.us
04/11/2004 09:13 PM

To:
cc:
Subject:

comments-intermtn-ashley
margaret.pettis@cache.k1
Trout Slope W. Timber Prc

George Weldon
Forest Supervisor
Attn: Trout Slope West
Ashley National Forest
355 N. Vernal Avenue
Vernal, Utah 84078

Easter (April 11) 2004

Submitted by email re: TROUT SLOPE WEST TIMBER PROJECT DEIS
to comments-intermtn-ashley@fs.fed.us.

Dear George:

I am each to make comments on the Trout Slope West Timber Project DEIS. Please put these recommendations in the official public record for this sale project as proposed by the Ashley National Forest. I attest that I, Margaret Pettis, am submitting them as a private citizen of Utah, a resident of Hyrum, and as a longtime fan of the wild Uintas.

Please take NO ACTION on this proposal. Stay with your decision to stay out of the roadless country and limit harvesting to those lands already logged. No clearcuts should be undertaken to cut this forested land. This alternative would not damage soils, water quality, wildlife or fisheries. It would end the use of ten miles of temporary roads. It is the best, wisest plan the Ashley should adopt.

ALT 200/RDL1300,
VEG1701

1

Nowhere in the plan is there a demonstrated need for the 2100 acres of cut timber. The county data does not show an economic dependency on such a small sale. Wildlife habitat will be impacted by the sale. And roads will be left open or "improved" (read, allowed to impact habitat and increase ORV damage on sensitive forest lands.)

VEG1701
ECON300
WLD1900
TRAN1601

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Such sales comprise a denigration of the forest as a whole, when they are issued at this piecemeal rate. Do not allow that to happen to a forest already suffering from such damage. You are in the driver's seat, George. Set the tone of what you want the forest to look like. Selling it bit by bit in this manner is hardly good stewardship.

VEG1700

6

Thanks for taking into account my comments on this Ashley National Forest harvesting action. I look forward to meeting you in person some day.

Sincerely,

Margaret Pettis
190 South 100 West
Hyrum, Utah 84319

FS RESPONSE TO LETTER #3

1. No inventoried roadless area is contained within the proposed action areas or the project area (See the response to Letter #1, comment #16). No clearcuts are proposed. The Responsible Official will consider the No Action Alternative and the permanent closure of the 10 miles of temporary roads under Alternative 3.
2. The management direction for the project area is expressed in the current Forest Plan by Management Prescriptions. Management Area 'n' comprises 93% of the project area (See DEIS Section 1.5, Forest Plan Direction). The remaining area is designated as 'f'. Similarly the proposed action area contains 91% Area 'n' and 9% Area 'f'. Both areas allow for a variety of uses including timber harvest (Forest Plan, pages IV-7, IV-10). The salvage of trees killed during the mountain pine beetle epidemic was one of the issues identified during the preparation of the EIS for the Land and Resource Management Plan that served as a basis to develop these management prescriptions (Final EIS for Land and Resource Management Plan, Appendix A, Issue #13).
3. The comment that the county is not economically dependent on timber sales such as proposed by the DEIS is acknowledged and correct. However, the small local forest products industry does depend upon such commercial timber sales from the Ashley National Forest for their survival (See response to Letter #7, comment #1 and Letter #11, comment #1).
4. Impacts to wildlife are stated in Chapter 3 of the DEIS, beginning on page 101.
5. The environmental effects improving and maintaining 10 miles of roads has been analyzed by resource in Chapter 3 of the DEIS. Permanently closing these roads and allowing the roads to revegetate has been presented under Alternative 3 and will be considered by the Responsible Official.
6. The rate at which sales are offered is dependent upon a variety of factors such as the selection of an appropriate scale for a project area to facilitate a comprehensive analysis within National Environmental Policy Act requirements, the size of forest products companies and their ability to compete for offered sales, and the timing of insect and disease activity and conditions. The Ashley National Forest would be unable to offer larger sales and complete harvest activities in a shorter time frame. The cumulative effects of sale activity within the project area is discussed in Chapter 3 of the DEIS by resource.

LETTER #4

4-C-3-1
UINTAH COUNTY



STATE OF UTAH
Our past is the nation's future

COMMISSIONERS:
David J. Haslem
Jim Abegglen
Michael J. McKee
ASSESSOR - Gayla Casper
ATTORNEY - JoAnn Stringham
CLERK-AUDITOR - Michael W. Wilkins
RECORDER - Randy J. Simmons
TREASURER - Donna Richens
SHERIFF - Rick Hawkins
SURVEYOR - Robert Kay

April 7, 2004

Mr. George Weldon, Forest Supervisor
Ashley National Forest
Vernal Ranger District
355 North Vernal Avenue
Vernal, Utah 84078

Re: Proposed Trout Slope West Timper Project
Draft Environmental Impact Statement
(DEIS), File Code 1950

Dear Mr. Weldon:

1 Thank you for the opportunity to comment on the proposed Trout Slope West Timper Project DEIS
2 located on the Vernal Ranger District in Uintah County, Utah. (On August 13, 2002, we responded
3 to the scoping request for this proposed project. At that time we requested the Forest Service not
close the approximately 12 miles of existing roads and the placement of a temporary bridge.) We
have read through the DEIS and at this time Uintah County would support Alternative 2 - Open
Public Access. Uintah County's General Plan has a multiple use policy, in which Uintah County
supports both the traditional and multiple use of public and reserve lands. Alternative 2 supports
the local economy, culture, and heritage of Uintah County. In the other alternatives, the closing of
these roads would limit hunting and recreation in the future from these areas and limit use by the
various members of our community. In addition, the closure of existing roads could hinder
reasonable access for fire control and search and rescue operations, i.e., public health and safety
issues.)

4 In the past, Uintah County has taken a strong stance against closing public access. At this time, we
still feel the same way and the Proposed Alternative and Alternative 3 would close public access that
is currently open to the public. This is in direct conflict with Uintah County's General Plan. Uintah
County's General Plan, Public Lands section is available at www.co.uintah.ut.us or by calling (435)
781-5380. Under NEPA standards, the Forest Service is supposed to abide by this General Plan if
at all possible.)

Our comments and concerns regarding this proposed project DEIS are listed below:

- 5 1. Uintah County requests the Forest Service perform a consistency review and report, in
writing, any actions which would not be in compliance with the Uintah County General Plan
and why consistency could not be met.)
- 6 2. Under 3.4C Environmental Effects, Alternative 2-Open Public Access (pg 85), the document
states that, "Higher standard roads would reduce the potential for road-related erosion.....the

6 effects would be similar to the Proposed Action." Also, these roads would have proper water drainage, which would limit braided and rutted routes through wet areas and control erosion and sediment delivery to streams. It is Uintah County's position that these roads should remain open after the proposed project to allow for public access. The document plainly shows only minor effects would occur from Alternative 2.]

7 3. [Alternative 1-No Action. Alternative 1 is unacceptable to Uintah County. The continued build-up of fire fuels within this area could lead to catastrophic crown fires. The long term effects of catastrophic fires on the watershed, water quality, wildlife, and recreation are serious, but the potential cost in human life to fight such fires should be avoided.] FIRE 400

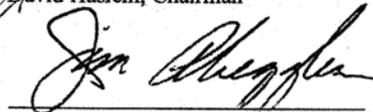
8 4. [Alternative 3-Temporary Roads Closed. Alternative 3 is unacceptable to Uintah County. The closure and revegetation of these roads decreases the ability of hunters and recreationists to use the Forest Lands. The closure of roads would also increase use on other parts of the forest. Closing roads restricts the Forest Managers' options for use and recreation in the future.] REC 1200

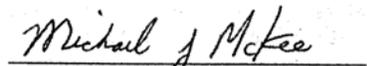
Uintah County has no further comments at this time, but reserves the right to comment on the final environmental impact statement and record of decision.

Sincerely,

UINTAH COUNTY COMMISSION


David Haslem, Chairman


Jim Abegglen


Michael J. McKee

cc: Public Lands Committee

FS RESPONSE TO LETTER #4

1. The comments presented in the August 13th, 2002, scoping letter from Uintah County were considered in this analysis. Alternative 2 was designed to meet the concerns of the County Commissioners such as permanent public road access consistent with the multiple use direction of Uintah County's General Plan. These considerations were balanced with a wide variety of concerns such as wildlife habitat, impacts to soils and water quality, the local economy, and public use of the Trout Slope West area. The Responsible Official will consider open public access presented in Alternative 2 and the direction of Uintah County's General Plan. These considerations and the approved action will be documented in the Record of Decision.
2. See response to comment #1.
3. Road improvements under the proposed action and Alternative 2 would expand the access for fire control and search and rescue operations in the Trout Slope West area. However, the 10 miles of roads in consideration are not maintained as part of the forest road system and provide limited access. Current use of these roads is primarily restricted to all terrain vehicles and four-wheel drive vehicles under dry weather conditions. Consequently these roads do not currently receive a high amount of use from hunting and recreation activities.
4. Coordination with other public planning efforts is required at the planning level instead of through the NEPA process. The Code of Federal Regulations §219.7 states that, "The Responsible line officer shall coordinate regional and forest planning with the equivalent and related planning efforts of other Federal agencies, State and local governments, and Indian tribes." Management Principles and Guidelines of the current Forest Plan are consistent with this regulation (Forest Plan, p. IV-56).

The Environmental Impact Statement prepared for this project is designed to comply with the above requirements and the Objectives of the County Policy regarding Public Lands. Approximately 10 miles of temporary roads were identified as providing access to the proposed treatment areas, (See DEIS, Map 2, p. 16). The Proposed Action and the range of alternatives were designed to fully analyze the environmental effects of the short-term use of these roads for the removal of commercial timber and changes in the long-term use of these roads by the Forest Service and the public (the range of alternatives includes Alternative 1 – No Action, Alternative 2 - Open Public Access, Alternative 3 – Temporary Roads Permanently Closed). The analysis presented under this framework provides the Responsible Official with the ability to balance the concerns of Uintah County regarding road use and the protection of natural resources.

5. See response to comment #4.

6. To clarify the commenter's reference (p. 85), the citation refers to Middle Carter Watershed, which has activity proposed on 1.1% of the watershed. Table 2-1, Comparison of Alternatives, and effects discussions on pages 85, 88-89 and 91 of the DEIS provide information regarding Alternative 2 and road erosion/sediment. Sediment from properly constructed roads is greatest in the first couple of years following surface disturbance (Megahan and Kidd 1972) and open roads require periodic maintenance (i.e., surface disturbance/sediment). Effects for all subwatersheds are similar to the Proposed Action regarding roads; the discussions explain that higher standard roads would reduce the potential for road-related erosion, but periodic maintenance activities would cause surface disturbance and fine materials washing off the road. However, the buffer zones and BMPs that apply would result in effects similar to the Proposed Action.

The County's desire to have public access allowed after sale activity is noted.

7. Although fuels reduction is not a stated purpose and need or objective of this project proposal, improved administrative access through the implementation of the Proposed Action or Alternative 2 – Open Public Access will facilitate fire suppression activities. Such activities will be conducted with high regard for personnel safety.

8. The County is correct that implementation of Alternative 3 (Temporary Roads permanently closed following the cessation of sale activities) would restrict the use of these areas to non-motorized use only. However, current access to these temporary roads is limited (See DEIS, Section 1.3A, Transportation System, p. 21-22). Permanent closure of the 10 miles of temporary roads is unlikely to increase use on other parts of the forest.

LETTER #5

5-I-1-3

David Jorgensen
516 New Star Drive
Salt Lake City, UT 84116

April 9, 2004

George Weldon, Forest Supervisor
Ashley National Forest
355 N Vernal Ave
Vernal, UT 84078

RE: Trout Slope West Timber Project, Comment on Draft EIS

Dear Supervisor Weldon:

RDL1300
TRAN1601 { For what it is worth, I am pleased that the preferred alternative for the Trout Slope West
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ALT 200 { Timber Project (Project) does not involve roadless areas, makes use of existing "temporary"
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TRAN1601 { roads and does not require many large new clear cuts. Notwithstanding these positive aspects,
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I. Lack of Real Alternatives

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VEG1701 | This is especially so where one particular area of a proposed sale stands out as being
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WLD 1901 woodpecker would not be significantly affected by the Project. It is my understanding that those birds are frequently found in the High Uintas and are also found in the Trout Slope area. Given that fact, shouldn't some monitoring be done before a finding of "not likely to adversely affect" can be made? 6

II. Wildlife Impacts are Treated Cavalierly, and Area 3 should be Removed

WLD 1901 The DEIS states that there is important habitat in the Project area but dismisses the importance of that habitat by asserting that wildlife that could occupy the area such as the great gray owl, the three-toed woodpecker and the goshawk "may" not be there. Assuming these and other animals are not now present, one has to ask "What happened?" A very plausible answer is that the area has already been overdeveloped. Thus, the argument for further harvesting in the Trout Slope area becomes circular. The area isn't important biologically because it has already been "hammered." Because it has already been "hammered," it doesn't matter if we hammer it some more. 7

VEG 1701 At least with respect to Area 3, the circular argument doesn't work. That area contains most of the intact old growth in the Project. It is my understanding that there are active goshawk nests in the North Fork Ashley Creek drainage and that the three-toed woodpecker is in there in low densities. This is contrary to the DEIS' assertion that they "may" not be present in the Project area. 8
WLD 1901 9

WLD 1901 Pine marten is not even mentioned in the DEIS. It may also be present. Regardless, old growth areas are limited. Existing areas should not be impaired just because animals dependant on them have been driven off. This is especially true where some species (pine marten, goshawk, three-toed woodpecker) live nearby and could disperse to Area 3 if given the opportunity. Other species needing the habitat Area 3 could provide (great gray owl and Canada Lynx) might still be somewhere in the High Uintas. 10
The related argument that species living in the Project area can use adjacent habitat if they are driven off by further lumbering is inconsistent with another part of the DEIS which notes that adjacent habitat does not exist or may be occupied.

ALT 200 / ECON 301 Because the DEIS does not have a real alternative, there is no analysis of the economic effect if Area 3 was not part of the proposed sale. It seems like Area 3 could be removed from the sale and the stated purpose could still be achieved. My best guess is that only two of the proposed seven sales would be eliminated. 11

VEG 1701 Because of the substantial presence of old growth timber in Area 3, that area should be dropped from the Project. 12

III. Roadbeds should be Rehabilitated

OUT 900 I don't have fond memories of former Congressman Jim Hansen. He seemed like a tireless advocate of dirt roads. Clear back in 1984, he and his colleagues prevented jeep tracks which had created a path up Peavine Canyon surrounded by the Dark Canyon Wilderness in 13

OUT 900

ECON302

Southern Utah from either being made part of the Wilderness or from being closed by the Forest Service. Sometime later, he joined a lawsuit with other members of the Utah Congressional Delegation against the Forest Service to keep a similar path open in the Fish Lake National Forest. And when he learned that many Forest Service timber sales cost the Forest Service more to prepare than the Service receives in revenue, he asserted that the full value of timber sales are understated because they create roads that the public allegedly benefits from.

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As a result of these and other efforts by former Congressman Hansen and others, I came to believe that it was easier to protect jeep paths than wilderness in the State of Utah and have advocated eliminating such intrusions when possible. Once created, it is virtually impossible to get rid of a road unless it is rehabilitated at the end of the project it was created to facilitate.

TRAIL 16

16

Obviously, the Trout Slope West Timber Project offers an opportunity to rehabilitate unimproved roads which serve no purpose other than possible timber harvesting far in the future. In the present, ORVs have become a huge ecological problem in Utah and throughout the West. Closing the roads post-sale will help some, but the temptation to use the trails notwithstanding the closure will remain. From an ecological standpoint, the obvious best choice is to rehabilitate the land currently occupied by roads.

TRAIL 16

Very Truly Yours,

David Jorgensen
David Jorgensen

FS RESPONSE TO LETTER #5

- 1.** You are correct that the project area does not include Inventoried Roadless Area (IRA). The action alternatives all consider use of the same 10 miles of temporary roads. Each action alternative proposes a change to the status and use of these roads (See DEIS, Section 2.1, The Proposed Action and Alternatives Considered in Detail, p. 30).
- 2.** An Alternative that removes the area south of the North Fork of the Ashley Creek (Area 3) from the proposed treatment area received much discussion during the development of the action alternatives by the interdisciplinary team. This option was presented to the Forest Supervisor in July 2003. The decision was made to design alternatives that addressed the road access issue and related impacts/environmental effects (See DEIS, Section 1.9, Key Issues, p. 29) and divide the proposed action area into distinct areas for analysis. The Responsible Official can retain or discard any proposed treatment area upon consideration of the analysis and issues presented in the DEIS (See response to Letter #1, comment #2).
- 3.** Obliteration/decompaction as a preliminary treatment for revegetation of the temporary roads following the cessation of logging activities was originally considered for Alternative 3 (Temporary roads permanently closed), however, this method of road closure was discarded due to concerns that this activity would create an unacceptable level of erosion and sediment delivery to the streams in the project area. A majority of the temporary roads (See DEIS, Map 2, p. 16) related to the proposed action and Alternatives 2 and 3 occur on a Trout Slope 2 Land Type. This land type is characterized by coarse rock fragments in the surface and subsurface layers. Any activities that would dig up rock at the soil surface level and below, such as “ripping” were identified as detrimental practices by Forest engineers and the Vernal District Soil Scientist. Ripping is the decompaction and disruption of a road surface often performed by a dozer fitted with an excavation attachment.

Natural regeneration of trees, grasses, and forbs is the preferred reforestation/revegetation method on the Ashley National Forest. Past experience has determined that seed bank species of grasses and forbs will become established in several years following disturbance on the landtypes contained in the project area. Monitoring studies have also indicated that ground cover will develop from herbaceous plants established on compacted soils such as log landings and roads (Monitoring Study 17-7, Vernal Ranger District, See Project Record). The roads will revegetate with tree regeneration in the long term following road closure. The road shoulders would be the primary location that trees would be expected to develop. Regeneration in these areas is estimated to be sufficient stocking to control erosion. Planting would be impractical due to the compaction of these roads and the rock present in the soils.

4. See response to Letter #1, comment # 2.
5. See response to Letter #1, comment # 2.
6. Impacts to three-toed woodpeckers are discussed in the DEIS, Section 3.7C, Environmental Effects, Wildlife, p. 112-113.
- 7-9. Three-toed woodpeckers and northern goshawks have been found in the project area (DEIS, p. 107, 113). The DEIS also mentions that it is possible for great gray owl to be present in the project area (p. 106, 112). Impacts to these species are discussed in Section 3.7 of the DEIS.
10. The pine marten is not discussed in the DEIS. The northern goshawk and three-toed woodpecker both occupy proposed area 3 and there is potential habitat for lynx and great gray owls. Proposed mitigations that will protect/retain woody debris, old growth, and snag habitat for these species will also protect pine marten habitat (See Section 2.2). Impacts to these species are discussed in Section 3.7C, Environmental Effects, Wildlife, p. 112-113.
11. Removal of Area 3 from the activity approved in the Record of Decision would reduce the projected timber volume offered for sale by approximately 40% (See DEIS Section 1.4B, Specific Treatments, p. 23). Projected volume offered for sale in Area 3 was 3.6 million board feet (MMBF) of a project total 9.2 MMBF). Removal of Area 3 from approved activity would still allow for completion of the primary project objective of providing wood products. However, the objective for Area 3 of improving stand vigor and longevity by removing dead and damaged trees within the mature stands with significant mortality and poor growth would not be achieved.
12. The presence of old growth in Area 3 was considered (See DEIS, Section 3.1B, Affected Environment, Forest Vegetation – Overstory, Old Growth p. 58). Mitigation measures have been proposed to facilitate the retention of old growth characteristics should proposed activity in Area 3, south of the North Fork Ashley Creek be approved (See DEIS, Section 2.2E, Retention of Old Growth Characteristics, p. 34-35). The Responsible Official will decide whether or not to proceed with proposed activity in Area 3. See also response to Letter #1, comment #4.
13. The designation of Wilderness is beyond the scope of this analysis.
14. See response to Letter #7, comment #18.
15. See response to comment #3.

16. Off Road Vehicle (ORV) impacts have been identified as a concern in the proposed action areas where temporary roads would be utilized to access timber and retained for public access (Alternative 2). Although ORV cross-country travel is currently prohibited in the project area, a slight increase in illegal travel was assumed in this analysis. This assumption and the expected effects are discussed in the DEIS, 3.5C, Environmental Effects, Soils, Alternative 2, p.95. See also DEIS, Section, 2.4 Comparison of Alternatives, Table 2-1. Recreation Use – Motorized Off-Road Travel and Soils-Existing Temporary Roads, Motorized Off-Road Travel, p. 40.

LETTER #6

6-F-1-1



United States Department of the Interior



OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Denver Federal Center, Building 56, Room 1003
Post Office Box 25007 (D-108)
Denver, Colorado 80225-0007

April 5, 2004

ER 04/0133

George A. Weldon, Forest Supervisor
Ashley National Forest
355 N. Vernal Avenue
Vernal, Utah 84078

Dear Mr. Weldon:

The Department of the Interior has reviewed the Forest Service Draft Environmental Impact Statement announcing the proposed harvest of lodgepole pine and Engelmann spruce from approximately 2,006 acres in the Trout Slope West area of the Ashley National Forest, Vernal Ranger District, and offers the following comments.

General Comments

WLD1901

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The Department appreciates the early coordination between the Forest Service and the U.S. Fish and Wildlife Service (USFWS) relative to this project, and acknowledges efforts by the Forest Service to minimize impacts to fish and wildlife resources. The USFWS attended field reviews of the project area with Forest Service staff on June 13, 2003 and August 5, 2003. The USFWS provided recommendations to minimize effects to lynx habitat on these field reviews in an email from Betsy Hermann of their Utah Field Office to Bill Stroh of your office, dated October 20, 2003. The Trout Slope West Timber Project maintains compliance with the Lynx Conservation Assessment and Strategy Standards (LCAS). However, we believe harvest planning also should be designed to meet LCAS objectives and guidelines to maintain and improve foraging and denning habitats.

Long Park Treatment

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We have specifically recommended that the Long Park Treatment (Area 3, proposed for selective cutting and removal of downed merchantable trees), be removed from timber harvest plans. The Long Park Treatment provides medium to high quality lynx denning and foraging habitat in a part of the forest that has relatively little quality lynx habitat remaining. We acknowledge that the present habitat was created, in part, by a prior selective cut, but believe that further harvest and removal of downed trees would degrade what habitat presently exists. In addition, the damp soils and the density of the vegetation would make it difficult to log in this

VEG 170
SOIL 1501

	Mr. George A. Weldon	2
Soil 1500	area without great impact. Small seasonally wet areas are important ecologically, but may be difficult to detect in the field under conditions of a logging operation.	4
TRAN1603	Harvesting Area 3 will facilitate access and potentially increase public activity in this area, particularly if the Proposed Action is implemented and a permanent bridge is installed. This would increase the likelihood of illegal off-road travel in this sensitive area.	5
WTE 1800 TRAN 1600	If the Forest Service decision retains Area 3 for harvest, we recommend that a temporary open-bottomed arch culvert be used to cross North Ashley Creek for access to Area 3, rather than a permanent structure such as a multi-plate culvert. The multi-plate culvert with concrete foundation would be more likely to create long-term stream stability problems and possible streambank erosion, channel scouring, and increased sedimentation. The temporary culvert should be removed following project completion and access should be obliterated.	6
	<i>Lost Sale Harvest Proposal</i>	
WLD1906	In the Lost Sale harvest proposal (Area 1), existing leave strips are the only remaining forest habitat in that area. These strips are relatively thin and provide relatively low quality habitat. However, the strips provide the only remaining cover for wildlife, and should be retained until the surrounding clearcuts have regenerated to a height sufficient to provide cover for large mammals such as elk. We recommend that these areas be retained uncut, until it is determined by a biologist that the regrowth is sufficient to support wildlife populations.	7
	<i>Sensitive Species and Migratory Birds</i>	
WLD1901	Surveys should be completed to assess the abundance of sensitive species prior to the initiation of project work as well as the design of buffered treatment areas and post project monitoring. Survey results should be used to assist treatment designs and plan timing of harvest activities.	8
WLD1901	For example, vegetation treatments should be timed to avoid nesting and breeding seasons for goshawks and other migratory birds. Vegetation treatments from early spring through late summer (April – August) would have the highest potential for deleterious effects to migratory birds, including physical destruction of active nests, eggs, and nestlings. Actual nesting months are species specific and should be more clearly defined following species survey efforts; or based on known forest species distribution information.	9
	<i>Noxious Weeds</i>	
VEG1702	Increased roads and logging activities will have negative impacts to the environment and wildlife. Roads increase habitat fragmentation, noise disturbance, soil compaction, and stream sedimentation, and create barriers to wildlife movement. Efforts to avoid road construction and/or to close or restore temporary roads are recommended.	10
	The potential for invasion by noxious weeds is greater with increased road traffic and soil disturbance. Therefore, we support use of practices to minimize the potential for introduction of	

Mr. George A. Weldon

3

VEG1702

nonnative species and the DEIS listed measures to avoid and/or control invasive plant species. We recommend the use of native seed for any revegetation activities.

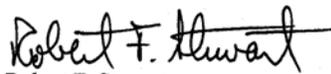
10

Specific Comments

- 1. Page 3, Abstract and Page 22, Section 1.4 states, "The proposed action would provide a supply of timber for small sales and larger (1 to 3 Million Board Feet (MMBF))." This should be consistent with page 23, Section 1.4B where the treatments appear to be 1.5 MMBF, 3.6 MMBF, and 4.1 MMBF; i.e., size range 1 to 4 MMBF. 11
- 2. Page 32, Section 2.1D, Alternative 3, Temporary Roads Closed – Please clarify how Alternative 3 is different from the Proposed Action with regard to temporary roads, as they both apparently propose to close the roads once the project is complete. We believe Alternative 3 proposes to allow the roads to revegetate naturally while the Proposed Action will maintain the roads at a custodial level as Forest Service roads. 12
- 3. Page 111, Section 3.7C, Environmental Effects, Proposed Action, Canada Lynx, Indirect Effects – Please provide the biological rationale or reference for the selection of a 0.1-acre buffer around red squirrel nests. 13
- 4. Page 112, Section 3.7C, Environmental Effects, Proposed Action, Three-toed Woodpeckers, Direct/Indirect Effects – The DEIS indicates that surveys will be completed prior to project initiation, but does not indicate what actions would take place if three-toed woodpeckers are found. Should a nesting pair be found, we recommend the Forest Service follow the Utah Partners in Flight Conservation Recommendations, which suggest an establishment of 528-acre management areas for each breeding pair within which tree harvest is not permitted. Partners in Flight recommends additionally that snags should be retained in clumps, rather than as individual trees. 14

We appreciate the opportunity to provide these comments. If you have any questions regarding this letter, please contact Kate Schwager, Biologist, in the USFWS Utah Field Office at (801) 975-3330, extension 132.

Sincerely,



Robert F. Stewart
Regional Environmental Officer

FS RESPONSE TO LETTER #6

1. The field reviews and the email dated October 20, 2003, presented concerns but not project design recommendations or mitigation measures regarding the effects of the proposed action on lynx habitat. Specific concerns addressed the proposed Long Park and Southside Sale Areas south of the North Fork Ashley Creek (See Map 3, DEIS, p. 17, Treatment Area 3). These concerns and environmental effects of the proposed action on lynx habitat were considered and discussed in the DEIS.

The following discussion addresses concerns presented in the October 20, USFWS e-mail (*italics*) for the “Long Park Treatment” area (described above):

- 1) *selective cutting in the Long Park area would damage lynx habitat and make it unsuitable for lynx use.*

Although short-term impacts have been identified, the proposed treatment in Area 3 would only displace the lynx during the life of the project, 3 to 5 years, and not make this area unsuitable for lynx use following the termination of activity. See DEIS Section 3.7C and the discussion of how the proposed activities comply with Lynx Conservation and Assessment Strategy (LCAS, Ruediger et al. 2000) Objectives and Guidelines below.

- 2) *the damp soils and density of the vegetation would make it difficult to log in this area without great impact.*

See response to comment #4.

- 3) *harvesting in this area will facilitate access and potentially increase public activity in the Long Park area.*

The Responsible Official will consider the environmental effects of changes in motorized access presented by the proposed action and Alternatives 1, 2, and 3. Temporary roads would be closed both during and after the cessation of harvesting activities under the proposed action. Alternative 2 – Open Public Access has the greatest potential for increasing public activity in the Long Park Area. The effects of increased public access on the lynx were addressed by the DEIS. Limited anecdotal observations do not support the hypotheses that dispersed recreation would result in significant behavioral disturbance to the lynx (See Section 3.7C, Environmental Effects, Wildlife, Alternative 2, p. 118).

The proposed action also includes project design elements and mitigation measures that would reduce impacts on lynx habitat consistent with the Canada Lynx Assessment and Strategy Objectives and Guidelines for Timber Management (LCAS p. 79 – 81) such as:

Programmatic planning – objectives

1. Evaluate historical conditions and landscape patterns to determine historical vegetation mosaics across landscapes through time. For example, large infrequent disturbance events may have been more characteristic of lynx habitat than small frequent disturbances.

Large infrequent disturbances would drive the historical vegetation mosaic in majority of the Trout Slope West area. Although the project area is highly fragmented from past timber activities, the proposed action does not include any regeneration harvests and will not increase fragmentation at a landscape scale.

2. Maintain suitable acres and juxtaposition of lynx habitat through time. Design vegetation treatments to approximate historical landscape patterns and disturbance processes.

The current juxtaposition of lynx habitat, forage and denning will be improved in the long term through the recruitment of more tree regeneration in the proposed treatment area (See DEIS, Section 3.1C, Environmental Effects, Forest Vegetation – Overstory, Project Area, Indirect Effects, p. 63).

3. If the landscape has been fragmented by past management activities that reduced the quality of lynx habitat, adjust management practices to produce forest composition, structure, and patterns more similar to those that would have occurred under historical disturbance regimes.

This proposed action would create more open conditions at the stand level that is consistent with the natural characteristics of these stands. The pattern of harvest areas will have a non-uniform or “clumpy” spatial pattern that typifies these stands. These stands are decadent and the upper canopy is opening up in the short-term due to the decline of the mature lodgepole pine.

Project planning - objectives

1. Design regeneration harvest, planting, and thinning to develop characteristics suitable for snowshoe hare habitat.

Neither the proposed action nor the action alternatives include regeneration harvesting or planting. The thinning treatment proposed for Area 2, the Center Sale, was not identified as lynx habitat.

2. Design project to retain/enhance existing habitat conditions for important alternate prey (particularly red squirrel).

The retention of red squirrel habitat would be partially mitigated by leaving all trees with active nests and a one-tenth acre buffer surrounding the nest tree (See DEIS, Section 3.7C, Environmental Effects, Wildlife, Proposed Action, Canada Lynx, p. 111).

Project planning – guidelines

1. *Plan regeneration harvests in lynx habitat where little or no habitat for snowshoe hares is currently available, to recruit a high density of conifers, hardwoods, and shrubs preferred by hares. Consider the following:*

a) Design regeneration prescriptions to mimic historical fire (or other natural disturbance) events, including retention of fire-killed dead trees and coarse woody debris;

The proposed action does not include regeneration harvests.

b) Design harvest units to mimic the pattern and scale of natural disturbances and retain natural connectivity across the landscape. Evaluate the potential of riparian zones, ridges, and saddles to provide connectivity; and

Harvest patterns would not alter landscape connectivity and would mimic the pattern of natural disturbance within the stands.

c) Provide for continuing availability of foraging habitat in proximity to denning habitat.

Lynx forage habitat would be reduced within the proposed stands in the short term, however the recruitment of tree regeneration would enhance understory density and vertical structure critical to lynx forage habitat in the long term.

2. *In areas where recruitment of additional denning habitat is desired, or to extend the production of snowshoe hare foraging habitat where forage quality and quantity is declining due to plant succession, consider improvement harvests (commercial thinning, selection, etc.). Improvement harvests should be designed to:*

a) Retain and recruit the understory of small diameter conifers and shrubs preferred by hares;

See above.

b) Retain and recruit coarse woody debris, consistent with the likely availability of such material under natural disturbance regimes; and

Several factors such as characteristics of coarse woody debris (CWD) in Treatment Area 3, project design elements, and mitigation measures would retain suitable structure for lynx denning opportunities. Much of the CWD in proposed Treatment Area 3 is not merchantable (merchantable logs contain one-third sound wood or more) and would not be removed by the proposed action. Proposed treatments in Area 3 would not remove more than one-third of the total stand basal area. On many sites, this threshold would be met without removing

all of the sound CWD. Sound CWD would be retained in patches suitable for lynx denning structure (See Mitigation Measure 2.2C, p. 34). Although minimum levels of CWD expressed as tons per acre has not be identified (DEIS, p. 112), a minimum of 10 tons per acre would be remain scattered throughout the proposed treatment area to maintain soil productivity (See Mitigation Measure 2.2I, p. 35-36).

c) Maintain or improve the juxtaposition of denning and foraging habitat.

The juxtaposition of denning and foraging habitat would be accelerated in the long term by recruitment of tree regeneration in the understory of Treatment Area 3.

2. See response to comment #1.

3. The Responsible Official has the discretion to retain or discard this area from the approved activity.

The Long Park sale area in Treatment Area 3 was identified as the highest quality habitat in the project area but not high quality habitat (See DEIS, Section 3.7A, Affected Environment, Wildlife, Canada Lynx, p. 105). Although the area contains suitable denning structure, much of the forage habitat in this area is marginal to moderate habitat. Stem densities in the 20 clearcuts that are within and adjacent to the proposed treatment are too low to provide suitable winter hiding and thermal cover. Densities range from 300 to 2,900 stems per acre, with an average density of 1,275 (prorated by acreage). Total area for these clearcuts is approximately 520 acres. The stem densities in the understory of the mature spruce-fir stands in this area provide better forage habitat however, much of this area would not be considered high quality. Stems densities for trees less than 3.0 inches diameter range from 861 to 2,588 with an average of 1,275 (prorated by acreage). Total area for these stands is approximately 651 acres.

The Trout Slope area and surrounding landscape still contains thousands of acres of suitable lynx habitat in areas that have not been harvested including designated roadless areas. The North Fork Ashley Creek LAU, which contains the Long Park Sale area, has the highest estimated harvesting disturbance (25.5%) of the three LAUs that contain proposed treatment areas. However this area is adjacent to an estimated 3,700 acres of contiguous old growth, both lodgepole pine and spruce-fir, that occurs outside of the project area adjacent to the southwestern boundary (See FEIS Section 3.1B, Forest Vegetation - Overstory, Old Growth).

4. Wet soils would be avoided. Such areas that are large enough to be mapped are delineated on Map 7, DEIS, p. 51 (See also DEIS, Section 3.5C, Effects Common to the Action Alternatives, Soils, p. 94.). Smaller wet areas identified during the sale preparation phase would also be identified and avoided.

Operations would be suspended on seasonally wet soils during extremely wet periods to avoid resource damage (See DEIS, Mitigation Measure 2.21, p. 35-36). Seasonally wet areas are commonly identifiable during harvesting operations.

5. See response to Letter #5, comment #16.

6. An open bottomed structure was not recommended for Alternative 3, temporary roads permanently closed, because the installation of such a culvert would require a concrete foundation. Such a structure is more suitable for a permanent crossing and is identical to the multi-plate culvert recommended for the proposed action (See DEIS, Section 2.1A, Proposed Action, p. 31). More bank stabilization work would be required to remove a culvert with concrete foundations than would be required to remove the flat-bottomed culvert recommended for Alternative 3.

For the proposed action, the multi-plate culvert was recommended because it would provide greater stability than a round culvert. This type of culvert is a more desirable culvert for fish passage because the natural streambed is left mostly unchanged, and there is no significant change in water velocity (DEIS, Section 3.6C, Environmental Effects, Fisheries and Aquatic Habitat, p. 99).

7. The surrounding clearcuts were harvested approximately 20 to 22 years ago. Elk have used the clearcuts since the time they were harvested. They have grazed the leaders of the lodgepole pine to the point that the height of the trees is much less than what it should be at this time. This grazing is expected to continue until the trees slowly grow out of the reach of the elk. This will occur in approximately 10 years when average tree heights are estimated to be six feet, with some heights around seven to eight feet.

The retention of the leave strips will result in a gradual infection of the lodgepole pine within the clearcuts by dwarf mistletoe.

The clearcuts are located behind a locked Forest Service gate that restricts hunter access and helps reduce the need for escape cover.

The existing leave strips are not the only remaining forest habitat in that area. Escape cover habitat, suitable for elk and deer use, exists adjacent to the proposed treatment area. This habitat consists of approximately 400 acres, is perpendicular to the proposed cuts, and exceeds ¼ mile in width.

8. Surveys will take place before project implementation.

9. Dates of sensitive time periods are stated in the DEIS, Section 3.7C, Environmental Effects, Wildlife, p. 112 – 114. Mitigation measures regarding sensitive time periods for post fledgling areas for the goshawk are presented in Section 2.2B, p. 33.

10. The potential impacts of road use and logging activities are discussed in Chapter 3 of the DEIS by resource. The Responsible Official will consider Alternative 3 - temporary roads permanently closed.

Monitoring studies in harvested sites in areas similar to Trout Slope West indicate no need for seeding following harvest. Native species have returned to landings and skid trails following harvest. Based on past experience, seeding is not proposed. This will prevent the possibility of seeding introduced species.

11. The volume estimates presented in Section 1.4B, Specific Treatments (Area 1 - 4.1 MMBF, Area 2 - 1.5 MMBF, Area 3 - 3.6 MMBF) are totals for each treatment area. These areas will be subdivided into individual sale areas of approximately 1 to 3 MMBF.

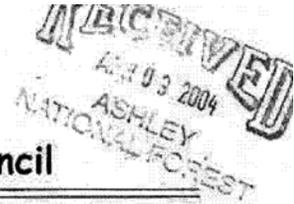
12. The temporary roads would be closed during and after the termination of harvesting operation under the Proposed Action. These roads would be maintained for administrative use, and added to the forest road system (commissioned). Under Alternative 3, the temporary roads would be permanently closed to all types of motorized use and allowed to revegetate.

13. There are several reasons for establishing a buffer around red squirrel nest trees. While a cursory literature search did not recommend a specific size requirement, it indicates that the midden tree (food storage location) is more likely to withstand blowdown during storms if adjacent trees are left standing. Additionally, areas closer to the midden are more often used for feeding and caching winter food supplies than outlying areas. The “clumping” around the nest tree may also supply escape routes from predators especially if the canopy contains interlocking branches.

14. Dates of sensitive time period are stated in the DEIS, Section 3.7C, Environmental Effects, Wildlife, Forest Sensitive Species, p. 112-113. Forest Service Wildlife Biologists will recommend that a 528-acre management area remain unharvested if a nesting pair is found. Snags will be retained in clumps as ground conditions permit.

LETTER #7

7-0-1-1



High Uintas Preservation Council

P.O. Box 72 ~ Hyrum, UT 84319
(435) 245-6747

8 April 2004

George Weldon
Forest Supervisor
Ashley National Forest
Vernal, UT

Dear George:

We are in receipt of the Trout Slope West Timber Project Draft Environmental Impact Statement (DEIS) and have a brief comment.

Again, we want to commend the forest for preparing a DEIS, staying out of roadless areas and behind the proverbial forest plan "blue line." Compared to the earliest version of a Trout Slope West scoping proposal back in the late '90s this effort represents a significant improvement.

I do want to note for you one concern from the outset. The DEIS our office received was incomplete. It appears complete from page 2 to 102 and then was missing pages 103 to 124 and then we presume complete from page 125-144. I was able to obtain another copy of the DEIS from an associate that seemed to harbor all pages.

We want to clarify that this is a *timber sale* project. That is, after all, the title of the scoping document(s) and the DEIS. Specifically the Purpose and Need note the intent is to harvest trees and recover economic value of those harvested trees. It is NOT primarily a travel/transportation planning document.

TRAN 1601
ALT 200

And herein rests a puzzling and troubling context with the *Trout Slope West Timber Project Draft Environmental Impact Statement*. The THREE action ALTERNATIVES (Proposed Action, Alt. 2 and 3) are ABSOLUTELY IDENTICAL with respect to TIMBER HARVESTING—precisely the same acres harvested, types of harvesting, miles of roads needed to access timber harvesting sites and even "estimated logging truck loads." In the context of this timber sale proposal there are no differences in alternatives with the exception of the No Action alternative.

ALT 200

The sole difference in the alternatives is how to deal with the roads used to access the same timber sites in each identical alternative. And even this is a bit slight-of-hand. In two of the three alternatives the 10 miles of reconstructed roads would be added to the National Forest Transportation System. In Alt. 2 the roads would be "upgraded" and opened to the public while the Proposed Action "downgrades," but maintains and possibly opens them at a later date. The other action alternative closes and revegetates the timber harvest access roads.

ALT 200
TRAN 16

ALT 200

The point is this isn't a transportation planning/travel planning NEPA document. It is a timber sale document and it is incumbent that the alternative array reflects the context of the purpose and need of the particular NEPA analysis and review.

4

PLAN 1000

This is compelling in and of itself—NEPA is not the least bit ambiguous on this point. It is also important because our scoping comment specifically noted the need for a meaningful array of alternatives. Meeting the pure and plain intent of NEPA (and for that matter NFMA) with respect to providing an array of alternatives to analyze a particular action against the purpose and need is a long held and tightly established NEPA direction. It is not picky stuff, it is foundational stuff.

5

TRAN 1601
TRAN 1603

Certainly an array of road closure alternatives is a part of the proposal but not the defining context because this is a timber sale with particular objectives and needs—roads and access are pieces of that fabric but not the stitching!

6

FPLN 600

The foundation of this timber sale rests on the clearly out-of-date forest plan and its reliance on rationalizing timber sales within *management area n*. For as long as the forest plan has been in effect and for as long as we've commented upon timber sales on the forest we have raised the issue pertaining to the clear management direction within *management area n*. All agree, even this DEIS, with the clear intent of the particular prescription. But with a deeply disingenuous Cheshire grin, the Ashley National Forest nods and winks and then plainly and with hubris ignores this concern. Hopefully, George, being a new Forest Supervisor, you will start fresh and with the integrity you have often cited as being so crucial, by dealing with this issue honestly and forthrightly. The rationalization of *management area n* is shallow and insincere. The simple and truthful matter of fact is *management area n* is a low intensity prescription (almost all of the pertinent lodgepole/spruce habitat types in this area have a low timber productivity, see *Coniferous Forest Habitat Types of Northern Utah*, Gen. Tech. Report INT 170, July 1984) which did not foresee meaningful investment in timber harvesting during this planning horizon and at best timber harvesting is to be "modified" for amenity protection, to retain old growth and coordinate with wildlife and recreation. A "mere" 93% of the project area is harbored within this prescription! Not only are we deeply concerned with this issue but we are asking for a plan and simple answer as to how the management area prescription has been met with this proposal.

7

TRAN 1601/
WLD 1900/
VEG 1702/
SOIL 1500

While the DEIS notes 30 miles of existing system roads would be used and maintained (presumably at higher levels of both use and maintenance than they are receiving right now for obvious reasons) and 10 miles of temporary roads would be re-opened and maintained, the DEIS fails to analyze the impacts of these roads from a temporal context. The DEIS notes the timber sales would be "active" for a minimum of at least 8 years, probably longer because of contract extensions. However, the DEIS assumes the impacts of roads upon wildlife, erosion, fragmentation, etc. come only from a spatial context of a single point in time. But the impacts are likely to exist for a decade or longer. In fact, with respect to 2 of 3 action alternatives the impacts associated with 10 miles of roads as agents for fragmentation, impacts to wildlife, modes for noxious weed invasion, additions to soil impacts could go on indefinitely as the roads will not be closed and rehabilitated.

8

TRAN 1601

The literature on roads is replete with the deep concern that the impacts of roads are not of a point-in-time but are enhanced over even short time frames because of the relenting consistency of road impacts. (Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities. Stephen Trombulak and Christopher Frissell. Conservation Biology. February 2000). The issue(s) is not whether roads are temporary; it is what the roads do and what they bring into a forest system. Roads have profound impacts and the DEIS simply glosses over those impacts on the premise that they are temporary.

9

VEG 1701

The Purpose and Need of the action is noted, in part, to prevent a "blow down" and the forest condition of "jack-straw." Ironically, the DEIS never again notes the concern of "jack-straw" and states plainly that the proposed action will increase windthrow of trees in at least two of the treatment areas. In Treatment Area 2 it is noted the forest structure would change from one of a closed canopy to an open structure. One need not be a trained as a forester to recognize that will increase blowdowns of isolated, residual trees.

10

REC
1200

We are a bit baffled at the importance the DEIS offers issues of public safety in the context of trees possibly falling on campers and that somehow the action alternatives decrease this possibility over the No Action alternative. We wonder how many campers and/or their equipment have ever been actually damaged as a result of not harvesting a particular area. The truth be known this isn't much of an issue—we are sure there is no reliable evidence to suggest the No Action alternative is a bit less risky than the action alternative and if so then certainly the answer is to simply close the temporary roads, as per Alternative 3 to meet the concerns and limit the liability the agency may encounter. And, of course, if this is an actual problem then we suggest you close this area to snowmobiles which have virtually carte blanche access under any and all of these trees.

11

VEG 1702

The DEIS largely ignores noxious weeds as an issue/concern in spite of the fact that the Chief of the Forest Service has noted noxious weeds represent one of the greatest threats to national forest landscapes. The distinct and overwhelming evidence is that logging roads and activities are major reasons noxious weeds find their way into forest ecosystems. Once on site they are easily transported by wind. This issue can't be ignored.

12

FIRE 400/
VEG 1701

The concern over fire is not consequential as the DEIS suggests...other than a very biased insinuation that because the No Action Alternative has a higher fuel loading potential there exists a high fire potential (this itself is suspect because the DEIS already notes most of the dead has already fallen). The DEIS then goes on to note that given typical conditions and the predominance of the area within Fire Group 10, the likelihood for a catastrophic fire (outside of the norm) is very constrained regardless of the alternative selected and that at some point under normal conditions a crown fire will occur. The analysis also seems to show, actually, that the slash and logging residue totals for the action alternatives are about the same as the predicted fuel loading under the No Action Alternative creating about the same or high fire potential within the action alternatives. This is further exacerbated, yet surprisingly not analyzed in the DEIS, by the fact that logging activities themselves are responsible for fires along with increased recreational use during and following logging as the roads are left open (or closed, but not re-vegetated as per the Proposed Action).

13

TRAN1603

The fact that the Proposed Action closes roads with "...large rocks" or "road closure gates" means nothing. The question is how much illegal use will occur on those roads, how often will they be monitored and patrolled and how soon will the Forest Service simply capitulate and determine the roads should be "looped-up" and opened for OHVs. This can not be dismissed as we have discussed with you numerous times—already such serious problems exist on the forest—and the likelihood for such illegal use (possibly being turned into legal use) IS NOT REMOTE. This needs a complete analysis and the only place and time that is correct is at the point of the decision to leave roads "open" even if they are slightly obstructed or gated and theoretically closed to public use.

14

OUT 900

TRAN1601

This brings up the issue of the "Roads Analysis" on the forest. Given the over arching concern over roads and their impacts to wildlife, soils, water quality, noxious weeds, recreation abuse, increased fire hazards and all of the costs associated with these issues along with simple maintenance and construction costs, one would think their must be a compelling rationale that has evolved either through this review or the boarder Roads Analysis as to why additional roads would be, in essence, added to the road inventory in this Project Area, by far the heaviest roaded region on the Ashley. Certainly this DEIS offers no review or analysis why the roads should or need to be left open.

15

16

WLD1901

The discussion surrounding wildlife is fraught with two assumptions: 1) species are not found in these particular places and thus the area has no value for them and 2) if they are there and this action adds to the fragmentation of their habitat they can move elsewhere. Both are too y simplistic. Not being there is likely a function of simply not having encountered them as formal monitoring has been weak, at best. With respect to lynx it matters not that they are possibly absent. What matters is some of this area is important habitat and that habitat must be preserved. Moving into adjacent areas is simplistic biology too say the least since fragmentation may inhibit movement, adjacent habitats may be occupied and most of the species of concern are highly territorial.

The DEIS fails to even acknowledge pine marten, the subject of a major study on the Ashley National Forest (The Effect of Forest Fragmentation on American Marten Populations and Prey Availability," 1995, Christina Hargis and John Bissonette, UT Cooperative Fish and Wildlife Research Unit, Science Report No 95-5:1-26). The report found that in this particular area natural forest integrity, structure and function have been so violently altered by logging that marten are almost absent from the region while relatively common throughout the Uintas where logging was absent!

17

The literature has always portrayed the importance of woodpeckers in forest ecosystems. That importance is understood at even a deeper level today making it more important than ever that all available woodpecker habitat is preserved. Without adequate and current population trend data for three-toed woodpeckers the not-so-fancy analysis suggesting minimal impacts to three-toed woodpeckers has no merit. A special section of peer reviewed, professional papers in the February 2004 issue of *The Condor* highlights these concerns. Woodpeckers carry numerous fungal species in their beaks which aide in the decomposition of trees leading to the cavities necessary for both woodpeckers and many other species. The authors note woodpeckers are veritable landscape architects and play a crucial keystone role in forests. (See THE CONDOR, Volume 106, Number 1 February 2004. SPECIAL SECTION: CAVITY NESTERS

AND KEYSTONE PROCESSES.

WLD 1901

- Modeling Occupancy of Nest Cavities in Recently Burned Forests. VICTORIA A. SAAB, JONATHAN DUDLEY AND WILLIAM L. THOMPSON
- Ecological Relationships between Fungi and Woodpecker Cavity Sites. JEROME A. JACKSON AND BETTE J. S. JACKSON
- The Role of Foraging Woodpeckers in the Decomposition of Ponderosa Pine Snags. KERRY L. FARRIS, MARTIN J. HUSS AND STEVE ZACK

17

ECON300

The socioeconomic analysis is profoundly lethargic. It does not even attempt to address non-market issues on even a qualitative basis. There is not even an attempt to analyze socioeconomic values outside of the self-defined local area of the Uinta Basin. Other Utah residents place high values, economic and otherwise, on the area. There isn't even an attempt at a Present Net Value or any recognition that costs are associated with this project. The DEIS does conceded benefits are near zero with no additional jobs being added and almost none removed if the logging activity were not to occur. A true economic analysis would arrive at a much broader and more meaningful review of the project. It is simply absurd to constrain the economic benefits to only .2% of the folks in the Uinta Basin! It appears the only segment of Ashley National Forest patrons, according to this DEIS, that matter or have any strong interest in the forest are those who happen to own logging companies!

18

VEG1701

What the DEIS does clearly reveal is a forest system in deep distress. Its function, content and structure have been profoundly altered primarily by past timber harvesting and road building. Mistletoe as a pathogen has been added to the system by a series of timber harvests in the past. This DEIS simply responds to this problem as it responded in the past—adding more anthropogenic impacts which simply exacerbate the stress within the system. Of this there is no dispute.

19

VEG1701

The *Uinta Mountain Ecosystem Management Project* and the *Ashley National Forest Proper Function Condition Assessment* note the lodgepole pine forests of the area have seen upward of 60%-70% of the area clear cut. This is an invitation to ecosystem distress. The typical Forest Service answer seems to be, *"because we've already messed the place up we can do more, need to do more and that will help, somehow."* But the upshot of this DEIS is that every resource value will be further stressed by this action (while the DEIS purports to "mitigate" actions within the project area, the *end product analysis* is distinctly clear, additional resource impacts will occur and will stretch out for the length of the timber sale activities—8 years or more!). There will be more impacts to soils, water quality, watersheds, avian species, terrestrial species and aquatic species. The PFC and historical ecological variability will be twisted even further. None of this meets/responds to the issues identified in the DEIS. The simple matter of fact is the Purpose and Need produces a set of issues that can't be addressed!

20

But we also recognize the reality of the "Trout Slope."

A terrible dilemma has been created and rather than perpetuate it, which is all the *Trout Slope Analysis* and the two Trout Slope EISs have done, it is time to recognize that rehabilitation must proceed. Within this context and content of the Trout Slope West DEIS, we note and suggest two actions that can assist in the rehabilitation while allowing much of the extant management direction to proceed. At the minimum, pending completion of the revised forest

21
TRANS1601

22
VEG1701

24
WTR1800

25
TRANS1601

Treatment Area 3 and in the selected alternative close, rehabilitate and re-vegetate the 10 miles of temporary roads identified in the DEIS. Treatment Area 3 harbors meaningful old growth, the most consistent and continuous, unfragmented forest system in the Project Area and represents the least impacted region in the Project Area. It is also, bar none, the most important habitat for lynx, goshawk, pine marten, native fisheries and great gray owl not to mention the most important watershed in the Project Area because of its municipal value to Vernal. By not further entering this watershed a significant set of impacts can be avoided and the overall value of the West Trout Slope project is enhanced. By assuring all 10 miles of noted roads are fully closed, the physical impacts associated with road fragmentation will be avoided and that, as the DEIS notes, will further minimize resource value impacts. The roads certainly serve no purpose, recreational or otherwise and nothing within the Project Area is calling out for more roads! This alternative would assure a continuous supply of timber to the very small mills dependent upon Ashley timber. This is an answer that, at least, addresses the issues identified in the DEIS and meets the Purpose and Need. Without a doubt leaving these roads open does not meet the Purpose and Need of the Project.

23
WLD1901

26
ECON301

Please keep us promptly posted, updated and involved in this project.

Thanks much.

Best,


Dick Carter

FS RESPONSE TO LETTER #7

1-6. See response to Letter #1, comment #2.

7. Forest plan revision has been initiated. The existing prescription for Management Area “n” and its delineation will be reviewed during this process.

Although “Amenities” and “Low Investment” are not specifically defined in this management prescription, the proposed treatments are coordinated with wildlife and recreation. The DEIS, Section 2.2, lists mitigation measures that would reduce impacts to wildlife habitat such as the consideration for goshawk habitat with respect to logging activities (2.2B, p. 33-34) and the retention of snags for the potential woodpecker population (2.2H, p. 35).

Per acre requirements are also presented for the maintenance of old growth characteristics in treatment area 3, south of the North Fork Ashley Creek (2.2E, p. 34-35). A revised discussion of old growth is presented in the Final EIS. Concerns regarding the retention of old growth were also addressed in the response to Letter #2, comment #4.

A stated purpose and need objective is to reduce the jack-strawed condition in the project area. The benefits of reducing this condition are discussed in the DEIS, 3.8C, Environmental Effects, Recreation. This section also indicates that recreation opportunities such as hiking, camping, horse travel, and hunting would be improved by easier travel, increased safety, and enhanced line of sight. Concerns over public safety due to logging traffic would be addressed with log and equipment hauling restrictions in sale contracts.

8-9. The cumulative effects of changes to the temporary roads have been updated in Chapter 3 by resource where applicable.

10. The blow down of existing snags represents the greatest potential for increasing or perpetuating the jack-strawed condition. The proposed salvage harvesting would decrease this potential by removing snags (dead standing trees). The area that is currently characterized by a jack-strawed condition would also be reduced through the removal of dead down trees.

You are correct that the potential for the blow down of isolated residual trees may be increased in any of the proposed treatment areas. An increase in blow down (windthrow) susceptibility would occur on a site-specific basis and is dependent upon the number of trees removed from that site and site conditions. The likelihood of such blowdowns is greater along the edges of forested stand that are perpendicularly oriented to the prevailing wind direction. However, the general topography of the proposed treatment areas are relatively flat and majority of the proposed treatment areas would be considered low to moderate wind risk terrain. A high level of blow down of residual live trees is unlikely in the

future barring a severe wind event. Such an event would result in the blown down of a large number of live trees under any management decision including no action.

11. The Forest Service recognizes a concern for public safety in any management activity on National Forest System lands. High amounts of dead trees, both standing and down, present a safety hazard. Forest Service crews are restricted from working in such areas during high wind conditions. Many field employees have personally experienced having dead trees fall nearby from the forested canopy. Forest Service employees had been hit and killed by falling dead trees. Reduction of high amounts of dead trees will improve safety for all forest visitors and workers and is recommended by the proposed action and all action alternatives.

12. The discussion of noxious weeds has been expanded (See Final EIS, Section 3.2). The potential for the establishment of noxious weeds in the project area is greater for activity that increases road access and use. Consequently, Alternative 2 has the highest potential for the introduction of noxious weeds. The potential for the spread of noxious weeds is generally equal for the proposed action and all alternatives. The history of the Trout Slope West area indicates that infestations of noxious weeds will be comparatively minor and that coniferous trees will continue to drive plant community dynamics with little apparent interruption from noxious weeds.

13. The purpose of the fuels analysis is to address current conditions of fuel beds and the amount of fuel available for consumption using the criteria under each alternative. The purpose of this proposed project is for wood product utilization. While the proposed alternative reduces fuels, it does not reduce hazardous fuels. The term hazardous fuels correlates to how fuels, if left untreated, may threaten human life or property in the event of a wildfire.

The fuels analysis for the DEIS was completed through inventorying downed woody material using the most recognized methods developed by James K. Brown, and by calculating crown mass for stand exam data for the project area. Data for live and dead fuels were used to calculate fire behavior using the CrownMass Assessment of Potential Fire Behavior software. Moreover, photo guides for determining downed woody material were also used. The software for determining crown mass and fire behavior also has the capability to determine slash in tons/acre that may be created after mechanical disturbance.

Alternative 1 (No Action) was determined to not increase the likelihood of fire; rather, increase the potential of fire effects due to the fuel loadings and fuel bed arrangement of fallen trees. The mountain pine beetle has removed most of the mature lodgepole leaving an overstory of primarily scattered lodgepole and spruce. Furthermore, where larger canopy openings were created, immature lodgepole exist. A ladder fuel effect from the toppled beetle-killed lodgepole pine

will allow fire to reach the low canopy base heights of the overstory trees, thereby increasing the fire effects. Until total decomposition occurs in the down and dead the heavy accumulations of fuel will increase the likelihood of ground sterilization effects in the event of a wildfire. Larger diameter fuels increase the duration of soil heating.

Any removal of woody debris and or live vegetation is a reduction of fuel available for wildfire consumption. The proposed action, as well as, Alternatives 2 and 3, are the only alternatives that will reduce the amount of fuel, live or dead; therefore, they are also the only alternatives that could reduce the potential for severe fire affects. Left untreated, all areas will have the potential to produce and sustain crown fire activity. This is not to say, however, that the effects of a crown fire will be the same in each stand. Crown fires are more severe because both the forest floor and overstory are being consumed. Where higher concentrations of down and dead woody debris exist the severity increases due to the availability of ladder fuels and overall biomass. It should be noted that the term crown fire denotes both ground fire and overstory burning of material while an independent crown fire is unrelated to fuels on the forest floor.

The removal of trees under the proposed action and Alternatives 2 and 3 does create slash that will add to a fuel bed. However, more fuel is removed than produced. Furthermore, slash can be arranged in a manner that would not exacerbate the behavior of a wildfire. (See DEIS, Section 2.2I, p. 35-36)

The High Uintas Preservation Council is correct in assuming that there is a greater potential for a fire to occur with more roads. More roads equates to more exposure and potential for human caused ignition sources.

14. The closure of the roads under the proposed action is intended to eliminate legal motorized roaded travel in the proposed areas, especially in the portion of proposed Treatment Area 3 south of the North Fork Ashley Creek. This area contains sensitive landtypes that will be avoided by any approved activity. Many of the temporary roads that have been identified for improvement work under the proposed action are inadequately closed by dirt berms or are not restricted at all such as access to the sensitive portion of Treatment Area 3 described above. The road across the Long Park Reservoir dam currently provides unrestricted access to this area under dry weather conditions. Our ability to control illegal activity is limited and no assumption was made in this analysis that any activity would reduce such use. However, the use of gates and/or large rocks depending upon site conditions is suitable for the control of legal motorized traffic as proposed.

The DEIS does assume an increase in illegal activity for Alternative - 2 Roads Open (See DEIS, Section 2.4, Comparison of Alternatives, p. 40-41). The recreation analysis determined that the improved access across the North Fork Ashley Creek would facilitate this increase in illegal use. The Soils analysis

determined that this alternative would cause a major increase in effects with expected use in adjacent sensitive landtypes in proposed Treatment Area 3. However, no change from the existing trend of motorized off-road travel or illegal activity was projected for the proposed action, Alternative 1 – No Action, and Alternative 3 – Roads Closed.

15. A roads analysis at the project scale is not required but may be undertaken at the discretion of the Responsible Official. (See FSM 7712.13c).

16. There is a variety of management activity that may occur in the project area in the future that would be facilitated by the conversion of the temporary roads to system roads available for administrative use such as timber stand improvements and fire suppression activities. Conversion of these roads to system roads available for public use would enhance recreational opportunities that involve motorized travel. Open public access is desired by some stakeholders (See Letter #4) and will be considered by the Responsible Official.

There are approximately 66 system roads and 56 temporary or user created roads in the project area. Road density for both categories is 4.2 miles per square mile. This would not change under the proposed action, Alternative 1- No Action, or Alternative 2 - Open Public Access. Under Alternative 3 – Temporary Roads Permanently Closed (and allow to revegetate), the road density would be reduced to 3.9 miles per square mile.

Road density for system roads only is 2.28 miles per square mile. Under the proposed action and Alternative 2 – Open Public Access, this density would be increased to 2.63 miles per square mile.

17. The project area has potential habitat for lynx, northern goshawk, three-toed woodpecker, great gray owls and boreal owls. Both the goshawk and three-toed woodpeckers are present in the project area. The effects of the proposed action or any action alternative on these species are discussed in Chapter 3.7 of the DEIS. The proposed action includes selective timber harvest only and would not increase fragmentation at a landscape scale.

Effects to lynx and lynx habitat are described in the DEIS (p. 110-112). The importance of protecting this habitat is also described in the DEIS. Unfortunately exact requirements for lynx survival on the Ashley National Forest are not known. Therefore, the prescribed requirements for habitat protection were extrapolated from other areas that support viable lynx populations or reintroduction efforts.

See the response to Letter #5, comment #10 regarding the pine marten.

See the response to Letter #6, comment #13 regarding the red squirrel.

18. The social/economic analysis has been updated, See Section 3.11.

The social analysis was intended to present data that demonstrates that although the primary purpose and need of this project proposal is to recover the economic value of wood products, the local forest products industry that would depend on these sales is small. However, commercial timber projects such as this project will help to sustain this small wood products industry and maintain a management tool that will be required for future activities such as fuels reduction projects that require mechanical treatment. Therefore this project provides indirect benefits to the public beyond the benefits to the small wood products industry. In many areas communities have lost not only the forest products companies that have gone out of business, but much of the economic infrastructure that had developed around these industries. This has now become a serious issue as the Forest Service attempts to thin forests and reduce hazardous fuels and can no longer find local companies capable of performing this kind of work (Sample and Cheng 2004).

The Recreation and Visual Quality analysis does address non market values such as visual quality and recreational opportunities related to this project and the Trout Slope West Timber project (See DEIS, Section 3.8, Recreation, Section 3.9, Visual and Scenic Integrity). The Recreation analysis considers visitors and uses of the Project Area on a scope that includes both the local residents of the Uintah Basin and individuals from the Wasatch Front near Salt Lake Ogden, and Provo (See DEIS, Section 3.B, Recreation – Affected Environment, Constituent Information).

The proposed action and Alternatives 2 and 3 would be below cost sales (the cost of sale preparation including the EIS, sale administration, monitoring, noxious weed control, etc. would exceed the revenue generated by any proposed activity). The revenue generated by the project based on current standard timber rates is estimated to be approximately \$750,000. A portion of this revenue would contribute to the annual allocation of revenue to local counties. A detailed analysis of cost and revenues is provided in the Project Record.

19. Mistletoe has always been a part of the ecosystem of the project area. Harvest activities can reduce or increase mistletoe levels depending on the specific methods used. Clearcutting removes the infected trees from the harvested area so that only the perimeter of the treated area receives new infections. Partial cutting with an infected overstory would increase mistletoe levels since the regeneration over most of the area would be subject to infection. This is also true of all natural disturbances such as fire or wind. With complete removal of an overstory, the perimeter is at risk and with a disturbance that leaves trees standing, the developing regeneration will become infected.

20. Timber harvest has been the predominant management activity in the Trout Slope West project area (See DEIS, Section 3.1B, Affected Environment, Forest

Vegetation - Overstory, p. 57). Much of this activity was driven by the salvage of beetle-killed timber as is this project. Clearcutting has been applied to 5,260 acres of the project area, 28.4%. The amount of harvesting peaked during the 1970s. The proposed treatments do not recommend this level of activity. Although the proposed treatments would operate on approximately the same area as the activity completed in the 1990s, the silvicultural methods have also shifted from clearcutting as the preferred method to selection/sanitation and intermediate treatments.

Table 1.
Past harvest activity in the Trout Slope West Timber Project Area, including the proposed treatments.

DECADE	ACRES BY TREATMENT						% OF TOTAL
	THINNING	SANITATION/SALVAGE	OVERSTORY REMOVAL	CLEARCUT	SELECTION CUT	TOTALS	
1930	0	0	0	0	331	331	3%
1940	0	0	0	80	242	322	3%
1950	0	0	0	0	173	173	2%
1960	0	0	0	893	234	1,127	11%
1970	0	0	0	2,415	427	2,842	29%
1980	44	28	43	799	199	1,113	11%
1990	0	0	42	1,073	826	1,941	20%
2000	468	1,558	40	0	0	2,066	21%
TOTALS	512	1,586	125	5,260	2,432	9,915	
% OF TOTAL	5%	16%	1%	53%	25%		100%

The NEPA process is designed to provide analysis regarding the environmental effects of any proposed, past and future management activities. Many measurable impacts and associated tolerances exist in the numerous documents that provide standards and guidelines for the management of the National Forests such as the Ashley National Forest Land and Resource Management Plan and the Canada Lynx Assessment and Conservation Strategy. Examples of resource tolerance thresholds are Equivalent Clearcut Area (ECA) levels by stream condition (See Section 3.4B Affected Environment, Water Resources, Stream Channel Stability Considerations, DEIS p. 77-78.) and percentages of area retained in an acceptable condition for lynx habitat (See Section 3.7B, Affected Environment, Wildlife, DEIS p. 103-105. The assessment of existing conditions such as ECA levels and suitable lynx habitat area considers all past harvesting area including clearcut acreage.

The analysis conducted for the Trout Slope West project area did not identify any unacceptable levels of resource damage or reduction of habitat at a landscape level. Nor has the past harvesting activity altered the natural species composition in the project area (See DEIS, 3.2C, Environmental Effects, Forest

Vegetation – Understory, Effects Common to the Proposed Action and Alternatives 2 and 3, Irreversible or Irrecoverable Commitments, p. 69).

21. The permanent closure and the revegetation of the 10 miles of temporary roads (Alternative 3) will be considered by the Responsible Official.

22. See response to Letter# 1, comment #4.

23. Area 3 is important to lynx, goshawk, and other species. Impacts to these species have been identified in the DEIS.

24. Section 3.4 - Water Resources, identifies the municipal watershed importance (section 3.4B – *Water Quality Considerations*, pp. 75-76). Section 3.4C – Environmental Effects identifies the following effects which would not create impacts to the water quality of the municipal watershed:

Proposed Action. Direct/Indirect Effects – buffers are adequate to trap sediment prior to reaching streams; ford crossings would not affect water quality (p.87). The site of the bridge crossing may have some erosion, but Cumulative Effects analysis indicates that no sediment effects would occur below the North Fork Ashley Creek subwatershed (p.88).

Alternative 1 (No Action). Sediment transport still occurs.

Alternative 2 (Open Public Access). Direct, indirect and cumulative effects similar to Proposed Action.

Alternative 3 (Temporary Roads Closed). Direct, indirect, and cumulative effects are similar to the proposed action.

25. Closing and allowing the roads to revegetate under Alternative 3 will reduce fragmentation in the proposed action areas in the long term. These roads however, would facilitate administration activity in a roaded, managed area. Scoping and comment letters also stated support for improved public access for activities such as recreation (See response to Letter #4, comment keeping roads open to improve motorized recreational opportunities). The Responsible Official will consider all access options presented in the DEIS.

26. The stated purpose and need can be accomplished under Alternative 3 and will be considered by the Responsible Official.

LETTER #8

WESTERN WOOD PRODUCTS INC.
P.O. Box 339
Mountain View, WY 82939

April 12, 2004

Mr. George Weldon
Forest Supervisor
Ashley National Forest
355 N Vernal Ave.
Vernal, UT 84078

Re: Trout Slope West DEIS

Dear Supervisor Weldon,

We have recently reviewed the Draft Environmental Impact Statement for the Trout Slope West timber project and offer several comments and observations on the proposal. We appreciate the opportunity to comment and commend the Ashley for carrying through with this proposal when it could have easily abandoned the project over the time period between the initial landscape assessment and the present time.

Western Wood Products is a small company specializing in the manufacture of post/pole and deadwood products. We presently have plants in Mountain View, Wyoming and Raton, New Mexico with a total of 30 employees between the 2 locations. Our concern with the Trout Slope West proposal and continued timber management programs on national forests is their potential contribution to the survival of our operations and to continue sound management of the vegetation on our national forests. We see our operation as part of the diverse but dwindling forest products industry in this area that is reliant upon the Ashley National Forest for a portion of their raw material.

ECOW
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We believe that the Trout Slope West project is well conceived and straight forward concerning the desired goals and potential impacts of the project. It is also compliant with Forest Plan direction for the management areas which contain the proposed harvest sites. I believe that the proposed timber harvest will provide many long term benefits for the treated areas and the other resources which depend on a healthy and diverse vegetation class structure. Over the last number of years I have seen too many projects that consider the present condition the ideal and do not look beyond that point in helping create the desired future conditions described in their respective forest plans.

FPLN
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VEG
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Any timber offerings that are generated on Trout Slope West need to be reviewed in the context of not only protecting or minimizing adverse impacts to other resources but also to make sure that any timber harvest is economically and environmentally viable. Many times this is not as strange as it

4 may seem since a difficult logging job can have more potential to adversely impact other resources (i.e. water, wildlife, etc.) than one that works to take these things into consideration from the time a proposal is developed through to its execution. In reading the DEIS, it appears that this has been covered to the side of caution with ample consideration for resource protection, often on the side of caution. I believe that the silvicultural prescriptions being proposed for the treatment areas are sound given the constraints of the project and the need for protection of other resources. It will be important to translate this into on-the-ground application.

VEG
170

5 This being said, I believe that the project should consider some limited vegetation treatment within the INFISH defined buffer strips for the reason that these areas are important as fisheries and other resources but will they are certainly not immune to the elements of change that will effect the adjacent forested lands. Would it not be prudent to start moving these buffer areas toward a desired and sustainable future condition rather than see them deteriorate and severely impact the riparian areas in the future?

VEG
170
FISH
500

6 The draft also includes an in depth section on the fire ecology of the area, something I have previously rarely seen in previous DEIS's. I believe that it provides a good background of what the possible impacts of fire in the area given the proposed treatments. One thing that I feel needs to be clarified in the analysis is the amount of fuel loading reduction to be expected under the alternatives in the middle of page 73. The way the information is currently presented made it unclear to me what the overall expected reduction in fuel tonnage would be in the area.

FIRE
400

7 The action alternatives also need to retain the action of closing temporary roads to motor vehicle use following the completion of timber harvesting activities. This action is likely needed to be compliant with the desired amount of short and long term impacts on area wildlife and water resources.

TRAM
1600

The Trout Slope West project will provide many long term benefits to the area with a tradeoff for some limited short term impacts. Although the case could be made for inclusion of more salvage timber in the area, this does represent a reasonable tradeoff in the light of other resources needs. Please keep us informed on the progress of this project, if you have any questions or require additional information, please contact me at 307-782-3388 (office) or 970-214-9853 (cell).

Sincerely,

Ed Coates

Ed Coates CF
Western Wood Products Inc.

FS RESPONSE TO LETTER #8

1. This project will make a contribution to the continued survival of the local wood products industry. Sustaining this industry is important for maintaining the ability of natural resource managers to apply mechanical treatments to achieve a variety of management goals. See also the response to Letter #7, comment #18.
2. The proposed action and action alternatives are consistent with the current Land and Resource Management Plan for the Ashley National Forest. See also the response to Letter #12, comment #3.
3. Proposed activities must be environmentally viable and a thorough interdisciplinary review is conducted to identify and design project proposals and recommend mitigation measures to ensure environmental protection. (See Section 1.4C, Project Design Elements and Section 2.2, Management Requirements and Mitigation Measures Common to the Proposed Action and Alternatives 2 and 3).

See the response to Letter #7, comment #18 regarding the socio/economic analysis.

4. We agree that the silvicultural treatments are designed to provide proper protection for other resources. The on-the-ground application of any of the proposed treatments will require careful implementation.
5. Inland Native Fish Strategy (INFISH) standards require a buffer zone for fish bearing (300 feet), permanently flowing (150 feet), and intermittent streams in priority watersheds (100 feet). The Ashley National Forest is not bound to INFISH guidelines legally, but decided to use the INFISH buffers as a starting point to protect riparian habitat.
6. The referred paragraph in the Draft EIS on page 73 discusses the estimated reduction of all dead fuel, standing and on the ground, by 3 to 6 tons per acre. Of the total 3 to 6 tons per acre, 1 to 3 tons per acre is the calculated figure for only those fuels on the ground. Methods for obtaining down and dead fuel measurements are used regularly with accuracy. However, it is more difficult to calculate tons per acre of standing dead. See also the DEIS, Section 2.4, Comparison of Alternatives table, Fuel Loading, p. 45 - 46.
7. The Responsible Official will consider the closure of roads following any timber harvesting activity related to this project.

LETTER #9

9-I-1-1

Jan Ellen Burton
1340 Gilmer Drive
SLC, UT. 84105

April 11, 2004

Dear Mr. Weldon:

1 I hope I am not too late to add my name to the list of those who
 urge you to permanently close the roads on Trout Slope and stop
 the forest harvesting for the foreseeable future. This area has] TRAN 1601
 2 taken a considerable hit in recent years and the recovery from
 harvesting the dead and dying trees may never take place at this] VEG 1701
 rate of cutting.

Trees die, and insects take advantage of their decay. Birds
 benefit from this situation, and people ultimately do as well.
 3 Thinning areas of the forest which have been heavily logged does] VEG 1701
 not assure a speedy recovery. Soil erosion, water quality and] TRAN 1601
 4 wildlife will be benefits assured by closing these roads and
 giving this forest area a rest.

Sincerely,
Jan Ellen Burton
 Jan Ellen Burton

FS RESPONSE TO LETTER #9

1. The Responsible Official will consider Alternative 1 - No Action.
2. See response to Letter #7, comment #20.
3. The proposed treatments are designed to achieve long-term objectives such as the protection of existing tree regeneration, the improvement of stand vigor and longevity (See DEIS, Section 1.4A, Proposal Objectives, p. 22-23.).
4. From a hydrology standpoint, impacts from roads are related to sediment and, where applicable, encroachment on stream/riparian habitat. No new roads would be constructed (p.24), so no new encroachment would occur. Sediment and water quality are discussed in Chapter 3.4C (pages 83-91); while some localized sediment may occur, buffers and management practices would minimize this potential and water quality standards would be met and no effects would be discernable downstream of the subwatershed.

Proposed Action evaluates closing roads to the public during and after harvesting

Alternative 1 (No Action) evaluates continuation of current conditions (no bridge crossing/no access from North Fork Ashley Creek).

Alternative 2 (Open Public Access) evaluates keeping temporary roads open to public access.

Alternative 3 (Temporary Roads Closed) evaluates prohibiting public access of temporary roads as soon as a sale is completed.

The impacts to wildlife are also discussed in Chapter 3 of the DEIS.

The following comments were received after the end of the comment period posted in the Federal Register (April 12, 2004).

LETTER #10

10-B-2-1

Received 4/16/2004

U.S. D. A Forest Service;

It is the opinion of Frontier Lumber Inc. that front slope West Project should be timbered under the guidelines of forest service.

This would create a positive work of forest ~~el. trees~~ - all bridges & main roads should be left after project is completed - skid trails and logging roads can be closed.

ALT200
1

R. Kelly Young
R. Kelly Young
President - Frontier Lumber
P.O. Box 186 Lapoint U.T. 84039

ps I, Joe Shelton, agree 100%
on the above statement consider it
also my opinion

Joe Shelton

FS RESPONSE TO LETTER #10

1. All 10 miles of temporary roads, designated for improvement under the proposed action, would be used during logging activities. The Responsible Official will consider leaving roads and water crossings open to the public following timber harvest (Alternative 2). Logging slash would be scattered on skid trails both during and after logging activity under any action alternative.

LETTER #11

11-B-1-1

Received 4/16/2004

To U.S. Forest Service

Trout Slope West should be timbered as proposed.

Forest Service needs to get a management program implemented to take care of distressed forest.

ECON300
1 Many small timber operators have been put out of business when there is much timber that needs to be removed to make the forest healthy. Also larger mills have closed because of lack of timber.

When I was timbering I took pride in leaving the forest a better place for all.

thank you
Russell Case
~~Russell Case~~
Lapoint Timber Products
Lapoint, Ut. 84039
247-2370

FS RESPONSE TO LETTER #11

1. The importance of projects such as the Trout Slope West Timber Project to the local forest products industry is discussed in the DEIS, Section 3.11, Socio/Economic Analysis, p. 123. Although fuels reduction was not a stated purpose and need objective, the ability of the Ashley National Forest to accomplish fuels reduction projects that rely on mechanical treatment is dependent upon the survival of local operators. See also the response to Letter #7, comment #18, and Letter #8, comment #1.

LETTER #12

12-F-1-1



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466
Phone 800-227-8917
<http://www.epa.gov/region08>

APR 19 2004

Ref: EPR-N

Mr. George Weldon
Forest Supervisor
Ashley National Forest
355 North Vernal Avenue
Vernal, UT 84078

Re: Trout Slope West Timber Project DEIS

Dear Mr. Weldon:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency - Region 8 (EPA) has reviewed the Trout Slope West Timber Project, Draft Environmental Impact Statement (DEIS) in the Ashley National Forest.

The Trout Slope area of the Ashley National Forest is heavily impacted by past management actions including timber management, grazing and recreation vehicle impacts. The project area includes habitat for Colorado Cutthroat Trout, Goshawk and Lynx. With this proposed timber sale, the US Forest Service (USFS) proposes to mechanically harvest selected trees on 2,066 acres producing an estimated 9.2 million board feet of timber. Much of the harvest is targeted at beetle killed and mistletoe infected trees. Alternatives to the proposed action were developed around the post-project treatment of temporary roads.

EPA's concerns with this project focus primarily on the incremental or cumulative impact of proposed project activities to resources already impacted by past and present uses of the forest. The DEIS points to potential-longer term environmental impacts should the temporary roads be added to the system (Alt. 3 and the Proposed Action), and particularly if they remain open to the public (Alt. 3).

ALT
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Environmentally Preferred Alternative

Based on the information provided in the EIS, EPA finds Alternative 3 to be the environmentally preferred alternative. Of the action alternatives, Alternative 3 results in the least impact from temporary roads in the long-term, the least potential for illegal, off-road vehicle travel, and the best protection of aquatic habitat for Colorado River Cutthroat Trout and other species.



Roads

TRAN
1601

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EPA favors the selection of an alternative that best protects aquatic resources, and particularly Colorado River Cutthroat Trout habitat. Unless the USFS anticipates increased resources for road maintenance, we recommend the selection of the alternative requiring the least long-term road maintenance. Under-maintained roads are often a significant source of sediment to aquatic systems. If the USFS chooses to selectively close or obliterate individual temporary road segments, we recommend those actions be targeted toward road segments that have potential to contribute sediment to fishery streams and those roads that would provide recreational vehicle access to sensitive resources.

Miscellaneous

FPLN
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3

In the Ashley's 2000 Trout Slope *East* EIS, we found the detail on Forest Plan Standards, Guidelines, Goals and Objectives applicable to the project to be helpful. We recommend the FEIS for this project include similar Forest Plan information, along with some discussion on how this project meets the Forest Plan.

VEG
1700

4

The DEIS alternatives presented had very little difference in environmental impact, and the vegetation management actions did not differ at all among alternatives. We encourage the USFS to look for, and include within the alternatives, additional opportunities to improve environmental conditions for critical resources in the project area while meeting the purpose and need for the project.

EPA Rating

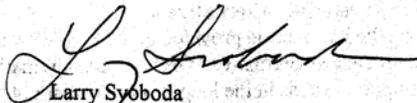
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Based on the documentation of existing and project impacts to aquatic and terrestrial resources in the Trout Slope West project area, and because the proposed actions will add to some of those impacts, EPA has issued a rating of **EC-2 (Environmental Concerns - Needs Information)**. The "EC" rating indicates that the EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts. The "2" indicates that EPA has identified additional information, data, analyses or discussion should be included in the Final EIS. A full description of EPA's EIS rating system is enclosed.

We appreciate the opportunity to participate in this project and we will contact you to discuss these comments further after you have had time to read them. If you have any questions or would like to discuss our comments, please contact me (303-312-6004) or Phil Strobel (303-312-6704) of my staff.

Sincerely,



Larry Syoboda
Director, NEPA Program
Office of Ecosystems Protection
and Remediation

Enclosure

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements
Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

FS RESPONSE TO LETTER #12

1. The Responsible Official will consider the proposed action and all alternatives in the DEIS including Alternative 3 - Temporary Roads Permanently Closed. This alternative will close roads that have the potential to introduce illegal off-road vehicle use to sensitive areas. However, a short-term increase in sediment delivery may occur during permanent road closure work (See DEIS, Section 3.6C, Environmental Effects, Effects Common to the Proposed Action and Alternatives 2 and 3, p. 98).

Alternative 1 - No Action, would not introduce any road maintenance or road improvement work into these areas and would have the least amount of impact on the Colorado River cutthroat trout (CRCT) and aquatic resources. However, some erosion and sediment delivery may continue from the temporary roads (See DEIS, Section 3.5C, Environmental Effects, Soils, Alternative 1 – No Action, Cumulative Effects, p. 94).

You are correct that under the proposed action, road maintenance would occur at a low level that may result in some road deterioration (DEIS, Section 2.1, The Proposed Action and Alternatives Considered in Detail, Roads – All Areas, p. 32.). Implementation of Alternative 2 would include the highest level of road maintenance presented in the DEIS and would have long-term cumulative impacts to CRCT and aquatic habitat.

2. See response to comment #1.

3. The DEIS presents the Forest Plan direction for Management Areas 'n' and 'f' in Section 1.5, p. 26.

Timber/Wildlife/Recreation

Timber direction for these management areas is:

- 'n' - Harvest coordinated with wildlife and recreation. Some old growth retained. Low investment. (Forest Plan, p. IV-10)
- 'f' - Harvest designed to enhance recreation, wildlife, and visual opportunities. Transitory range allocated to wildlife. (Forest Plan, p. IV-7)

Relevant Timber Standards and Guidelines

- Stands may be harvested adjacent to openings:
 - That are 90% stocked with trees that have survived for a minimum of 2 years.
 - That have reached an average height sufficient to provide hiding cover for the management indicator species using the area.

The project area is designated as 93% Management Area 'n' and 7% area 'f'. The proposed treatment area contains similar proportions, with 91% of the proposed area designated as 'n' and 9% designated as 'f'.

Management Area 'n' is dispersed throughout the project area and proposed treatment areas. The proposed action is consistent with the management direction for this area. Timber production is included with the range of resource uses and outputs for this area. Harvesting activities are well coordinated with wildlife and recreation (See response to Letter #7, comment #7).

Management Area 'f' is concentrated in the western portion of the "Lost Sale" and the western area of the "Center Sale" (See DEIS, Map 3, p. 17). In the western portion of the "Lost Sale" area, small pockets of Management Area 'f' are interspersed with Management Area 'n'. These pockets have an average size of approximately 4 acres.

The prescribed treatment in the western portion of the "Lost Sale" area is an overstory removal of live trees infected with dwarf mistletoe in leave strips and areas adjacent to 20 to 22 year old regeneration clearcuts (See DEIS, Section 2.1A, Proposed Action, Area 1, p. 30). This treatment is intended to reduce/prevent the spread of dwarf mistletoe to the tree regeneration in the clearcuts. Although the area proposed for overstory removal, approximately 40 acres, includes both Management Area 'n' and 'f', this treatment must be applied to all of the area adjoining these clearcuts to be effective including the pockets designated as area 'f'. This treatment will require a site-specific forest plan amendment because the trees in the clearcuts adjacent to the proposed treatments are not tall enough to provide hiding cover for elk and mule deer. These stands do meet the timber reforestation standard of 90% stocking with trees that have survived for a minimum of two years.

The "Center Sale" area contains approximately 120 acres designated as Management Area 'f', 26% of the total Center Sale area. The proposed treatment for this area is a thinning of live lodgepole pine that would increase the individual tree growth on the residual trees and improve stand vigor. This treatment will enhance habitat in the long term for species that favor mature forest structure such as the goshawk (See DEIS, Section 3.7C, Environmental Effects, Wildlife, Forest Sensitive Species, Northern Goshawk, p. 113).

4. See response to Letter #1, comment #2.

5. The EC-2 Environmental Concerns – Insufficient Information rating pertains to the concerns raised by comments #1-4 per Phil Strobel, Environmental Protection Agency. The primary concern of the EPA is whether or not the existing condition of the project area and the proposed action is consistent with the Forest Plan standards and guidelines regarding water quality, soils, and fisheries/aquatic habitat.

Water Resources/Soils

Relevant soil and water direction in the Ashley Land and Resource Management Plan (Forest Plan) for Management Areas 'f' and 'n' includes standards and guidelines regarding determining sediment and water yield thresholds to meet aquatic habitat objectives, protecting surface waters from chemical contamination, maintaining/improving stream channel stability ratings, using stream channel stability ratings to determine the percent of openings allowed in watersheds (using equivalent clearcut area (ECA) calculations), establishing ground cover and reducing sediment within five years of projects, stabilizing road corridors and controlling use to reduce soil erosion, and avoiding channelization of natural streams. These standards and guidelines and the impacts of past and proposed management activity are all addressed in Chapter 3.

See also responses to Letter #1, comment #7 and comment #8.

Fisheries and Aquatic Habitat

The Ashley National Forest remains consistent with its Forest Plan and goal to "Manage fish and wildlife habitat to maintain or improve diversity and productivity" (Forest Plan IV-28). The Forest is working towards these objectives (Forest Plan IV 28-30) by following the Utah Colorado River Cutthroat Trout Conservation Agreement. The Forest continues to analyze the physical and biological stream indicators for habitat relationships and identify projects for habitat enhancement. One project planned for implementation in August 2004 is the North Fork Ashley Creek Fisheries Enhancement Project. The objective of this project is to increase pool habitat and fisheries in a half-mile section of the stream.

LETTER #13

George Weldon
Ashley National Forest Supervisor
Attn: Trout Slope West
355 N. Vernal Ave.
Vernal, UT 84078

George:

ALT200

I have just a few comments on the Trout Slope West Timber Sale. First, I commend you for keeping the sale out of roadless areas and concentrating it in areas that are already roaded and have already been logged. I find the lack of real alternatives frustrating. The only difference in the three action alternatives is whether or not to keep roads open. A true array of alternatives would have included cutting less in each area, not cutting in some areas, etc. In general, I support Alternative 3; closing the roads after the sale seems the best way of ensuring that continuing damage from recreation is minimized.

I will compose my own alternative that I hope you consider. Your alternative 3, but with no logging in Area 3 south of North Fork Ashley Creek. It seems that much of the damage that must be mitigated occurs in this area. It is wet much of the year, and rutting and compaction will be difficult to avoid. Major bridge work and culvert work will increase sediment in North Fork Ashley Creek. Mostly, making access across the creek easier will increase recreation and off-road vehicle use in this area, an area that can be easily damaged by misuse.

1

ECON
302

Even though it would not make a difference in your decision, I must complain about the economic analysis. No where is it stated how much this sale is costing the Forest Service, who is reconstructing the roads and how much that costs, how much monitoring and watching for possible wildlife conflicts cost, etc. What is the true cost of this sale to the Forest Service, including the cost of preparing the scoping documents and EIS?

2

Sincerely,

Lynette Brooks
1762 East Sunrise Park Cir.
Sandy, Utah 84093

FS RESPONSE TO LETTER #13

1. See Letter #1, comment #2, for a discussion of the range of alternatives. The Responsible Official may include or reject any one of the three treatment areas, or seven sale areas delineated in the DEIS. Your suggestion for implementation of Alternative 3 excluding the portion of treatment area 3 south of the North Fork Ashley Creek will be considered.
2. See response to Letter #7, comment #18.

LETTER #14

14-I-1-1



Vince Desimone
<vincedesimone@yahoo.com>

To: comments-intermtn-ashley@fs.fed.us
cc:
Subject: TROUT SLOPE WEST TIMBER PROJECT DRAFT EIS (DEIS)

04/13/2004 10:02 PM

Vince DeSimone
PO Box 680395
Park City, UT 84068-0395
April 11, 2004

Mr. George Weldon, Forest Supervisor
Ashley National Forest
355 N. Vernal Av.
Vernal< UT 84078

Dear Mr. Weldon:

Please include the following comments in the record for the DEIS for the Trout Slope West Timber Draft EIS. Thank you for your consideration.

In order to have minimal impacts to soils, water quality, watersheds, wildlife and fisheries I support the NO ACTION alternative along with a permanent closure of the 10 miles of temporary roads.

VEG
1701
WLD
1900

The most important area of old growth and sensitive wildlife species is in Area 3 in the western portion of the project area on the North Fork of Ashley Creek. No timber sales should be offered there and all of the 10 miles of roads in the project area should be permanently closed and allowed to revegetate. This would support the healthy reestablishment of the flora and fauna to the area which is a higher and better use for the area than additional logging. Removal of diseased trees interferes with the natural processes. Man never does a better job than nature in caring for the land.

1

ECON
302

The economic analysis in the DEIS completely ignores non-market resource values and even notes that logging related jobs in the area account for barely 0.2% of total jobs in the county! The value of natural habitat and passive recreation is a higher and better use and of greater value to the citizens of the county and the nation.

2

Sincerely,
Vince DeSimone

Do you Yahoo!?
Yahoo! Tax Center - [File online by April 15th](#)

FS RESPONSE TO LETTER #14

1. The Responsible Official will consider implementation of Alternative 3, excluding treatment area 3. See also responses to Letter #1, comment #2, and Letter #13, Comment #1.
2. See response to Letter #7, comment #18.

LETTER #15



Bk1492@aol.com
05/11/2004 04:04 PM

To: fshumphrey@fs.fed.us
cc: tlemon@fs.fed.us, rodney.frelinghuysen@mail.house.gov
Subject: public comment on federal register of 5/7/04 vol 69 no 89 pg 25573

ashley forest - logging

I oppose logging and the following. Please make sure my comments are reflected in the comment on this project, which is Bush's slash and burn project with america's national forest.

OUT
900

- ban
1. hunting
 2. trapping
 3. grazing
 4. drilling and mining
 5. new roads
 6. atv's, snowmobiles and jetskis
 7. logging.

b. sachau
15 elm st
florham park nj 07932

FS RESPONSE TO LETTER #15

1. Thank you for your comments. The Responsible Official will consider your concerns.

LETTER #16

16-C-3-1

UINTAH COUNTY



STATE OF UTAH

Our past is the nation's future

May 14, 2004

COMMISSIONERS: David J. Haslem, Jim Abegglen, Michael J. McKee, ASSESSOR - Gayln Casper, ATTORNEY - JoAnn Stringham, CLERK-AUDITOR - Michael W. Wilkins, RECORDER - Randy J. Simmons, TREASURER - Donna Richens, SHERIFF - Rick Hawkins, SURVEYOR - Robert Kay

Jeff Underhill, Ashley National Forest, 355 North Vernal Avenue, Vernal, UT 84078

Re: Trout Slope West Timber Project

Dear Mr. Underhill:

- 1 Thank you for on the opportunity to comment on the Trout Slope West Timber Project. Uintah County supports the efforts of the Forest Service to salvage dead and dying trees with the exception of the closing of approximately 12 miles of existing roads and the placement of a temporary bridge. [ALT 200]
2 We have in place a public access policy in the Uintah County General Plan and feel the temporary bridge should be left as a permanent bridge for future access to this area. [TRAN 1603]
3 Uintah County's General Plan also has a multiple use policy, in which Uintah County supports the traditional multiple use, and by closing these roads you are limiting recreation and timber harvest from these areas in the future. We feel that with the health of our forest and the fire danger in this area, these roads should be left open for access in case of fire. Also, with the Forest Service's current road management plan not allowing any new road construction, we feel these roads are very important for future forest management practices. [PLAN 1003]
4

Uintah County has no further comments at this time, but if issues warrant, reserves the right to comment at a later date.

Sincerely,

UINTAH COUNTY COMMISSION

[Signature] David Haslem, Chairman

[Signature] Jim Abegglen

[Signature] Michael J. McKee

cc: Public Lands Committee

FS RESPONSE TO LETTER #16

1-4. See responses to Letter #4.

Content Analysis Coding

Date:

Project:

Stage of Process:

Organization Type

B=Business

C=City/County

E=School/Education

F=Federal Agency

I=Individual

L=Congressional/Legislative

O=Organization

S=State Agency

T=Tribal

Number of Signatures

Response Type

1. Letter/Fax
2. E-mail
3. Form Letter
4. Notes from a Telephone Call/Personal Visit
5. Petition

Form Number

F#__

Immediate Attention Comments

1. Threat
2. Information Request/Freedom of Information Act Request (FOIA)
3. Technical Response
4. Legal Issue

Subject	Category	Subject Code	Category Code	Definition
Air	General	AIR	100	General Air Quality Comments
Alternatives	General	ALT	200	General Comments.
Economic	General	ECON	300	General Comments.
	Rural Communities		301	Impacts on businesses.
	Cost		302	Cost of project and analysis.
Fire	General	FIRE	400	Fire Effects.
Fisheries / Aquatic Species	General	FISH	500	General Comments.
	TES Species and MIS		501	Threatened, Endangered, and Sensitive and Management Indicator Species.
Forest Plan	General	FPLN	600	General Comments.
Heritage	Cultural/Heritage	CULT	700	General Comments.
			701	Traditional tribal uses.
Minerals	General	MIN	800	General Comments.
Outside Scope	General	OUT	900	General Comments.
Planning/ Process	General	PLAN	1000	General Comments.
	Authority		1001	Authority of Agency.
	Compliance with laws/regs		1002	
	Multiple Use / Policy		1003	
	Monitoring		1004	
Range	General	RNGE	1100	General Comments.
	Grazing / Permittees		1101	
Recreation	General	REC	1200	General Comments.
	Motorized recreation		1201	Snowmobile, ATV, OHV.
	Non-motorized recreation		1202	Skiing, snowshoeing, hiking, horse, biking, etc.
	Natural quiet/solitude		1203	
	Use levels		1204	
	ROS		1205	Recreation Opportunity Spectrum.
	Visual/scenery resources		1206	
Roadless /	General	RDL	1300	General Comments.

Subject	Category	Subject Code	Category Code	Definition
Wilderness / WSA				
	Wilderness potential.		1301	Effect on wilderness potential.
	Wilderness character.		1302	Effect on wilderness character.
	WSA		1303	Wilderness study areas.
	Roadless Areas		1304	Roadless area comments.
	RNA		1305	Research natural area.
Social	General	SOC	1400	General comments.
	Conflict between uses		1401	
	Private Property		1402	
	Disabled Access		1403	
	Civil Rights and Environmental Justice		1404	
	Law enforcement		1405	
Soils	General	SOIL	1500	General comments.
Transportation / Roads / Trails / Access	General	TRAN	1600	General comments.
	Road System		1601	General comments on roads.
	Trail System		1602	General comments on trails.
	Access/Right-of-way		1603	Access comments.
Vegetation	General	VEG	1700	General comments
	Timber		1701	
	Noxious Weeds		1702	
	Plants		1703	
Water	General	WTR	1800	General comments.
Wildlife	General	WLD	1900	General comments.
	TES/MIS		1901	Threatened, Endangered, and Sensitive and Management Indicator Species.
	Winter Range		1902	

APPENDIX D – MONITORING/IMPLEMENTATION PLAN

Table D-1. Trout Slope West timber project monitoring/implementation plan.

Phase 1 – identifies implementation items/activities, Phase 2 – identifies effectiveness items/activities. Some monitoring items/activities would be applied during both Phases.

PHASE	MONITORING ITEM	OBJECTIVES	LOCATION	MEASURE	MITIGATION MEASURE/PROJECT DESIGN ELEMENT	METHODOLOGY	FREQUENCY/DURATION	DATA STORAGE	PERSONNEL
ECOLOGY/RANGE									
1	Sensitive Species	Protect isolated populations of clustered lady's slipper.	Treatment Area 2	Population	2.2G SENSITIVE PLANT SPECIES - 200 foot buffer to protect population from logging damage.	Plant count	3rd & 5th year following treatment then once every 5 to 10 years	Monitoring studies at Supervisor's and District Office.	Forest Ecologist
2	Noxious Weeds	Prevent and contain noxious weeds. Maintain or improve soil stability, site productivity.	All Treatment Areas	Canopy cover by population	Project Design Element - Apply 15% of harvest area maximum (Region 4 Soil Quality Standards).	National protocol	Annual	National database	Noxious Weeds Crew
FISHERIES									
2	Sensitive Species	Protect and conserve CRCT populations.	Treatment Area 3 and N. Fk. Ashley Creek	CRCT density and distribution	Consistent with CRCT conservation Plan				Fisheries crew
SILVICULTURE									
1	Old growth	Retain old growth characteristics in proposed treatment stands.	Treatment Area 3, Long and Southside Sales south of the North Fork Ashley Creek.	Live trees per acre, age classes, damaged trees, snags per acre, coarse woody debris.	2.2E RETENTION OF OLD GROWTH CHARACTERISTICS - Live Trees <ol style="list-style-type: none"> 1. ≥ 15 trees per acre (diameter ≥ 15 inches) 2. Retention of two or more age classes (6 inches) and two or more tree canopy layers. 3. Two or more damaged trees per acre (diameter ≥ 14 inches). Dead Trees <ol style="list-style-type: none"> 4. Two to four standing dead trees per acre (≥ 10 inches diameter, 15 feet tall). An average of six snags >12 inches in diameter would be retained per acre (see 2.3F Snag Habitat). 5. ≥ 16 down dead logs per acre (≥ 8 inches diameter and ≥ 8 feet in length). 	CSE protocol at the extensive exam level.	Quality exam during sale preparation to determine compliance with prescription and old growth standards	FSVEG database	Stand Exam Crew

PHASE	MONITORING ITEM	OBJECTIVES	LOCATION	MEASURE	MITIGATION MEASURE/PROJECT DESIGN ELEMENT	METHODOLOGY	FREQUENCY/DURATION	DATA STORAGE	PERSONNEL
2	Reforestation	Demonstrate that natural stocking levels are met.	All Treatment Areas	Trees per acre, distribution	Forest Protocol	CSE protocol at the extensive exam level.	3rd & 5th year following treatment	FSVEG database	Stand Exam Crew
SOILS/FUELS (See Mitigation 2.2J)									
2	Coarse woody debris (CWD), slash (duff) depth	Maintain soil productivity, assess potential fire behavior and slash depth.	Treatment Area 3	Tons per acre for debris \geq 3 inches diameter.	2.2I SOIL PRODUCTIVITY - minimum 10 tons per acre.	Downed Fuel Inventory transects overlapping stand exam plots.	3rd year exam	FSVEG database	Stand Exam Crew
1	Detrimental Soil Disturbance	Maintain or improve soil stability, site productivity. Provide soil and water guidance to other resources. Obtain at least 80% of original ground cover within 5 years after project completion.		Ground cover. Erosion channels	1. Slash across skid trails prior to unit closure where practical. 2. No skid trails in riparian/stream buffers (PRE-SALE, DURING SALES). 3. Drainage on skid trails not more than 300 ft spacing on slopes over 25%; road drainage per maintenance levels; vegetative disturbance in waters of the United States minimized during road work. 4. Skid trail locations designated by FS and do not follow draws or channels in a manner that creates excessive erosion. 5. Snow plowing conducted to encourage snowmelt into established drainage features and not down the road; refer to contract provision re: snow removal - DURING SALE. 6. Where possible, divert runoff from roads, trails and landings to upland areas above wetlands to reduce silting of wetland areas.	1. Equipment or hand lay slash across skid trails where practicable (DURING SALE). 2. Involve hydro/soils specialists and others as needed. 2 - 9. Sale admin. 9. Sale Area Map. Refer also to contract provisions listed for water resources above.	During sale activities.		Sale Admin, Soil Scientist as needed

PHASE	MONITORING ITEM	OBJECTIVES	LOCATION	MEASURE	MITIGATION MEASURE/PROJECT DESIGN ELEMENT	METHODOLOGY	FREQUENCY/DURATION	DATA STORAGE	PERSONNEL
1	Detrimental Soil Disturbance	See above		See above	7. Equipment shall not be operated when ground conditions are such that excessive impacts will result; normal operating season within 6/15-10/31 (as allowed by other resource constraints) with exceptions per contract provisions. 8. Erosion control work shall be kept current immediately preceding expected seasonal periods of precipitation or runoff; if the Purchaser fails to do erosion control work prior to any seasonal period of precipitation or runoff, the Forest Service may temporarily assume responsibility for the work and any unencumbered deposits (performance bonds) may be used by the Forest Service to do the work. (FSH 2509.22 14.12). 9. Borrow material obtained from existing upland borrow sites.	See above	See above		See above

WATER RESOURCES/SOILS/FISHERIES (See Mitigation 2.2J)

1	Riparian Areas, channel stability	Maintain or improve riparian, wetland and aquatic habitat. Protect all surface waters from chemical contamination. Maintain or improve stream channel stability ratings. Design activities to minimize project-caused sediment rates, not to exceed a 125% increase of the pre-project rates the first year and a 105% increase at the end of five years. Avoid channelization of natural streams. Maintain the hiding and thermal cover qualities of forested riparian areas. Maintain natural complexity and high relative productivity of riparian areas. Maintain capability of riparian areas to act as an effective sediment buffering zone in relation to upslope activities.	All streams, wet areas, riparian zones, both designated as buffers and encountered during sale activity	Buffer width marking; Crossing designation; Construction administration; Sale administration	1. Width of riparian buffers (based on INFISH guidelines) (PRESALE MARKING, SALE ADMIN) 2. Crossings designated (FS)(PRESALE MARKING, SALE ADMIN) 3. No fill material in riparian areas or streams except as authorized for crossing construction; discharges of dredged or fill material into waters of the United States to construct a road fill shall be made in a manner that minimizes the encroachment of trucks, tractors, bulldozers, or other heavy equipment within the waters of the United States (including wetlands) that lie outside the lateral boundaries of the fill itself; temporary fills shall be removed in their entirety and the area restored to its original condition (PRESALE CONSTRUCTION &/or SALE ADMIN) 4. Material excavated from riparian areas or streams under crossing authorization deposited on an upland site (PRESALE CONSTRUCTION) 5. Involve hydrology/fish/soils personnel when implementing crossings-PRESALE CONSTRUCTION, SALE ADMIN)	1. Mark buffers; sale admin during activity for wet areas not found during marking. 2. Involve fish/hydrology/soils specialists during designation and/or implementation of crossings as needed. 3 - 5. Administration of crossing construction. 6. Involve hydro/soils/fish specialists as appropriate. 6 - 10. Sale administration. 11. Sale area map, Sale Administration.	As needed during appropriate phases of work.		Engineers, Hydrology, Fisheries Biology, Sale Admin
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PHASE	MONITORING ITEM	OBJECTIVES	LOCATION	MEASURE	MITIGATION MEASURE/PROJECT DESIGN ELEMENT	METHODOLOGY	FREQUENCY/DURATION	DATA STORAGE	PERSONNEL
WATER RESOURCES/SOILS/FISHERIES (See Mitigation 2.2J)									
1	Riparian Areas, channel stability continued....	Riparian area dependent resources will be given preferential consideration in cases of unresolvable conflicts. Restrict ground disturbing activities to areas outside riparian areas unless alternative routes have been reviewed and rejected as being more environmentally damaging. Riparian areas will be given a high priority for rehabilitation in ... KV programs. Manage vegetation in riparian areas to be in good or excellent ecological condition, with a stable or upward trend. Prohibit landings and decking areas and limit temporary roads within riparian areas.	See above	See above	6. As soon as practicable upon completion of use, temporary stream crossings need to be removed, excess fill material excavated and deposited in a stable area, banks rehabilitated and bed of the stream restored to its original grade (END OF SALE, POST-SALE) 7. No use or storage of oil, fuel, chemicals or other hazardous materials within streams or buffers - keep all fuel, oil and antifreeze away from surface waters and away from areas where spilled material may enter or be washed into water; transport hazardous materials in leak proof, labeled containers; do not drain used oil, fueled or antifreeze onto the ground - dispose of properly at an approved disposal station; do not fuel or service equipment in wetlands or buffer areas unless a breakdown requires such activity (SALE ADMIN).	Refer also to contract provisions - e.g. BT6.0, 6.34, 6.341, 6.411, 6.42, 6.422, 6.6, 6.67, 8.3; C6.3; CT5.4, 5.36, 6.7	See above		See above
1		See above	See above	See above	8. No camping within riparian buffers unless no practicable alternative and site approved by Sale Administrator; refer to contract provision (SALE ADMIN) 9. Latrine sites & specifications per Forest Service; replace with portable self-contained units as practicable. 10. Avoid equipment operation in areas of open water, seeps and springs except as designated or unavoidable or unrecognizable. 11. Sale Area Map to designate avoidance areas.	See above	See above		See above

PHASE	MONITORING ITEM	OBJECTIVES	LOCATION	MEASURE	MITIGATION MEASURE/PROJECT DESIGN ELEMENT	METHODOLOGY	FREQUENCY/DURATION	DATA STORAGE	PERSONNEL
WATER RESOURCES - CROSSINGS (See Mitigation 2.2J)									
1	Constructed Stream Crossings (culvert, bridge, ford)	See Forest Plan objectives in Water Resources above.	Constructed Stream Crossings (culvert, bridge, ford)	Various	<p>1. At all road crossings of streams: structures sized to allow for full surface flow of the stream throughout the entire life of the structure; design of stream crossing based on how long the structure is expected to be in place, acceptable risk level and downstream resources; 50 year - 24 hour design peak flows for permanent structures, 25 year - 24 hour storm event for temporary road crossings; structures for Class I streams* designed and constructed to allow unrestricted fish passage. <i>(Class I - domestic water supply, fish migration-spawning -or rearing, or perennial streams with significant flow contributed to downstream fisheries).</i> 2. Design cross culverts or ditches to complement natural drainage for protection of the road surface, excavation or embankment; locate cross culverts where fill erosion will be minimized and direct discharge into streams will be prevented; road drainage structures spaced so peak flows between the features will not exceed the capacity of the individual drainage structures or result in excessive erosion of ditches and roadbeds.</p>	<p>1-13. Crossing design (PRESALE) Construction (PRESALE, SALE ADMIN); Erosion control (PRESALE, CONSTRUCTION, SALE ADMIN, POST-SALE) O&M Plan - Design presale, implement post-sale.</p>			Engineers, Hydrology, Fisheries Biology, Sale Admin

PHASE	MONITORING ITEM	OBJECTIVES	LOCATION	MEASURE	MITIGATION MEASURE/PROJECT DESIGN ELEMENT	METHODOLOGY	FREQUENCY/DURATION	DATA STORAGE	PERSONNEL
WATER RESOURCES - CROSSINGS (See Mitigation 2.2J)									
	Constructed Stream Crossings (culvert, bridge, ford) continued...	See Forest Plan objectives in Water Resources above.	Constructed Stream Crossings (culvert, bridge, ford)		<p>3. Align culverts with natural stream channel to avoid plugging and bank erosion; place culverts slightly below grade of natural stream channel (if not open-bottomed) to avoid culvert outfall/stream erosion at intake or outlet; culvert bed at same slope as natural stream channel. 4. Avoid alteration of stream channel upstream from a culvert unless necessary to prevent blockage or protect fill. 5. Cover culverts with at least one foot of compacted fill material for culverts up to 36 inches diameter and one-third of their diameter for larger culverts where practicable. 6. Temporary bridges require firm soil banks; some cribbing may be necessary to provide additional support for the stream bank; following removal of temporary culverts, establish bank stability and revegetation. 7. Fill to be stabilized and maintained during and following construction to prevent erosion. 8. Time construction activity to occur during periods of low flows and to avoid periods of aquatic life cycle sensitivity (spawning, etc.).</p>	<p>1-13. Crossing design (PRESALE) Construction (PRESALE, SALE ADMIN); Erosion control (PRESALE, CONSTRUCTION, SALE ADMIN, POST-SALE) O&M Plan - Design presale, implement post-sale.</p>			Engineers, Hydrology, Fisheries Biology, Sale Admin

PHASE	MONITORING ITEM	OBJECTIVES	LOCATION	MEASURE	MITIGATION MEASURE/PROJECT DESIGN ELEMENT	METHODOLOGY	FREQUENCY/DURATION	DATA STORAGE	PERSONNEL
WATER RESOURCES - CROSSINGS (See Mitigation 2.2J)									
1	Constructed Stream Crossings (culvert, bridge, ford) continued...	See Forest Plan objectives in Water Resources above.	Constructed Stream Crossings (culvert, bridge, ford)		<p>9. Minimize disturbance in the channel by conducting only essential access and work in stream area; Conduct staging activities, material/equipment storage, equipment servicing, and excavated material placement well away from the stream and out of the floodplain. 10. Minimize the length of time that stream specific construction occurs. 11. Protect existing vegetation except where removal is essential for work completion. 12. Install temporary sediment control measures (e.g., silt fencing, straw bales, ditches) prior to initiating construction in the stream channel/floodplain; completely remove all structures/temporary controls at the conclusion of the construction activity; remove and dispose of sediment accumulated away from the stream environment or redistribute it and stabilize it as topsoil. 13. Consult with Fish, hydrology, soils specialists as needed. 14. For permanent structures, develop long-term operation and maintenance procedures.</p>	<p>1-13. Crossing design (PRESALE) Construction (PRESALE, SALE ADMIN); Erosion control (PRESALE, CONSTRUCTION, SALE ADMIN, POST-SALE) O&M Plan - Design presale, implement post-sale.</p>			Engineers, Hydrology, Fisheries Biology, Sale Admin

PHASE	MONITORING ITEM	OBJECTIVES	LOCATION	MEASURE	MITIGATION MEASURE/PROJECT DESIGN ELEMENT	METHODOLOGY	FREQUENCY/DURATION	DATA STORAGE	PERSONNEL
WILDLIFE									
1	Snag habitat	Maintain snag habitat for potential woodpecker population and sustain key prey species for predators such as the northern goshawk.	All Treatment Areas	Snags per acre \geq 12 inches diameter.	2.2H SNAG HABITAT: minimum average of 6 snags per acre.	Marking wildlife trees/snags			Stand Exam Crew
1 & 2	Sensitive and Management indicator species - Northern goshawk	Protect species	All Treatment Areas	Present/Absent	consistent with goshawk conservation strategy	Regional protocol/Effective and implementation monitoring		Fauna National database	Wildlife biologist, wildlife crew
1 & 2	Threatened and Endangered - Lynx/Bald Eagle	Protect species	All Treatment Areas	Present/Absent	Endangered Species Act	Effective and implementation monitoring		Fauna National database	Wildlife biologist, wildlife crew
1 & 2	MIS	Protect species	All Treatment Areas	Present/Absent/trends	Forest Plan	Effective and implementation monitoring		Fauna National database	Wildlife biologist, wildlife crew
1 & 2	Migratory Birds	Protect species	All Treatment Areas	Present/Absent/trends	Memorandum of Understanding (See Project Record)	Effective and implementation monitoring		Fauna National database	Wildlife biologist, wildlife crew

APPENDIX E – BIOLOGICAL EVALUATION/BIOLOGICAL ASSESSMENT CONSULTATION



United States Department of the Interior
FISH AND WILDLIFE SERVICE
UTAH FIELD OFFICE
2369 WEST ORTON CIRCLE, SUITE 50
WEST VALLEY CITY, UTAH 84119

In Reply Refer To
FWS/R6
ES/UT
04-0842

May 14, 2004

Mr. Scott Steinberg, District Ranger
Ashley National Forest
Vernal Ranger District
355 North Vernal Avenue
Vernal, Utah 84078

RE: Biological Evaluation / Biological Assessment for the Trout Slope West Timber Sale

Dear Mr. Steinberg,

Based on information provided in your letter of April 16, 2004, we concur with your "not likely to adversely affect" determination for Canada lynx and the bald eagle. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered.

The Trout Slope West Project proposes harvest of lodgepole pine and Engelmann spruce from approximately 2,006 acres in the Ashley National Forest, Vernal Ranger District. This harvest will result in an estimated 9.2 Million Board Feet (MMBF) of timber. Dead, dying, diseased, and live trees will be harvested to recover the economic value of the wood product, to prevent jack-strawed timber and a forest blow down, and to protect existing tree regeneration. Removal of selected dead, dying, diseased, and downed lodgepole pine trees would occur on 560 acres in Area 1. Removal of mature live trees as well as selected downed trees will occur on 468 acres in Area 2. The live tree removal in Area 2 will result in an approximately 100-acre opening. Removal of standing dead, dying, diseased, and downed mixed conifer trees would occur on 1,038 acres in Area 3. The project proposes the improvement of 10 miles of existing roads, but no new roads would be constructed. Several culverts would be installed, including a permanent multi-plate culvert and a hardened ford crossing.

The Trout Slope West Timber Project maintains compliance with the Lynx Conservation Assessment and Strategy LCAS Standards, however two of the three Lynx Analysis Units (LAU) will result in an increase in disturbance nearing the 30% threshold identified in the LCAS. The Big Brush Creek / Little Brush Creek LAU will result in a 23% disturbance of primary habitat and the Upper Ashley Creek LAU will result in a 25.5% disturbance of primary habitat.

In addition, the Long Park Treatment provides medium to high quality lynx denning and foraging habitat in a part of the forest that has relatively little quality lynx habitat remaining. We acknowledge that the present habitat was created, in part, by a prior selective cut, but believe that further harvest and removal of downed trees would degrade what habitat presently exists. In addition, the damp soils and the density of the vegetation would make it difficult to log in this area without great impact. Small seasonally wet areas are important ecologically, but may be difficult to detect in the field under conditions of a logging operation.

Therefore, we are providing the following conservation recommendations for consideration in evaluating this project.

We believe harvest planning should also be designed to meet LCAS Objectives and Guidelines to maintain and improve foraging and denning habitats. We specifically recommended that the Long Park Treatment (Area 3, proposed for selective cutting and removal of downed merchantable trees), be removed from timber harvest plans or substantially modified from the proposed action.

Harvesting Area 3 would facilitate access and potentially increase public activity in this area, particularly if the Proposed Action is implemented and a permanent bridge is installed. This would increase the likelihood of illegal off-road travel in this sensitive area.

If the Forest Service decision retains Area 3 for harvest, we recommend that a temporary open-bottomed arch culvert be used to cross North Ashley Creek for access to Area 3 (Long Park), rather than a permanent structure such as a multi-plate culvert. The multi-plate culvert with concrete foundation would be more likely to create long-term stream stability problems and possible stream bank erosion, channel scouring, and increased sedimentation. The temporary culvert should be removed following project completion and access should be obliterated.

In the Lost Sale harvest proposal (Area 1) existing leave strips are the only remaining forest habitat in that area, albeit they are relatively thin strips and arguably low quality habitat. However, the strips provide the only remaining cover for wildlife, and should be retained until the surrounding clearcuts have regenerated to a height sufficient to provide cover for large mammals such as elk. We recommend that these areas be retained uncut, until it is determined by a biologist that the regrowth is sufficient to support wildlife populations.

Only a Federal agency can enter into formal Endangered Species Act section 7 consultation with the Service. A Federal agency may designate a non-Federal representative to conduct informal consultation or prepare a biological assessment by giving written notice to the Service of such a designation. The ultimate responsibility for compliance with ESA section 7, however, remains with the Federal agency.

We appreciate your interest in conserving endangered species. If further assistance is needed or you have any questions, please contact Kate Schwager, at (801) 975-3330 extension 132.

Sincerely,


for Henry R. Maddux
Utah Field Supervisor