Split Creek Precommercial Thinning

Environmental Assessment

Caribou-Targhee National Forest
Ashton/Island Park Ranger District
Island Park, Fremont County, Idaho
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SUMMARY

The Caribou-Targhee National Forest (C-TNF) proposes to precommercial thin approximately 7,000 acres of lodgepole pine within the Island Park Subsection and Madison – Pitchstone Plateaus Subsection, Watershed 10 of the 1997 Targhee National Forest Revised Forest Management Plan (RFP), (see Map 1).

The analysis area is approximately 23,250 acres which is roughly bordered by Chick Creek on the north, the Caribou-Targhee National Forest boundary with Yellowstone National Park on the east, Split Creek on the South and Chick Creek Flat Road on the west and is located in T. 13N., R. 44E. Sections 25, 26, 32, 33, 34, and 35, T. 13 N., R. 45E. Sections 14, 15, 21, 22, 23, 26, 27, 28, 29, 30, 31, 32, 33, 34, and 35, T. 12 N., R. 44E. Sections 3 and 4, T. 12 N., R. 45 E. Sections 2, 3, 4, 5, 8, 9, 10, 11, 14, 15, 16, 17, 21, 22, 23, 26, and 27 B.M.

Approximately 2,000 to 4,000 acres are proposed to be precommercial thinned each year starting in 2010; depending upon funding and will continue for several years until completed. The project area is located within the Ashton/Island Park Ranger District, in Island Park, Idaho.

Based upon the effects of the alternatives, the responsible official will decide whether to defer any action at this time (No Action Alternative); or whether to approve precommercial thinning as described in the (Proposed Action Alternative) in the Split Creek area.
Map 1 – Watershed 10 and Analysis Area Map
CHAPTER 1 – PURPOSE AND NEED

DOCUMENT STRUCTURE

The Forest Service has prepared this Environmental Assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and no action alternative. The document is organized into four parts:

- **Purpose and Need:** Chapter 1 includes background information, purpose of and need for the project and the agency’s proposal for achieving that purpose and need. This chapter also details how the Forest Service informed the public of the proposal and how the public responded.

- **Alternatives:** Chapter 2 provides a more detailed description of the agency’s proposed action as well as assumptions used for the no action. Other alternatives may be developed based on issues raised by the public and other agencies during the official comment period. This discussion also includes design features and mitigation measures.

- **Affected Environment and Environmental Consequences:** Chapter 3 describes the affected environment and the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by resource area. Within each section, the affected environment is described first, followed by the effects of the No Action Alternative that provides a baseline for evaluation and comparison of the other alternative.

- **Consultation and Coordination:** Chapter 4 provides a list of preparers and agencies consulted during the development of the environmental assessment.

- **Appendices:** The appendices provide more detailed information to support the analyses presented in the environmental assessment. References cited are also included.

Additional documentation, including more detailed analyses of project-area resources, may be found in the project planning record located at the Island Park Ranger District Office in Island Park, Idaho.

BACKGROUND

A decision was made to precommercial thin approximately 7,000 acres of lodgepole pine under the Split Creek Precommercial Thinning project in December 2007. The decision was withdrawn July 28, 2008 to provide an opportunity for public notice and comment on both the precommercial thinning proposal and on the Caribou-Targhee National Forest (C-TNF) updated Lynx Analysis Unit mapping for the Canada Lynx that was done in coordination with US Fish
and Wildlife Service (USFWS) in 2005, as directed in Canada Lynx Conservation Agreements developed and signed by the FS and USFWS (see following discussion on Lynx Analysis Unit Map).

**Mapping Process for the 2005 LAU Map on the Caribou-Targhee National Forest**

The C-TNF will use the March 1, 2005 (see Map 2) updated lynx analysis unit (LAU) map for this project.

The concept and process for delineation of Canada lynx analysis units (hereafter referred to as lynx analysis units or LAUs) was first developed and recommended in the Canada Lynx Conservation Assessment and Strategy (hereafter referred to as the LCAS) (Ruediger et al. 2000). The LCAS defined LAUs as follows: “The LAU is a project analysis unit upon which direct, indirect, and cumulative effects analyses are performed. LAU boundaries should remain constant to facilitate planning and allow effective monitoring of habitat changes over time. An area of at least the size used by an individual lynx, about 25-50 mi²” (page 4-Glossary, Ruediger et al. 2000).

Programmatic planning standards and guidelines for delineating LAU’s were presented in the LCAS (pages 7-3 and 7-4, Ruediger et al. 2000). A summary of these standards and guidelines, particularly those applicable to Southeast Idaho follows:

- Lynx habitat will be mapped using criteria specific to each geographic area to identify appropriate vegetation and environmental conditions. Primary vegetation includes those types necessary to support lynx reproduction and survival. It is recognized that other vegetation types that are intermixed with the primary vegetation will be used by lynx, but are considered to contribute to lynx habitat only where associated with the primary vegetation.
- To facilitate project planning, delineate LAUs. To allow for assessment of the potential effects of the project on an individual lynx, LAUs should be at least the size of area used by a resident lynx and contain sufficient year-round habitat.
- The size of LAUs should generally be 6,500 - 10,000 ha (16,000 – 25,000 acres or 25 – 50 square miles) in contiguous habitat, and likely should be larger in less contiguous, poorer quality, or naturally fragmented habitat. Larger units should be identified in the southern portion of the Northern Rocky Mountains Geographic Area (in Idaho from the Salmon River south, Oregon, Wyoming, and Utah) and in the Southern Rocky Mountains Geographic Area.
- LAUs with only insignificant amounts of lynx habitat may be discarded, or lynx habitat within the unit incorporated into neighboring LAUs. Based on studies at the southern part of lynx range in the western U.S., it appears that at least 10 square miles of primary vegetation should be present within each LAU to support survival and reproduction.

Definitions of lynx habitat were presented in the LCAS (page 4-Glossary, Ruediger et al. 2000). A summary of these definitions applicable to SE Idaho follows:
• Lynx occur in mesic coniferous forests that have cold, snowy winters and provide a prey base of snowshoe hare.

• Western U.S.: Most lynx occurrences (83%) were associated with Rocky Mountain Conifer Forest, and most (77%) were within the 1500-2000 m (4,920-6,560 ft) elevation zone (McKelvey et al. 2000). There is a gradient in the elevational distribution of lynx habitat from the northern to the southern Rocky Mountains, with lynx habitat occurring at 2,440-3,500 m (8,000 – 11,500 ft) in the southern Rockies. Primary vegetation that contributes to lynx habitat is lodgepole pine, subalpine fir, and Engelmann spruce (Aubry et al. 2000). Secondary vegetation that, when interspersed within subalpine forests, may also contribute to lynx habitat, includes cool, moist Douglas-fir, grand fir, western larch, and aspen forests. Dry forest types (e.g., ponderosa pine, climax lodgepole pine) do not provide lynx habitat.

• Primary vegetation is considered necessary to support lynx reproduction and survival. Secondary vegetation includes other vegetation types that, when intermingled with or immediately adjacent to primary habitat, may also contribute to lynx habitat.

• Mapping of lynx habitat and delineation of LAUs involves consideration of the amount and arrangement of primary vegetation and secondary vegetation, elevation, land ownership pattern, lynx occurrence records, and snow depth information.

In an Interagency memo dated August 22, 2000, additional clarification on mapping lynx habitat and delineating LAUs was provided (USDA Forest Service, USDI Bureau of Land Management, USDI Fish and Wildlife Service, 2000). A summary of this additional information applicable to SE Idaho follows:

• The following clarifies primary and secondary vegetation for the western U.S.:
  o Mesic subalpine fir forests in the western U.S. are extensions of boreal forests. Subalpine fir habitat types dominated by cover types of spruce/fir, Douglas-fir, and seral lodgepole pine should be mapped as primary vegetation. These types must be present to support foraging, denning and rearing of young.
  o Other cool, moist habitat types (e.g., some Douglas-fir, grand fir) may contribute to lynx habitat where intermingled with and immediately adjacent to primary vegetation. These types are described as secondary vegetation.
  o Lynx do not appear to be associated with dry forest habitat types (e.g., ponderosa pine, dry Douglas-fir, and dry or climax lodgepole pine) except to move among mesic stands. These dry types should not be included as vegetation contributing to lynx habitat.

• Determine whether the amount and spatial arrangement of vegetation is sufficient to warrant delineating a LAU (amount, patch size, inter-patch distance).

• Evaluate land ownership pattern (to assess feasibility of achieving lynx conservation objectives on federally administered lands, to determine appropriate size and configuration of the LAU, etc.).

• Review lynx occurrence records of all types to assess validity of identifying the area as lynx habitat – location, pattern, consistency, year in relation to Canadian population cycles. Evaluate the records as described in Chapter 8 (McKelvey et al. 2000). Lack of records in an area does not necessarily indicate lack of habitat; conversely, detections do not necessarily indicate lynx habitat. Independently, occurrence records indicate only
occurrence. Collectively, as a data set, occurrences can reveal habitats that likely are important to lynx.

- Snow depth information may be useful to exclude ungulate winter ranges and areas that do not retain adequate snow cover during the winter.

A Canada Lynx Conservation Agreement was developed between the U. S. Forest Service and the U. S. Fish and Wildlife Service in 2000. This agreement provided the following direction for mapping lynx habitat and delineating LAUs:

- The FS will identify and map lynx habitat and lynx analysis units within the National Forest System (NFS) administrative units listed in the LCAS by March 31, 2000. They will coordinate with the FWS and use the habitat descriptions from the LCAS in these mapping activities. Key linkage areas and shrub-steppe habitats adjacent to lynx habitat in western States will be identified and mapped within 6 months from the date of this agreement (July 2000). These mapping efforts will include consideration of local information and conditions. Lynx habitat, as used later in this document, refers to the designations resulting from this effort.

- Administrative units within each lynx geographic area (refer to the LCAS for geographic area definitions) will coordinate mapping to achieve a level of map consistency sufficient to support programmatic and project planning, consultation and other lynx-related activities. State and Tribal governments may participate in these mapping activities.

- This conservation agreement applies to all NFS lands mapped as lynx habitat in the administrative units listed in the LCAS. As information from the national lynx survey (see section 4.B), lynx research and other sources (including State and Tribal) becomes available the lynx habitat maps will be refined. As a result, the areas subject to this agreement may change. Such refinements will be fully coordinated between the Forest Service and U. S. Fish and Wildlife Service.

The following interagency meetings were attended by personnel from the C-TNF to coordinate mapping of LAUs between adjacent administrative units:

- December 1, 1999, in Boise, Idaho
- September 5, 2001, at Leadore Ranger District, Leadore, Idaho

Based on the above management direction and information learned at the above interagency meetings, the C-TNF developed the first LAU map for the Island Park and Centennial Mountains area in September 2001.

Following development of the first LAU map, additional interagency meetings were held to coordinate mapping of LAUs, and new information became available about identifying and mapping lynx habitat and LAUs. The following provides a brief summary of this information:

- There was an interagency meeting held in Yellowstone National Park on November 1 & 2, 2001. Important information on habitat quality and surveys for lynx and snowshoe hares along the western side of the Park adjacent to the C-TNF was presented.
• There was an interagency lynx coordination meeting held in Island Park, Idaho, on July 8-10, 2003. Several key questions regarding the 2001 LAU map were discussed, including:
  o Were warm dry Douglas-fir habitat types and cool moist Douglas-fir habitat types identified correctly?
  o Should all subalpine fir habitat types be identified as primary vegetation?
  o Should long-time seral (persistent) lodgepole pine growing on all subalpine fir and Engelmann spruce habitat types be identified as primary vegetation?
  o Should long-time seral (persistent) lodgepole pine growing on all cool moist Douglas-fir habitat types be identified as secondary vegetation?
  o Should any vegetation growing on coarse volcanic soils (rhyolite soils) be considered as primary or secondary vegetation contributing to lynx habitat?
  o If snowshoe hare densities are low across large portions of the landscape (low in early, middle and late successional stages, low in all vegetation types), should these areas be included within LAUs?

• The C-TNF completed several administrative studies on snowshoe hares and subalpine fir habitat which are listed below:
  o An analysis of snowshoe hare (Lepus americanus) numbers in Island Park based on pellet sampling and capture/recapture trapping (McKelvey and McDaniel. 2001).
  o Micro-scale Habitat Use of Snowshoe Hares in Eastern Idaho, Including a Comparison between Telemetry and Pellet Counts (McDaniel and McKelvey. 2004a).
  o Logistic modeling of subalpine fir (Abies lasiocarpa) presence in Island Park, Idaho (McDaniel and McKelvey. 2004b).
  o Mapping the Probability of Subalpine Fir Habitat Type on the Caribou-Targhee National Forest and Bureau of Land Management (McDaniel 2004).

With the additional information gained since development of the 2001 LAU map, the C-TNF developed a revised LAU map for the Island Park and Centennial Mountains area in 2005 (see Map 2) (Caribou-Targhee National Forest and Bureau of Land Management 2005a and 2005b; U. S. Fish and Wildlife Service 2005).

The Canada Lynx Conservation Agreement that was developed between the U. S. Forest Service and the U. S. Fish and Wildlife Service in 2000 was revised in 2005 and 2006 (USFS and USFWS 2005 and 2006). These revisions provided the following direction for mapping lynx habitat and delineating LAUs:

• The FS identified and mapped lynx habitat and lynx analysis units within the NFS administrative units listed in the LCAS, in coordination with the FWS and using the habitat descriptions from the LCAS. Linkage areas and shrub-steppe habitats adjacent to lynx habitat in western States also were identified and mapped.
• As new criteria for mapping become available the lynx habitat maps may be refined. Site specific application of mapping criteria may also lead to changes in what is mapped as lynx habitat. As a result, the areas subject to this agreement may change.
Such refinements will be fully coordinated between the signatories. Lynx habitat, as used later in this document, refers to the results of these mapping efforts.

The 2007 Northern Rockies Lynx Management Direction Record of Decision (USDA Forest Service 2007) provides this management direction for LAUs:

- **Standard LAU S1**
  Changes in LAU boundaries shall be based on site-specific habitat information and reviewed by the Forest Service Regional Office.

- **Definition of an LAU:** *LAU (Lynx Analysis Unit)* — An LAU is an area of at least the size used by an individual lynx, from about 25 to 50 square miles (LCAS). An LAU is a unit for which the effects of a project would be analyzed; its boundaries should remain constant.

- **Definition of Lynx Habitat:** *Lynx habitat* — Lynx habitat occurs in mesic coniferous forest that experience cold, snowy winters and provide a prey base of snowshoe hare. In the northern Rockies, lynx habitat generally occurs between 3,500 and 8,000 feet of elevation, and primarily consists of lodgepole pine, subalpine fir, and Engelmann spruce. It may consist of cedar-hemlock in extreme northern Idaho, northeastern Washington and northwestern Montana, or of Douglas-fir on moist sites at higher elevations in central Idaho. It may also consist of cool, moist Douglas-fir, grand fir, western larch and aspen when interspersed in subalpine forests. Dry forests do not provide lynx habitat. (LCAS)

In February 2009, the USFWS published the final rule for designation of critical habitat for the contiguous United States Distinct Population Segment of the Canada Lynx (USFWS 2009b). No critical habitat was designated for Canada lynx anywhere on the Caribou-Targhee National Forest. Also, no critical habitat was designated for Canada lynx along the west boundary of Yellowstone National Park which is adjacent to the Split Creek project area.

In April 2009 the Regional Office completed their review of the 2005 LAU map to be in compliance with the Standards and Guidelines for the Northern Rockies Lynx Management Direction.
Map 2-2005 LAU Map
PURPOSE AND NEED FOR ACTION

The purpose and need of this project is to improve overall stand health of previously harvested units within the analysis area that have been identified as part of the suitable timber base in the Targhee National Forest Revised Forest Plan, 1997.

All of these stands regenerated naturally after they were clear-cut 15-30 years ago with hundreds and even thousands of trees per acre, primarily of lodgepole pine. The high numbers of trees causes less vigorous growth that can eventually lead to a stagnated forest. The higher the number of trees per acre the more competition there is for nutrients, sunlight and water. High rates of competition cause trees to shed their lower branches (self pruning). In most cases, the tree crowns become very thin and the tree diameters remain small. This slow growing stagnated condition can last for many decades. Thinning is being proposed so these stands continue to maintain height and diameter growth and crown development.

Figure 1.2 Note the increased diameter growth and fuller crowns in the thinned areas (right) and smaller diameters, reduced crowns and fewer lower live branches in the un-thinned areas (left).
Precommercial thinning can have other beneficial effects. Reduced competition between trees results in better crown development, faster diameter growth and longer retention of lower live limbs. Lower live limbs provide hiding cover for many wildlife species. Trees with high rates of diameter growth grow more quickly to a size that is suitable for cavity nesting species. Trees that are more open grown have larger limbs and bigger crowns. Larger limbs provide better sites for forest raptors to build nests. Additionally, large tree crowns provide more cone production for natural regeneration and food for species that utilize conifer seed.

In contrast, dense stands of lodgepole pine develop canopies that let very little sunlight to the forest floor. Thinning can foster grasses, forbs and shrubs beneath the forest canopy for wild and domestic animals (Hunter 1990). Research has shown that as more open stands mature and before they become over mature, they have a lower fire hazard compared to dense mature stands (Crane and Fisher 1986).

One reason so much of the lodgepole was clear-cut in the past was that dense slow growing stands of mature lodgepole pine are susceptible to wind-throw when they are opened up. Past partial cutting of stands was determined to be impractical since the residual trees were not wind firm and they would have just blown over. This is because they grew without being subjected to wind. Stands grown in less crowded conditions (thinned stands) are more wind-firm. This is because they develop bole tapers and root systems that resist wind. These characteristics make partial cutting, instead of the traditional clear cutting, a more viable option for future resource managers.

This project would favor leaving aspen over conifers when available promoting species diversity on the landscape. Values attributed to aspen include but are not limited to: forage for animals, habitat for wildlife, and water for downstream users, esthetics, recreational sites, wood fiber and landscape diversity (Bartos 2001). The species richness and productivity of an aspen stand is surpassed only by riparian (Campbell and Bartos, 2000). Efforts to restore aspen are important to the management of a healthy ecosystem.

Diseases would also be reduced with this project. Lodgepole pine dwarf mistletoe (*Arceuthobium americanum*) is a native, parasitic seed plant that occurs throughout the range of lodgepole pine in North America. The dwarf mistletoes are of immense economic importance because they are the single-most destructive pathogen of commercially valuable coniferous timber trees in several regions of Mexico, western Canada, western United States, and parts of Asia (Hawksworth and Wiens 1996, p 1).

One goal is to keep infections of dwarf mistletoe within a level that would allow lodgepole pine regeneration to grow into mature trees with normal form, forest canopy, and high quality structure characteristics. High infections of dwarf mistletoe result in reduced diameter and height growth, lower cone yield, smaller seeds, reduced wood quality, reduced stand aesthetics, and increased tree mortality (Hawksworth and Wiens 1996, pp 126-130). Very heavy infections particularly in young stands can result in trees becoming stunted, growing to a fraction of their potential size. Managing dwarf mistletoe and conducting silvicultural treatments that feature other trees such as aspen would help achieve these goals.
With natural thinning (No Action Alternative), trees will die off from either a direct or indirect consequence of failure to compete successfully for light, water, or soil nutrients. In a natural stand, trees soon have a closed canopy and competition becomes intense leaving the area near the ground relatively free of vegetation. The number of trees decreases in the stands, with lodgepole pine you usually end up with a very dense stand with thousands of trees to the acre, growth is reduced and trees become stressed as they compete for the same resource needs.

With artificial thinning, trees that are less vigorous, diseased, and or less desirable are cut. While it is true a stand will naturally thin itself over time, research demonstrates that reducing stocking levels and leaving the healthiest trees, promotes vigorous tree growth. Thinned lodgepole stands have more open grown conditions which leave stands less desirable for mountain pine beetle (Scoping Document, Gibson, et. al. 2008).

Mountain pine beetle (MPB) kills more pines though its range than all other insect pests combined. Presently MBP populations are at epidemic levels with outbreak levels across much of western North America. Presently there are thousands of acres of lodgepole pine and whitebark pine which have been killed by MBP (Gibson et. al. 2008).

To reduce the risk of future high susceptibility of mountain pine beetle, recommendations are too thin at an 11 by 11 feet spacing, leaving approximately 360 trees per acre. (Amundson, Orme, Sessions, 1998).

In order to reproduce, bark beetles must successfully locate and colonize suitable hosts. If the host is accepted colonization requires overcoming the tree defenses. As trees become stressed their insect resistance mechanisms are compromised. Trees of low vigor are more susceptible to bark beetle attack. Efforts to prevent undesirable levels of bark beetle-caused tree mortality must change susceptibility through reductions in tree competition, disruption of pheromone plumes thus negatively affecting host-finding, and reduction in the fecundity, fitness and survivorship of target bark beetle species (Fettig, et al. 2006).

At endemic levels MPB maintains a presence in pine forests for many years however when they reach epidemic levels they are capable of killing many acres of vigorous, healthy trees.

**PROPOSED ACTION**

This section provides a short summary of the proposed action. A more detailed description is presented in Chapter 2.

The proposed action is to precommercial thin approximately 7,000 acres of lodgepole pine in the 23,250 acre analysis area (Map 5, pg 22). Work would begin in 2010 thinning approximately 2,000 to 4,000 acres annually, depending on funding.
RELATIONSHIP TO THE FOREST PLAN

The Split Creek Precommercial Thinning Environmental Analysis (EA) is a project-level analysis; its scope is confined to addressing issues and possible environmental consequences of the project. It does not attempt to address decisions made at a programmatic level.

1997 Revised Forest Plan Direction

The project will meet the following Forest-wide direction for the 1997 Targhee Revised Forest Plan (RFP).

1. Thinning results in restoration of ecological structure, function and composition (RFP III-33).
2. Provide for a variety of future resource products, (RFP III-33).
3. The proposed treatments would also be consistent with the goals for vegetation in the RFP by using vegetation management to achieve a broad array of multiple-use and ecosystem management objectives, including maintenance, improvement, and restoration of forest health and vegetation structure, composition, and distribution in larger landscapes (RFP III-12).
4. Felling conifers within aspen clones would meet the RFP goal of treating aspen plant communities to reduce encroaching conifers and maintain a balance of age classes for these communities. Unique or difficult-to-replace elements or habitats such as whitebark pine, and areas of high species diversity, such as aspen, riparian zones, etc would be maintained, or increased (RFP III-12, 13).
5. Long-term soil productivity is sustained by retaining fine organic matter and woody residue on activity areas (RFP III-6).
6. Fuel loading on activity areas meets site productivity objectives for wildlife and fire (RFP III-32).
7. Access standards for grizzly bear habitat will be met with this project (RFP III-23, 24).

- No cross-country motorized access is needed or allowed with the proposed project.
- No motorized cross-country administrative access is needed or allowed with the proposed project.
- The proposed project is within the Plateau BMU. The road density standards within the Plateau BMU were achieved within three years of the implementation of the ROD (see 2004 letter and report to the U. S. Fish and Wildlife Service titled: “Implementation of the Grizzly Bear Habitat Management Direction in the 1997 Revised Forest Plan, Targhee National Forest and 1997 Biological Opinion from the U. S. Fish and Wildlife Service.” Also see 2004 reply from the U. S. Fish and Wildlife Service: “Review of Caribou-Targhee National Forest’s compliance with the Fish and Wildlife Service’s 1997 Biological Opinion for the 1997 Revised Forest Plan”). The proposed project will use existing approved open roads and will temporarily use portions of existing restricted roads for short durations of time during project activity.
- The Targhee NF portion of the Plateau BMU is 247.92 square miles in size. The current total motorized access is 212.2 miles, which calculates to a TMARD of 0.86 mi./sq.mi. (this is less than the standard of 1.0 mi./sq.mi.). The current open road and open motorized access is 131.2 miles, which calculates to a OROMTRD of 0.53 mi./sq.mi. (this is less than the standard of 0.60 mi./sq.mi.). It is possible
Management Prescription Direction

Management direction is also found for the prescription areas in the RFP: The analysis area is located in prescription areas 2.5, 2.6.2, 2.8.3 and 5.3.5. No precommercial thinning is planned within 2.5 or 2.6.2, (see Map 4, pg 18). A complete analysis of Management Prescription Direction is located in the project record (BA for grizzly bear).

Management Prescription 2.8.3 Aquatic Influence Zone (AIZ’s) includes five basic water types found on the Forest; 1) fish-bearing stream reaches; 2) perennial non-fish bearing stream reaches; 3) lakes; 4) reservoirs, ponds and wetlands greater than one acre; 5) intermittent streams and wetlands less than one acre (RFP III-106, 107).

The following standards and guidelines would apply within the Management Prescription 2.8.3 Aquatic Influence Zone (AIZ’s).

- Guideline - Where needed to attain management prescription goals, design silvicultural prescriptions and allow prescribed burning and stocking control, as well as the reestablishment and culturing of stands to attain desired vegetation characteristics (RFP III-111).

A majority of the AIZs located within the proposed precommercial thinning units are draws without a defined stream channel. South Split Creek is the most defined stream channel within the proposed treatment area; it is likely intermittent (Hydrology Specialist Report, p. 7).


- Guideline - No new roads, trails, or landings will be constructed within these lands until appropriate standards for construction, maintenance, and operations are in place (RFP, 110). There is no new road construction or reconstruction planned for this project. (EA, Chapter 2, Project Design Features).

Management Prescription 5.3.5 Grizzly Bear Habitat

The following is a summary of some of the standards and guidelines within this management prescription. A complete analysis is located in the project record (BA for grizzly bear).

- Guideline – Insects and disease are allowed to play their natural role in ecosystem development, unless this conflicts with the maintenance of grizzly bear habitat (RFP III-147).
This management direction is a guideline. The proposed project is designed to reduce the potential for epidemic levels of mountain pine beetles in the future within the stands proposed for thinning. However, mountain pine beetles will still be present within these stands at endemic levels. The proposed project is designed to reduce the effects of dwarf mistletoe within the stands proposed for thinning, but it will not eliminate the presence of dwarf mistletoe within these stands. The acreage that is proposed to be thinned with this project (about 7,000 acres) is 6.3% of management prescription 5.3.5 acres within the Plateau BMU, and 1.5% of the total acres within the Plateau BMU. Therefore, this project will still allow insects and disease to play their natural role in the ecosystem (EA, Chapter 1, Purpose and Need for Action and BA for grizzly bear, pg 29).

Long-term activities, for purposes of this prescription, are those activities which may last more than one field season, or may be expected to recur in different areas year after year. They may occur over a larger geographic area than short-term activities. These include timber sales, firewood harvesting, prescribed burns, road reclaiming, tree thinning, and trail construction.

♦ Standard - Long-term activities must be concentrated in activity areas on an annual basis between April 1 and September 15. Each activity area shall not exceed 7,000 acres in size (RFP III-148).

♦ Guideline - Long-term activities should be concentrated in space and be of as short duration as is practical (RFP III-148).

Thinning activity will be concentrated within a 7,000 acre geographic area at one time before moving to other thinning areas. Thinning contractors will be required to concentrate activities within a concentrated geographic area (BA for grizzly bear, pg 31).

♦ Guideline - Long-term activity areas should generally follow ecological boundaries, watersheds and topographic breaks. Activity areas should be distributed such that no less than 7,000 acres lie between them (RFP III-148).

The Split Creek project area is within the Buffalo River Watershed 10. Activity areas are distributed so that no less than 7,000 acres lies between them (BA for grizzly bear, pgs 26, 27, 31 and 32).

♦ Standard - Administrative Responsibilities - Emergency cessation or modification of activities will occur when those activities are in conflict with grizzly bear management objectives. Scheduled activities will not occur during the season of bear use in areas where foraging opportunities are limited in their availability, in area, or time (RFP III-149).

All contracts associated with the proposed project will contain wording that emergency cessation or modification of activities will occur to resolve conflicts with grizzly bears.

Specific to the GYA, four seasonal foods have been identified as being important to the populations. These are: winter killed ungulates (primarily elk and bison, but also deer and moose; grizzly bears feed on ungulates primarily as winter-killed carrion from March through May), spawning cutthroat trout during the spring and early summer, seeds of whitebark pine
during the fall period, and alpine moth aggregation sites in late summer/early fall (also referred to as army cutworm moth sites). The project area has none of these four seasonal foods (BA for grizzly bear, pg 33).

♦ Standard - Maintain greater than 70 percent of the forested acres in each analysis area in vegetation that provides security cover for the grizzly bear. Where security cover is below 70 percent, no treatments are allowed which would further reduce the number of acres meeting security cover (RFP III-151).

♦ Guideline - Security cover is defined as forested acres (all tree species) which have not been managed or burned in the last 20 years, and managed or burned forested areas within the last 20 years which meet the following criteria: (RFP III-151).

<table>
<thead>
<tr>
<th>Overstory Basal Area of trees 5.0” +</th>
<th>Understory Trees/ac. 0-4.9” and 7’ +</th>
<th>Acreage Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>130+ sq. ft. per acre</td>
<td>250+</td>
<td>(Good)</td>
</tr>
<tr>
<td>80-129 Sq. ft. per acre</td>
<td>150-249</td>
<td>0.7 (Medium)</td>
</tr>
<tr>
<td>30-79 sq. ft. per acre</td>
<td>50-149</td>
<td>0.4 (Poor)</td>
</tr>
</tbody>
</table>

♦ Standard - The overstory and understory categories for security cover are to be considered separately. A stand having either 130 sq ft of basal area per acre or 250 understory trees per acre over seven ft tall would meet the requirements for full security cover. Both live and dead tree basal areas are used for overstory calculations (RFP III-151).

The Split Creek analysis area and the Forest portion of the Plateau BMU are 99% forested habitats. At the present time, 89.6% of the forested acres provide security cover for the grizzly bear. Greater than 70% of the forested acres provide security cover for the grizzly bear. The proposed thinning project will still retain 360 trees per acre in the stands that are thinned, which will result in no change in security cover for the grizzly bear (BA for grizzly bear, pgs 37-39).

♦ Standard - Security Areas - Maintain a minimum 7,000 acre security area adjacent to each timber sale area (RFP III-152).

♦ Standard - Security areas must provide the following conditions: (RFP III-152).

1. Within the security area, TMARD and OROMTRD must be less than or equal to the density established for the BMU (see forestwide standards and guidelines, Access).

2. Within the security area, security cover must be greater than or equal to the amount established for this management prescription.

3. No timber harvesting activity or similar type of disturbance activity can occur within the security area during the time it is designated as a security area.
This is not a timber harvest activity or a similar disturbance activity. There are 16,600 acres of “core area” (Management Prescription 2.6.2, see Map 4, pg 18) immediately adjacent to the proposed project area where no forest management activities will occur. There are also 79,652 acres in Yellowstone National Park in Plateau BMU Subunit 1 that is immediately adjacent to the proposed project area where no forest management activities will occur (BA for grizzly bear, pg 43).

All applicable Federal and State laws and regulations, Forest Plan standards and guidelines and BMPs would be followed with this project.
Map 4 – Management Prescription Map
DECISION FRAMEWORK

The Responsible Official for this proposal is the District Ranger of the Ashton/Island Park Ranger District. The District Ranger will make the following decision and document it in a Decision Notice following the completion of the environmental analysis. Whether or not to implement an action alternative which would precommercial thin past harvest units on approximately 7,000 acres.

PUBLIC INVOLVEMENT

The proposal was listed in the Schedule of Proposed Actions on April 2009. A scoping notice and opportunity to comment document was sent to 29 individuals, agencies and interested groups for the 30 day comment period in February 10, 2009. In addition, the scoping notice and opportunity to comment legal notice was published in the Post Register in Idaho Falls on February 14, 2009. Six comment responses were received.

ISSUES

The scoping and public comment process allows the public and other agencies to raise any concerns relative to the Proposed Action. Identification of issues includes review of comments, input from Forest Service resource specialists and review of the Forest Plan. Comments received during scoping and public comment opportunities were evaluated against the following criteria to determine whether the concern was a major factor in the analysis and alternative formulation process.

- Was the concern relevant to and within the scope of the decision being made and did it pertain directly to the proposed action?
- Has the concern been addressed in a previous site-specific analysis, such as in a previous Environmental Impact Statement or though legislative action?
- Could the concern be resolved through mitigations in all action alternatives?
- Could the issue be resolved through project design in all alternatives?

The following issues came forth through the interdisciplinary process and public comments from the scoping process:

What are the effects on tree growth?
   Indicators: Changes in densities and potential increase of dwarf mistletoe and mountain pine beetle activity.

What are the effects on Canada lynx habitat?
   Indicator: Acres treated in lynx analysis unit.

What are the effects on snowshoe hare habitat?
   Indicator: Changes in snowshoe hare habitat and the effects on Canada lynx.

What are the effects on grizzly bear habitat?
Indicator: Changes in secure habitat, food resources for the grizzly bear, impact from human disturbance.

What are the effects on elk hiding cover?
   Indicator: Reduction in acres of hiding cover.

What are the effects on elk vulnerability?
   Indicator: Changes in hunter density and motorized access route densities.
CHAPTER 2 – ALTERNATIVES

This chapter discusses the one action alternative in detail and addresses the no action alternative. This chapter includes project design features, project description and maps.

ALTERNATIVE 1 – NO ACTION ALTERNATIVE

Under the No Action Alternative, no precommercial thinning would be implemented to accomplish project goals.

ALTERNATIVE 2 – PROPOSED ACTION

The proposed action would respond to the purpose and need in Chapter 1 by precommercial thinning approximately 7,000 acres.

Areas identified to be thinned are past harvest units composed primarily of lodgepole pine presently stocked at 500 to 30,000 trees per acre with an average height of 16 feet (see Map 5). Trees would be thinned at an approximate spacing of 11 by 11 feet leaving approximately 360 trees per acre, leaving the most desirable trees.

Characteristics of desirable trees are those trees with the best form and vigor, straight stem, well-formed crowns, free of insect or disease damage and/or systems, vigorous annual terminal growth (especially in the last 1 to 3 years) and with a crown ratio of 40% or larger. Trees over six inches in diameter with gall rust or with a high percentage of dwarf mistletoe would be girdled to reduce the spread of this disease. To promote species diversity in the thinned stands species preference would be aspen, whitebark/limber pine, Douglas-fir, Engelmann spruce, and lodgepole pine in this order. Any conifer within 25 feet of an aspen clone would be cut. Within aspen clones any lodgepole pine located within the clone would be girdled (if greater than six inches in diameter) or cut (if less than six inches in diameter).

Work would begin in 2010 thinning approximately 2,000 to 4,000 acres annually, depending on funding. Contract or force account crews would start work after July 1.

Thinning would be accomplished by contract or force account crews using chain saws. Trees that are felled would be left where they fall therefore no ground disturbing activities would take place from machine piling or skidding.
Map 5 – Proposed Action – Alternative 2
PROJECT DESIGN FEATURES FOR THE PROPOSED ACTION
ALTERNATIVE 2

Design features have been formulated to mitigate or reduce adverse impacts and achieve desired outcomes.

Roads and Access

◆ There would be no new road construction or reconstruction. No decommissioned roads would be opened for the project. Approximately 13.82 miles of restricted (gated roads) could be used to access thinning units. However, all of the gated roads would not be used at the same time.
◆ Contractor and Forest Service personnel would be required to only unlock the gate for passage through the gate and keep it locked at all other times. Units that are not accessible by an open road or restricted road would require walk-ins.
◆ All open roads within or adjacent to the units shall be kept free of slash.

Vegetation/Timber

◆ No commercial timber harvesting would take place. Felled trees would be left on the site providing some down woody material.
◆ There may be some opportunities to allow the public to gather some of the felled trees along open roads for firewood and post and poles.
◆ No aspen would be cut and would be favored over other species.
◆ To promote species diversity in the thinned stands species preference would be to leave aspen, whitebark/limber pine, Douglas-fir, Engelmann spruce and lodgepole pine in this order.
◆ Any tree over six inches in diameter with dwarf mistletoe with a Hawksworth rating of 2 and above would be girdled which would create additional snags. The Hawksworth six-class rating system is a standardized method of assessing the severity of dwarf mistletoe infestations on a tree (Dwarf Mistletoe Management Guidebook, 1995).
◆ Trees would be cut and left on site. Past experience has shown after two winters fine fuels are reduced from the heavy snow loads reducing the potential fire intensity in the slash.
◆ There are no known noxious weeds in the analysis area. If noxious weeds are found they would be treated by the District Rangeland Management Specialist.

Wildlife

◆ No thinning activities would occur before July 1. The majority of songbird nesting is completed by July (Birds of North America, Wildlife Report, Project Record).
◆ Adhere to all standards and guidelines in the 1997 Targhee National Forest Revised Forest Plan and the 2007 Northern Rockies Lynx Management Direction.
◆ All contractors and people involved with the proposed project must comply with the applicable food storage special order in effect when the work is performed.

Riparian and Aquatic Influence Zone (AIZ) Considerations

◆ Felled trees would be left where they fall and felled in a way that protects residual vegetation from damage.
Minimum standing trees per one thousand feet of a stream within the stream protection zone (50 feet of Class I streams and 30 feet of Class II streams) would be followed as identified in the Hydrology Specialist Report.

<table>
<thead>
<tr>
<th>Tree Diameter (DBH)</th>
<th>Class I Streams (stream width)</th>
<th>Class II Streams</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Over 20 ft wide</td>
<td>10-20 ft wide</td>
</tr>
<tr>
<td>3-7.9 inches</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>8-11.9 inches</td>
<td>42</td>
<td>42</td>
</tr>
</tbody>
</table>

There is one pond located within the project area. This pond was surveyed on July 28 and August 22, 2009. Amphibian species found at the pond were the boreal chorus frog (both adults and tadpoles) and larvae of the tiger salamander. No precommercial thinning will occur within 300 feet of the pond.

Soils

Thinning slash will be left on the units. This will contribute to the coarse woody debris guideline in the Forest Plan (Soils Report and RFP, III 6, 7).

**COMPARISON OF ALTERNATIVES**

**Alternative 1** – This alternative would continue present management within the project area. Stands would become stagnated; most trees would have smaller diameters, smaller tree heights and thinning crowns. They would be less desirable as a commercial product.

**Alternative 2** – This alternative would address the purpose and need of the project. Spacing out the trees allows less competition producing a healthier tree with larger diameters, taller and fuller crowns.
Table 1- Comparison of Alternatives

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>ALTERNATIVE 1 – NO ACTION</th>
<th>ALTERNATIVE 2 – PROPOSED ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree growth and changes in densities and potential increase to dwarf</td>
<td>Densities of trees per acre would continue to remain high even with natural thinning.</td>
<td>Trees would be thinned to an 11 x 11 foot spacing (360 trees per acre), leaving those trees</td>
</tr>
<tr>
<td>mistletoe and mountain pine beetle activity</td>
<td>Tree diameters would be smaller, height growth would be less and tree crowns would be</td>
<td>with the best form, largest diameters and crowns. Reducing competition</td>
</tr>
<tr>
<td></td>
<td>thinner, creating stands that are overall less healthy. Dwarf mistletoe would continue</td>
<td>creates a healthier stands. Dwarf mistletoe would be reduced in the stands</td>
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<tr>
<td></td>
<td>to increase in the younger trees. In the long-term unthinned stands could be more susceptible</td>
<td>improving the overall health of the stands. Reducing densities would minimize the</td>
</tr>
<tr>
<td></td>
<td>to mountain pine beetle attacks (see Chapter 3, Forest Vegetation).</td>
<td>susceptibility of future attacks from mountain pine beetle (see Chapter 3, Forest Vegetation).</td>
</tr>
<tr>
<td>Acres in lynx analysis unit</td>
<td>There is no lynx habitat and no Lynx Analysis Unit identified for Watershed 10. This</td>
<td>There is no lynx habitat and no Lynx Analysis Unit identified for Watershed 10. This</td>
</tr>
<tr>
<td></td>
<td>watershed is identified as a linkage area (see Chapter 3, Wildlife Section and BA for</td>
<td>watershed is identified as a linkage area (see Chapter 3, Wildlife Section and BA for Canada</td>
</tr>
<tr>
<td></td>
<td>Canada Lynx).</td>
<td>Lynx).</td>
</tr>
<tr>
<td>Changes in snowshoe hare habitat and effects on Canada lynx.</td>
<td>In the short-term (5-10 years) snowshoe hare habitat would be retained in the few units</td>
<td>Determination of effects “may affect, but is not likely to adversely affect lynx or lynx</td>
</tr>
<tr>
<td></td>
<td>(23%) that currently have snowshoe hare habitat. In the long-term, trees would self-prune</td>
<td>habitat”. In winter surveys of 2009 snowshoe hares were present on 9 of the 40 (23%) of the</td>
</tr>
<tr>
<td></td>
<td>their lower live limbs and would not be snowshoe hare habitat</td>
<td>winter snow tracking transects. In the short-term thinning will reduce the quality of snowshoe</td>
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<td>(see Chapter 3, Wildlife Section).</td>
<td>hare habitats in those stands that currently contain snowshoe hares (23%) of the projects</td>
</tr>
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<td></td>
<td></td>
<td>area (see Chapter 3, Wildlife Section and BA for Canada Lynx).</td>
</tr>
<tr>
<td>Changes in secure habitat, food resources for the grizzly bear, impact</td>
<td>No change in secure habitat. No change or effect on key food resources. There is no</td>
<td>No change in secure habitat. No change or effect on key food resources. There is a</td>
</tr>
<tr>
<td>human disturbance</td>
<td>human caused disturbance</td>
<td>potential for human caused disturbance (BA for grizzly bear). Determination of effects “may</td>
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<td></td>
<td></td>
<td>affect, but is not likely to adversely affect grizzly bear and its</td>
</tr>
<tr>
<td></td>
<td></td>
<td>habitat (see BA for grizzly bear).</td>
</tr>
<tr>
<td>Reduction in acres of elk hiding cover.</td>
<td>There would be no change in elk hiding cover in the short-term (see Chapter 3, Wildlife</td>
<td>Proposed thinning of about 7,000 acres will reduce hiding cover for a short period of time</td>
</tr>
<tr>
<td></td>
<td>Section)</td>
<td>(3-5 years) and elk habitat effectiveness will decline from the current 0.66 to 0.61 for</td>
</tr>
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<td></td>
<td></td>
<td>Watershed 10. As the tree crowns expand after thinning hiding cover will return and EHE will</td>
</tr>
<tr>
<td></td>
<td></td>
<td>increase to 0.66 (see Chapter 3, Wildlife Section).</td>
</tr>
<tr>
<td>Changes in hunter densities and motorized access route densities</td>
<td>There will be no change to EV with this alternative (see Chapter 3, Wildlife Section).</td>
<td>There will be no change to EV with this alternative (see Chapter 3, Wildlife Section).</td>
</tr>
</tbody>
</table>
CHAPTER 3 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Introduction

This chapter provides information concerning the affected environment of the project area and the potential changes to those environments due to implementation of the alternatives. The individual discussions are organized by resource. Those effects which are reduced by project design features or through mitigation measures are discussed in Chapter 2. Only those descriptions necessary to understand the effects of the alternatives on resources are provided. Supporting data and analysis are located in the resource sections of the planning file. This file is located at the Island Park Office of the Ashton/Island Park Ranger District.

Environmental consequences are discussed in terms of the direct, indirect and cumulative effects. Direct effects are caused by the proposed activities and occur at the same time and place. Indirect effects are caused by proposed activities and occur later in time or are further removed in distance, but are still reasonably foreseeable. Cumulative effects result from incremental impacts of proposed activities when added to other past, present and reasonably foreseeable actions regardless of what agency or person undertakes such other actions. Some resource conditions consider a larger area if predicted effects extend beyond the analysis area.

This chapter also provides the necessary information to determine whether or not to prepare an Environmental Impact Statement. The associated Finding of No Significant Impact discusses whether this project has significant effects.

Required Disclosures

Forest Plan Consistency

Implementation of the action alternative complies with the 1997 Revised Targhee Forest Plan (RTFP). This project incorporates all applicable Forest Plan forest-wide standards and guidelines and management area prescriptions as they apply to the project area and complies with Forest Plan goals and objectives. This includes additional direction contained in all amendments. All required interagency review and coordination has been accomplished.

National Forest Management Act of 1976 (NFMA): This act guides development and revision of National Forest Land management Plans. The proposed action is consistent with the NFMA and the Revised Targhee National Forest Plan (RFP). This project incorporates all applicable Forest Plan forest-wide standards and guidelines and management area prescriptions as they apply to the project area and complies with Forest Plan goals and objectives. This includes additional direction contained in all amendments. All required interagency review and coordination has been accomplished (EA, BA’s, BE, and Specialist Reports).

The National Environmental Policy Act (NEPA): NEPA establishes the format and content requirements of environmental analysis and documentation. The process of preparing this environmental analysis was undertaken to comply with NEPA and its implementing regulations.

Endangered Species Act: Two Biological Assessments (BA’s) were prepared to document possible effects of the proposed action on endangered and threatened species within the analysis area potentially affected by the project (BA’s, Project Record). The analysis concluded that implementation of Alternative 2 “may affect, but is not likely to adversely affect lynx or lynx habitat or grizzly bear and its habitat” (EA, pgs 44-48, BA’s,
Clean Water Act and State Water Quality Standards: The Split Creek Precommercial Thinning Project action alternative would be in compliance with the applicable hydrology-related standards and guidelines from the RFP. Design features for the proposed action are in place to address Aquatic Influence Zone (AIZ) concerns (Hydrology Report, Project Record). This decision incorporates Best Management Practices to ensure protection of soil and water resources (Hydrology Report, Project Record). The proposed action is also consistent with other pertinent laws, regulations, and directives discussed above (e.g. CWA, Executive Orders 11988 and 11990 (Floodplain Management and Protection of Wetlands, respectively), and the Idaho Water Quality Standards) (Hydrology Report, Project Record).

Floodplains and Wetlands: There are no units within a floodplain or wetland (Hydrology Report, Project Record). There is one pond located within the project area; however no precommercial thinning will occur around the pond (Project Design Features and Wildlife Report).

Clean Air Act: Upon review of the EA, I find that Alternative 2 is in compliance with all requirements with this act. There is no prescribed burning or other activities that may affect air quality planned with this project.

Migratory Bird Treaty Act: On January 10, 2001, President Clinton signed an Executive Order outlining responsibilities of federal agencies to protect migratory birds. Upon review of the effects analysis regarding migratory birds (EA pgs 56-58), I find that no significant loss of migratory bird habitat is expected from the implementation of the selected alternative.

National Historic Preservation Act: These laws require the adequate and extensive review of these undertakings be conducted in order to assess the possible effects of these activities upon cultural resources. They also provide that Federal agencies conduct adequate consultation with pertinent tribes in order to be informed of any possible conflicts the actions to be taken would have on their ability to conduct traditional religious practices.

A cultural resources review has been completed and three sites are located within the analysis area, however, there are no units planned for treatment near these cultural sites. A Determination of Significance and Effect, determined there would be “no adverse effect” on any known historic properties (Idaho State Historic Preservation Officer Cultural Report, Project Record).

American Indian Religious Freedom Act and Grave Protection and Repatriation Act: The Shoshone-Bannock Tribes were contacted and public comment was encouraged. No tribal concerns were identified for this project (Scoping and Comment Letters, Project Record).

Prime Rangeland, Farm Lands and Park Lands: Lands administered by the Forest Service in the analysis area do not include prime rangeland, farm lands, or park lands. The analysis area is adjacent to the boundary of Yellowstone National Park but this activity would have no effect on Park Lands (Map 1).

Idaho Roadless Rule (36 CFR 294): The project area does not include any areas identified as Roadless Area in the Targhee National Forest Revised Forest Plan, or Final Rule for Roadless Area Conservation: Applicability to the National Forest in Idaho.

Environmental Justice: The selected 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 these alternatives will be consistent with this Order and will not have a discernible effect on minorities, American Indians, or women, or the civil rights of any United States citizen. Nor will it have a disproportionate adverse impact on minorities or low-income individuals (EA, cover page). 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 (Scoping Notice and Opportunity to Comment, Project Record).

Executive Order 12898 also directs agencies to consider patterns of subsistence hunting and fishing when an agency action may affect fish or wildlife. 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 Caribou-Targhee National Forest were provided an opportunity to comment on the proposal (Scoping Notice and Opportunity to Comment, Project Record).

Based on experience with similar projects on the Ashton/Island Park 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 communities such as Island Park, Ashton, St. Anthony, Rexburg, and Idaho Falls, Idaho. 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.

Forest Vegetation

Affected Environment

Introduction
This section describes the existing vegetation conditions of the Split Creek Analysis Area and how the proposed action and no action would affect the various components of the resource. Analysis area and proposed units for treatment are shown on Map 5 in Chapter 2.

The project area is within Buffalo River Watershed 10 is about 44,195 acres in size. National Forest System land comprises 99.3% of the watershed; 0.7% of the watershed is private or state land. The analysis area is approximately 23,250 acres of which approximately 7,000 is proposed for precommercial thinning.

Watershed 10 is dominated by lodgepole pine comprising approximately 91.9% of the area with a mix of other forest types which include aspen, 0.1%, Douglas-fir, 0.1% and mixed conifer, 6.6% with the remainder of the area containing a small amount of surface water 1.2% which is primarily the Buffalo River and a small amount of rock 0.1% of the area. Within the lodgepole pine forest 29% is mature, 13% pole and 58% sapling size classes. The large percentage of lodgepole pine in the sapling stage is due to previous mountain pine beetle epidemic in the 1960’s and 1970’s and timber harvesting to salvage dead trees and the North Fork wildfire in 1988 (Properly Functioning Condition, Island Park and Madison-Pitchstone Plateau Subsection, 1997). Those areas that were harvested or which burned have naturally regenerated mainly with lodgepole
pine which is presently stocked with hundreds to thousands of trees per acre. Aspen is mainly in the sapling size class, most of the Douglas-fir and mixed conifer forests are mature and older size classes.

In the unharvested lodgepole pine stands, the canopies have opened and most of the dead trees from mountain pine beetle are on the ground. These stands have naturally regenerated with lodgepole pine.

The lodgepole pine understory is dominated by pine grass (*Calamagrostis rubescens*), elk sedge (*Carex geyeri*), and grouse whortleberry (*Vaccinium scoparium*).

These forests grow on coarse volcanic soils that are well drained, meaning that water drains quickly through the soil profile and does not remain near the surface. These lodgepole pine forests do not develop understories of subalpine fir (McDaniel and Mckelvey 2004b; McDaniel 2004). Surface water is very limited in this watershed. The majority of the aquatic influence zones (AIZ’s) located within the proposed thinning units are draws without defined stream channels. South Split Creek is the most defined stream channel within the proposed treatment areas, and it is intermittent (Hydrology Specialist Report).

**Effects on Tree Growth -Indicators: Changes in densities and potential increase of dwarf mistletoe and mountain pine beetle activity.**

**Stand Densities**

Within the analysis area the stands proposed for precommercial thinning has an average tree per acre of 2,626, average height is 16 feet and average age is 27 years. The highest trees per acre are 30,000. Lodgepole pine is the major tree species in the proposed thinning units with a minor amount (less than ½ %) of aspen, subalpine fir, Douglas fir, whitebark and/or limber pine and Engelmann spruce.

**Direct and Indirect Effects – No Action**

There would be no precommercial thinning with this Alternative. As lodgepole stands become older there is a natural thinning process. In 1998 an Assessment of Lodgepole Pine Conditions for the Targhee N.F., was prepared, comparing current conditions and presenting options for future management. Below is a description and photos of an unthinned stand.

A stand at age 8 was stocked with approximately 30,000 trees to the acre; at age 21 this stand had approximately 8,900 trees per acre with a crown ratio of 40% and a height to live crown of 11 feet (see Figure 1). At an age of 112, this stand would have 1,200 trees per acre with an average diameter of 6 inches (see Figure 2) (Amundson, Orme, Sessions, 1998).
Figure 1

This is a 21 year old unthinned stand that originated with a density of 30,000 trees per acre at age 8. The density at the time of this photo is 8,900 trees per acre with a crown ratio of 40% and a height to live crown of 11 feet.

Stand at age 21

Figure 2

This is what the stand would look like at 112 years without treatment. The stand has 1200 tree per acre, average stand diameter of 6 inches.

Stand at age 112

It would take approximately 190 years depending on the density of the stand for trees in an unthinned stand to reach an average of 10 inches in diameter (1999/2000 Precommercial Thinning EA).

With natural thinning, trees will die off from either a direct or indirect consequence of failure to compete successfully for light, water, or soil nutrients. In a natural stand, trees soon have a closed canopy and competition becomes intense leaving the areas near the ground relatively free of vegetation. There is less species diversity in the understory with few to no shrubs or forbs usually with only grasses. The number of
trees will decrease over time as demonstrated in the photos above but you usually end up with a very dense stand of small diameter trees.

High densities of trees cause the trees to shed their lower branches which reduce hiding cover within several feet of the ground, horizontal cover would be lost quicker than in those stands with precommercial thinning. Stands would be less wind firm limiting future management options reducing the potential for partial cutting instead of the usual clear-cutting options in lodgepole pine.

Existing aspen trees would be shaded out over time limiting the potential to provide species diversity when available; this would not meet the goal of enhancing or maintaining aspen. The alternative would not meet the purpose of the project to improve overall stand health of the forested stands within the suitable timber base. Tree diameters would be smaller, height growth would be less and crowns would be thinner.

**Direct and Indirect Effects – Proposed Action**

Precommercial thinning would leave a stand at approximately 360 trees per acre. Those trees with the best form, crown, largest crowns and diameters would be left. The reduced competition between trees results in better crown development, faster diameter growth, longer retention of lower live limbs and more wind firmness. Large tree crowns provide more cone production for future natural regeneration, food for species that utilize conifer seed and cover for many wildlife species.

All aspen would be left. Removing lodgepole pine in and around aspen will insure they remain viable. Aspen has many values including habitat for wildlife, esthetics, and landscape diversity. Other conifer species would be favored over lodgepole pine for species diversity.

The assessment of lodgepole pine conditions for the Targhee N.F. (Amundson, Orme, Sessions 1998) demonstrates a stand thinned at an 11 x 11 (360 trees per acre) maintained hiding cover at 100% at age 21, at age 40 the average diameter was 7 inches, crown ratio of 70% and height to live crown of 13 feet. At age 100 (mature stand) the stand had approximately 300 trees per acre with an average diameter of 12 inches (see figures 3, 4 and 5 below).

Currently in the analysis areas there are a high percentage of stands in the seedling/sapling stage with little representation in the mature/older size classes. Improving tree growth from precommercial thinning would help move these stands toward larger diameter trees more quickly as demonstrated in the photos below.

Dense slow growing stands of mature lodgepole pine are susceptible to wind-throw when they are opened up. Past partial cutting of mature lodgepole pine was determined to be impractical since the residual trees were not wind-firm. Stands grown in less crowded conditions (thinned stands) are more wind-firm. This is because they develop bole tapers and root systems that resist wind. Better wind resistance makes partial cutting, instead of the traditional clear-cutting, a more viable option for future management.

This alternative would best meet the purpose of the project by improving overall health of the forested stands in the suitable timber base (as defined in RX 5.3.5, RFP), providing a sawtimber product at approximately 60 to 80 years of age.
This stand is part of the same stand in Figure 1 which shows no treatment.

This stand was precommercial thinned when it was 8 years of age, 30,000+ trees per acre, average height of 5 feet with a crown ratio of 100%. Stand was thinned at 11 x 11 foot spacing, leaving approximately 360 trees per acre. In this photo stand is 21 years of age hiding cover is being maintained at 100%.

At 40 years this stand has an average diameter of 7 inches, crown ratio of 70, and height to live crown of 13 feet. Hiding cover is 22 %.


**Insects and Diseases**

**Lodgepole pine dwarf mistletoe** (*Arceuthobium americanum*) is a native, parasitic seed plant that occurs throughout the range of lodgepole pine in North America. Dwarf mistletoes are of immense economic importance because they are the single-most destructive pathogen of commercially valuable coniferous timber trees in several regions of Mexico, western Canada, western United States and parts of Asia (Hawksworth and Wiens 1996, p 1). As true parasites, they extract water and nutrients from the host tree. The effects on the trees include reduced vigor, decreased diameter and height growth, reduction in cone and seed crops and often mortality (Hoffman and Taylor, 2008).

Lodgepole pine dwarf mistletoe was found infecting 79 percent of all surveyed lodgepole pine stands on the Targhee National Forest during a 1978 forest wide disease survey (Hoffman and Taylor, 2008).

Within the analysis area and proposed treatment areas dwarf mistletoe is present in the saplings and mature trees.

**Direct and Indirect Effects – No Action**

With this alternative there would be no opportunity to manage lodgepole pine dwarf mistletoe. Dwarf mistletoe would continue to increase in the younger trees, reducing the height and diameter, producing lower cone yields, smaller seeds and reduced wood quality and increased tree mortality (Hawksworth and Wiens 1996).

A 20 year thinning demonstration of dwarf mistletoe-infected lodgepole pine stands was established on the Caribou-Targhee National Forest on the Island Park District from 1983 to 2003. The no-thin plots showed a significantly greater increase in the dwarf mistletoe infection rate than all of the other thinned treatment areas. In a comparison of tree growth the average height growth for uninfected trees was significantly greater, 27.2 percent more than those trees with dwarf mistletoe and average diameter was diminished compared to the thinned trees (Hoffman and Taylor, 2008).
In a comparative study of the effects of dwarf mistletoe on lodgepole height growth in northern Idaho and eastern Washington, Weir (1916) found a net reduction of 27 percent in the height growth of dwarf mistletoe-infected stands. Hawksworth and Johnson, (1989) also reported that dwarf mistletoe parasitism had a significant effect on height growth of infected lodgepole pine but a statistically insignificant effect on stem diameter growth reduction. Others agree that lodgepole pine dwarf mistletoe infections result in the least amount of diameter growth reduction of any conifer host–dwarf mistletoe-parasite combination (Hoffman and Taylor, 2008).

However, in the study completed on the C-TNF from 1983-2003, tree diameter growth was significantly higher on all the thinned plots when compare to the control plots (unthinned stands) (Hoffman and Taylor, 2008).

Previous growth loss reconstruction studies (Hawksworth and Hinds, 1964 and Baranyay and Safranyik, 1970) in 50 to 150 year old lodgepole stands found a 35 percent diameter growth loss in the first 70 years of tree life in an unmanaged stand (Hoffman and Taylor, 2008).

There would be no opportunity to improve the overall stand health to help reduce the spread of this disease. The no action alternative would not meet the purpose and need of the project to improve overall health of forested stands.

**Direct and Indirect Effects – Proposed Action**

With this alternative stands would be thinned leaving those trees with the best form, vigor, straight stem, well formed crowns, free of insect or disease damage and/or systems, vigorous annual growth and with a crown ratio of 40% or larger (Chapter 2 –The Proposed Action). Favoring those trees without dwarf mistletoe will help to reduce the disease in the stands.

Overall diameter growth and height would be greater in the thinned stands compared to the unthinned stands (Hoffman and Taylor, 2008). This alternative would help in creating healthier stands. Tree growth would improve, taking approximately 80 years for the trees to reach an average of 10 inches in diameter.

Trees greater than six inches in diameter with dwarf mistletoe with a Hawksworth rating of two or above would be girdled (see Chapter 2, Project Design and Mitigation Measures).

This alternative would meet the purpose and need by cutting or girdling trees with dwarf mistletoe which would reduce the spread of dwarf mistletoe thus improving overall stand health.

**Mountain Pine Beetle** (*Dendroctonus ponderosae* Hopkins) is native to forests of the western North America and attacks lodgepole pine. Periodic outbreaks can result in the loss of millions of trees. During low population levels attacks are primarily on trees under stress from injury, poor site conditions, overcrowding, root disease or old age. As the beetle populations increase attacks may involve most trees 8 inches in diameter and greater typically in 80 to 120 year old stands, cycles may recur every 40 to 50 years, however at epidemic levels, trees as small as 6 inches in diameter may be attacked.

Mountain pine beetle (MPB) kills more pines through its range than all other insect pests combined. Presently MPB populations are at epidemic levels with outbreak levels across much of western North America. There are thousands of acres of lodgepole pine and whitebark pine which have been killed by MBP (Gibson et al, 2008).
There are landscape levels of dying/dead lodgepole pine and whitebark pine on adjacent Forests. In 2008 there was a significant increase of mountain pine beetle activity on the Palisades Ranger District located south of the analysis area. On the Island Park District there has been an increase of mountain pine beetle activity in the mature lodgepole pine and whitebark pine stands in the last few years (2008 aerial insect and disease detection survey map). Within the analysis area most of the lodgepole pine stands are in the sapling stage, less than 80 years of age, therefore there is little mountain pine beetle activity.

**Direct and Indirect Effects – No Action**

In order to reproduce, bark beetles must successfully locate and colonize suitable hosts. If the host is accepted colonization requires overcoming the tree defenses. As trees become stressed their insect resistance mechanisms are compromised. Trees of low vigor are more susceptible to bark beetle attacks. Efforts to prevent undesirable levels of bark beetle-caused tree mortality must change susceptibility through reductions in tree competition, disruption of pheromone plumes thus negatively affecting host finding and reduction in the fecundity, fitness and survivorship of target bark beetle species (Fettig et al, 2007).

With the no action alternative there would be no precommercial thinning. In the long-term unthinned stands could be more susceptible to mountain pine beetle attacks.

**Direct and Indirect Effects – Proposed Action**

In the long-term precommercial thinning would reduce stand densities which could minimize the susceptibility of future attacks from MPB. Thinning appears to have the greatest potential for increasing or maintaining the vigor and growth of lodgepole pine trees and stands and thus contributing greatly to long-term prevention strategies for the mountain pine beetle (Cole, 1989).

To reduce the risk of future high susceptibility to mountain pine beetle attacks the Forest has recommended to thin at an 11 x 11 ft spacing, leaving about 360 trees per acre (Amundson, Orme, Sessions, 1998).

Those trees demonstrating best form and vigor, straight stems, well-formed crowns, free of insects or disease, with vigorous annual terminal growth and with a crown ratio of 40% or larger would be favored as leave trees. Research demonstrates that reducing stocking levels and leaving the healthiest trees, promotes vigorous tree growth and having more open grown conditions leaves stands less desirable for mountain pine beetle (Gibson et al, 2008).

Lodgepole stands managed early and growing near optimum capacity will produce trees of large size early and, it is conceivable that under this influence, these fast-growing trees may be less vulnerable to the beetle and may incur less damage than trees of similar size in an unmanaged state (Amman et al, 1977).

With this alternative reducing stand densities would create healthier stands, more open grown which in turn could create stands that are less desirable for mountain pine beetle attacks.

**Cumulative Effects - No Action**

Past actions of timber harvest have contributed to the many acres of young sapling aged trees. Without precommercial thinning high densities would remain with the overall health of the stands being diminished over time, dwarf mistletoe would continue to increase and in the long-term lodgepole pine could be more susceptible to mountain pine beetle attacks. There are no other vegetation treatments planned in the analysis area at this time. Timber harvest could be planned in the future but not until the trees reach maturity (sawtimber size 8-10 inches in diameter). Other foreseeable actions could include noxious weed treatment, routine road maintenance, administrative road use, and public recreational use. There activities are not
expected to contribute to nor inhibit efforts to achieve desired stand conditions or have any cumulative effects on this project. There could be other precommercial thinning projects on the Forest but are unpredictable at this time.

**Cumulative Effects – Proposed Action**

Potential future timber harvest in the analysis area is the same as described in the No Action Alternative. At this time there is no other precommercial thinning projects planned other than those in this EA. Other foreseeable actions could include noxious weed treatment, routine road maintenance, administrative road use, and public recreational use. There activities are not expected to contribute to nor inhibit efforts to achieve desired stand conditions or have any cumulative effects on this project. There could be other precommercial thinning projects on the Forest but are unpredictable at this time. There are wildland urban interface projects planned on the Ashton/Island Park District outside of Watershed 10 but no cumulative effects are anticipated from these on this project.

**Wildlife Resources**

**Affected Environment - Introduction**

This section discusses the existing condition of wildlife habitat, as well as the effects of the proposed action on the habitat. For the purpose of this EA, a number of wildlife species were selected for detailed analysis. These species include all listed species under the Endangered Species Act (ESA), all sensitive species designated by the Regional Forester in the Intermountain Region, management indicator species (MIS) identified in the 1997 Targhee Revised Forest Plan EIS, and priority migratory bird species identified in the Coordinated Implementation Plan for Bird Conservation in Idaho (Idaho Steering Committee Intermountain West Joint Venture 2005).

General habitat conditions in the project area and the Buffalo River Watershed were described in the previous Forest Vegetation Section of this document, and will not be repeated here.

There is one pond located within the project area, and this pond was surveyed on July 28 and August 22, 2009. Amphibian species found at the pond were the boreal chorus frog (both adults and tadpoles) and larvae of the tiger salamander. No precommercial thinning will occur around the pond.

Motorized access for Watershed 10 is displayed on Map 6. On National Forest System land, there are 78.67 miles of open motorized road, 16.01 miles of open motorized trail, and 21.98 miles of restricted road. On private and state lands, there are 20.47 miles of open motorized road and 1.08 miles of open motorized trail. Also, U. S. Highway 20 accounts for 5.82 miles of open motorized road. The roads and trails are not evenly distributed across the watershed. Most of the open motorized roads (81%) and all of the open motorized trails (100%) are located in the western half of the watershed outside of the area with the proposed thinning activity.

Table 2 provides a complete list of ESA listed species, sensitive species, and MIS. Table 2 also documents if suitable habitat is present for each of these species in the watershed.
Map 6- Motorized Access for Watershed 10
Table 2- ESA Listed Species, Sensitive Species, Management Indicator Species and Suitable Habitat within the Watershed.

<table>
<thead>
<tr>
<th>Wildlife Species</th>
<th>Listed under ESA (T = Threatened)</th>
<th>Sensitive Species (Y = Yes)</th>
<th>MIS (Y = Yes)</th>
<th>Suitable Habitat in Watershed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada Lynx</td>
<td>T</td>
<td>Y</td>
<td></td>
<td>There is no lynx habitat and no Lynx Analysis Unit identified for this watershed. The watershed is identified as a linkage area.</td>
</tr>
<tr>
<td>Gray Wolf</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>The Biscuit Basin Wolf Pack used the project area during 2005 and winter of 2006. This pack consisted of 6 wolves in early winter 2006/2007. In December 2007, aerial observations indicated this pack consisted of a minimum of 5 wolves (Nadeau et al. 2008). This pack’s status was unknown for most of 2008 following the disappearance of the suspected breeding female after December 2007. Reproduction in 2008 in this pack was not verified. December 2008 monitoring flights indicated a minimum of 7 wolves in this pack (Nadeau et al. 2009). In July 2009, two sets of wolf tracks were documented along the edge of a pond within the analysis area for this project (Mark Orme, personal communication).</td>
</tr>
<tr>
<td>Grizzly Bear</td>
<td>T</td>
<td>Y</td>
<td></td>
<td>Most of the watershed is within the grizzly bear Recovery Area, and within the Plateau Bear Management Unit. This BMU has the lowest habitat quality and lowest documented bear use of all BMUs on the Forest (Targhee National Forest 1997). Recent mapping of radio-collared grizzly bear movements shows that grizzly bear use of this BMU is extremely low (maps are in project record).</td>
</tr>
<tr>
<td>Fisher</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>The proposed thinning units (all sapling stands) are not suitable fisher habitat. Suitable fisher habitat is usually associated with mature and older forest stands which do exist within the watershed. However, no verified or possible fisher observations (tracks, sightings, trapping records) have been documented within the watershed or project area.</td>
</tr>
<tr>
<td>Wolverine</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Suitable habitat may exist in the project area mostly for travel by wolverines dispersing from other occupied areas. No suitable denning habitat exists. No wolverines have been documented within the watershed.</td>
</tr>
<tr>
<td>American (Pine) Marten</td>
<td>Y</td>
<td></td>
<td></td>
<td>Suitable habitat exists within the mature timber stands within the watershed. One winter snow track survey route which is run for forest plan monitoring is located in this watershed. Marten tracks have been documented on the survey route every winter that the survey has been run. During the winter of 2009, 40 snow tracking transects were placed within proposed thinning units, no marten were documented in any of the proposed thinning units. Since the thinning units are all sapling stands, they do not currently provide suitable habitat for marten.</td>
</tr>
<tr>
<td>Red Squirrel</td>
<td>Y</td>
<td></td>
<td></td>
<td>During the winter of 2009, 40 snow tracking transects were placed within proposed thinning units; red squirrels were documented on 7 (18%) of the 40 transects. Most of the trees within the thinning units are not of sufficient age and/or size to produce cone crops, and therefore do not currently provide suitable habitat for red squirrels. Suitable habitat exists within the timber stands that produce cone crops within the watershed. One winter snow track survey route which is run for forest plan monitoring is located in this watershed. Red squirrel tracks have been documented on the survey route every winter that the survey has been run.</td>
</tr>
<tr>
<td>Elk Habitat Effectiveness</td>
<td>Y</td>
<td></td>
<td></td>
<td>The watershed is elk summer range. Elk habitat effectiveness (EHE) analysis includes motorized road/trail density and hiding cover analysis. EHE analysis is done on a watershed basis, and this</td>
</tr>
<tr>
<td>Wildlife Species</td>
<td>Listed under ESA (T = Threatened)</td>
<td>Sensitive Species (Y = Yes)</td>
<td>MIS (Y = Yes)</td>
<td>Suitable Habitat in Watershed</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>project is within the Buffalo River Watershed (Watershed 10). EHE in 1997 prior to implementation of the revised forest plan direction was 0.52 (Process Paper D, page 80). With implementation of the revised forest plan direction, EHE improved to 0.58 (Targhee National Forest 1999, page IV-20). Tree growth from 1997/1999 to 2009 has increased the amount of hiding cover in this watershed (all of the seedling stands in 1997/1999 are now sapling stands that provide elk hiding cover), and the current EHE is 0.63.</td>
</tr>
<tr>
<td>Elk Vulnerability</td>
<td></td>
<td>Y</td>
<td></td>
<td>The watershed is elk summer range. Elk vulnerability (EV) analysis includes motorized road/trail density and hunter-day densities. EV is the estimated percent bull elk mortality during the general rifle hunting season; lower EV percent means lower bull elk mortality. EV analysis is done on a watershed basis, and this project is within the Buffalo River Watershed (Watershed 10). EV in 1997 prior to implementation of the revised forest plan direction was 97% (Process Paper D, page 101). With implementation of the revised forest plan direction, EV improved to 60% (Targhee National Forest 1999, page IV-17).</td>
</tr>
<tr>
<td>Elk &amp; Deer Winter Range</td>
<td></td>
<td>Y</td>
<td></td>
<td>There is no elk or deer winter range within the watershed.</td>
</tr>
<tr>
<td>Pygmy Rabbit</td>
<td></td>
<td>Y</td>
<td></td>
<td>There is no pygmy rabbit habitat within the watershed.</td>
</tr>
<tr>
<td>Rocky Mountain Bighorn Sheep</td>
<td></td>
<td>Y</td>
<td></td>
<td>There is no Rocky Mountain bighorn sheep habitat within the watershed.</td>
</tr>
<tr>
<td>Western (Townsend’s) Big-eared Bat</td>
<td></td>
<td>Y</td>
<td></td>
<td>Tree cavity habitat may exist within the mature timber stands within the watershed. However, documented occurrences and distributions of this bat species are not near the project area.</td>
</tr>
<tr>
<td>Spotted Bat</td>
<td></td>
<td>Y</td>
<td></td>
<td>No suitable habitat exists in the watershed.</td>
</tr>
<tr>
<td>Three-toed Woodpecker</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Suitable habitat for this species exists in mature or older coniferous forests with an abundance of insect-infested snags or dying trees created by disturbances such as disease, fire, flooding, insects, pollution and windthrow.</td>
</tr>
<tr>
<td>Other Primary Cavity Nesting Species</td>
<td></td>
<td>Y</td>
<td></td>
<td>Suitable habitat for these species exists in mature or older coniferous forests with snags or dying trees created by disturbances such as disease, fire, flooding, insects, pollution and windthrow.</td>
</tr>
<tr>
<td>Flammulated Owl</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>The project area is comprised of dense small diameter lodgepole pine forest, which is not suitable flammulated owl habitat. Surveys have been done throughout the Ashton/Island Park Ranger District in the past and this species has not been documented, except in the Douglas-fir forests at lower elevations. The project area does not contain any flammulated owl territories.</td>
</tr>
<tr>
<td>Boreal Owl</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Suitable habitat in mature forest stands may exist within the watershed, but there are no known territories.</td>
</tr>
<tr>
<td>Great Gray Owl</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Suitable habitat in mature forest stands with intermingled meadows and openings may exist within the watershed, but there are no known territories.</td>
</tr>
<tr>
<td>Wildlife Species</td>
<td>Listed under ESA (T = Threatened)</td>
<td>Sensitive Species (Y = Yes)</td>
<td>MIS (Y = Yes)</td>
<td>Suitable Habitat in Watershed</td>
</tr>
<tr>
<td>------------------</td>
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<td>--------------------------------</td>
</tr>
<tr>
<td>Northern Goshawk</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>There is one historic nesting territory in the project area known as the Chick Creek territory. This territory was occupied by goshawks that produced 2 young in 1992. From 1992 to the present, no goshawks have been documented using this territory. This territory was surveyed for goshawks in 2009, but no goshawks were documented.³</td>
</tr>
<tr>
<td>Columbian Sharp-tailed Grouse</td>
<td>Y</td>
<td>Y</td>
<td>There is no Columbian sharp-tailed grouse habitat within the watershed.³</td>
<td></td>
</tr>
<tr>
<td>Greater Sage-grouse</td>
<td>Y</td>
<td>There is no sage-grouse habitat within the watershed.³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trumpeter Swan</td>
<td>Y</td>
<td>Y</td>
<td>There is no trumpeter swan habitat within the watershed.³</td>
<td></td>
</tr>
<tr>
<td>Harlequin Duck</td>
<td>Y</td>
<td>Y</td>
<td>There is no harlequin duck habitat within the watershed.³</td>
<td></td>
</tr>
<tr>
<td>Common Loon</td>
<td>Y</td>
<td>Y</td>
<td>There is no common loon habitat within the watershed.³</td>
<td></td>
</tr>
<tr>
<td>Bald Eagle</td>
<td>Y</td>
<td>Y</td>
<td>There is one nesting territory along the Buffalo River on the western end of the watershed.³</td>
<td></td>
</tr>
<tr>
<td>Peregrine Falcon</td>
<td>Y</td>
<td>Y</td>
<td>Since the watershed is predominantly upland lodgepole pine habitat there is no suitable habitat within the project area, and no known eyries near the project area.³</td>
<td></td>
</tr>
<tr>
<td>Columbia Spotted Frog</td>
<td>Y</td>
<td>Y</td>
<td>Spotted frogs are most likely found near permanent water such as marshy edges of ponds or lakes, in algae-grown overflow pools of streams, or in wet areas with emergent vegetation. With very little surface water within the watershed, spotted frog habitat is very limited. There is one large pond within the larger analysis area, and this pond was surveyed on July 28, and August 22, 2009. No spotted frogs were documented at this pond.³</td>
<td></td>
</tr>
</tbody>
</table>

¹ Other Primary Cavity Nesting Species include: Lewis's woodpecker, red-napped sapsucker, Williamon's sapsucker, downy woodpecker, hairy woodpecker, black-backed woodpecker, northern flicker.
³ The Biological Evaluation for sensitive species provides additional detail and documentation located in the project record.
³ These are priority bird species identified in Table One of the Coordinated Implementation Plan for Bird Conservation in Idaho (Idaho Steering Committee - Intermountain West Joint Venture 2005).
Winter Snow Tracking

From January 15, 2009 to March 18, 2009, a total of 40 snow tracking transects were established within proposed thinning units. The primary purpose for doing the snow tracking transects was to document the presence of Canada lynx. Information on the presence of other wildlife species was also obtained, such as other predators (cougar, bobcat, wolves, coyotes or fox, American marten, weasels) and snowshoe hares and squirrels. Transects were established across the elevation range of the thinning units, and across the tree density range of the thinning units. Transects were run 12 to 85 hours after a snow storm to allow time for animals to make tracts in the new snow. All transects were run by walking on snowshoes through the proposed thinning units. The “Field Guide to Tracking Animals in Snow” (Forrest 1988) was used for track identification.

No Canada lynx, cougar, bobcat, or wolves were documented on any transects, or in traveling to and from any transects. Coyote or fox (we did not distinguish between these species) were documented on 6 (15%) of the 40 transects. Weasels were documented on 5 (13%) of the 40 transects. American marten were not documented on any transects; since the thinning units are all sapling stands, they do not currently provide suitable habitat for marten.

Snowshoe hares were documented on 9 (23%) of the 40 transects. Red squirrels were documented on 7 (18%) of the 40 transects.

Additional Information Pertaining to Snowshoe Hare Tracks

There are two variables that affect the number of tracks observed during snow tracking:

- Length of transect: The longer the transect the higher likelihood of finding a track.
- The number of hours since the last snowfall of sufficient depth to cover any tracks made previous to the snow fall. The longer the period of time from the last snowfall increases the opportunity for animals to move about and leave tracks in the snow.

When these two variables are taken into account in the data analysis, 4 of the 9 transects with snowshoe hares clearly had the highest track densities. These 4 transects were within stands with tree densities ranging from 2,355 to 7,500 trees per acre. The remaining 5 transects with lower track densities were within stands with tree densities ranging from 510 to 6,750 trees per acre.

For the 31 transects that did not have any snowshoe hare tracks, tree densities within these stands ranged from 250 to 11,500 trees per acre. Many stands had high tree densities but no snowshoe hares; in some of these stands, it was evident that lower live limbs had begun to die and self pruning was beginning to occur.

The information that we obtained from snow tracking agrees with previous snowshoe hare research on the C-TNF. McKelvey and McDaniel (2001) found that stands with higher hare densities in Island Park were scattered and only constitute a small proportion of the landscape.

Migratory Birds

A total of 156 priority bird species from 13 different bird conservation programs were evaluated for effects analysis for this project (from Table One in Coordinated Implementation Plan for Bird Conservation in Idaho, Idaho Steering Committee Intermountain West Joint Venture 2005). From the total 156 priority bird species:

- 130 priority bird species are not present in the project area because no suitable habitat exists for these species in the project area; the proposed project has no effects on these species and no additional analysis was done for these species.
- 16 of the priority bird species are either Forest Service sensitive species or management indicator species (MIS); these species are included in Table 2.
10 of the priority bird species use lodgepole pine habitats and are not included in Table 2; these species are shown in Table 3.

Table 3- Priority Migratory Bird Species That Use Lodgepole Pine Habitats.

<table>
<thead>
<tr>
<th>Priority Migratory Bird Species</th>
<th>Description of Suitable Habitat 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calliope Hummingbird</td>
<td>This species nests in shrub-sapling seral stage 8-16 years into secondary succession following logging or fire; also in aspen thickets, often along running streams, and in open montane forests; also nests in lodgepole pine adjacent to willows along drainages. Floral nectar from flowers and small insects are important food items.</td>
</tr>
<tr>
<td>Cassin's Finch</td>
<td>Habitat includes open coniferous forests of interior western mountains. Found in a variety of coniferous forest types over a broad elevational range. Often found in mature forests of lodgepole pine and ponderosa pine. Other typical trees in breeding areas include Jeffrey pine, Douglas-fir, limber pine, Engelmann spruce, subalpine fir, grand fir, red fir, pinyon pine, bristlecone pine, and quaking aspen.</td>
</tr>
<tr>
<td>Hammond's Flycatcher</td>
<td>Inhabits cool forest and woodland, breeds throughout coniferous forests (ponderosa pine, spruce-fir, lodgepole pine, and Douglas-fir), and in coniferous-aspen and pure aspen. Descriptions of breeding habitat include dense fir, mature coniferous or mixed forests near timberline, conifer and aspen forests, dense conifers and broad-leafed vegetation with numerous canopy openings.</td>
</tr>
<tr>
<td>Mountain Chickadee</td>
<td>A small cavity nesting songbird that is mainly a year-round resident of montane coniferous forests of western North America, primarily in areas dominated by pine, spruce-fir and pinyon-juniper.</td>
</tr>
<tr>
<td>Olive-sided Flycatcher</td>
<td>The breeding range is primarily montane and northern coniferous forests. Within the coniferous forest biome, most often associated with forest openings, forest edges, near natural openings or human-made openings (e.g. harvest units), or open to semi open forest stands. Detected more often at forest edges than in forest interior and more abundant in open mixed conifer forest than in closed-canopy forest. Some studies report optimum habitat to be late-successional forests with 0-39% canopy cover. In Yellowstone National Park, this species is more abundant in early post fire communities than in any other major cover type in the northern Rocky Mountains; relatively high densities in lodgepole pine 4-5 years after a burn.</td>
</tr>
<tr>
<td>Pygmy Nuthatch</td>
<td>The pygmy nuthatch lives in long-needled pine forests, principally ponderosa pines, but also occupies open stands of large lodgepole pines. This species uses cavities for roosting and for breeding, and reaches its highest densities in mature pine forests little affected by logging, firewood collection, and snag removal.</td>
</tr>
<tr>
<td>Red Crossbill</td>
<td>Red crossbills breed mainly when a group finds an adequate mature cone crop of the appropriate type. A critical factor influencing breeding is conifer seed availability. This species was found to be abundant and associated with lodgepole pine in Yellowstone and Grand Teton National Parks.</td>
</tr>
<tr>
<td>Red-breasted Nuthatch</td>
<td>Breeding habitat for this species is typically mature and diverse stands of coniferous forest, especially where spruce, fir, pine, hemlock, larch and cedar are present, and less frequently in pure stands of pine and hemlock.</td>
</tr>
<tr>
<td>Townsend’s Solitaire</td>
<td>Typical habitat is coniferous forest, with various dominant species of pines, hemlocks, firs, and spruces. In the Rocky Mountains, this species occurs in all major coniferous forest communities. Prefers relatively open stands to dense forest, including areas thinned by light burns or selective logging, usually with sparse shrub layer and little vegetative ground cover. This species does not avoid forest edges. Data on use of post-disturbance (fire, windthrow, heavy logging) successional habitats are contradictory. For example, in Douglas-fir forests in northwest California, it prefers pole-sawtimber or mature stands (&gt; 20 years since disturbance) and rarely uses early successional brush-sapling patches. But in the Rocky Mountains, it is often found in...</td>
</tr>
</tbody>
</table>
**Priority Migratory Bird Species**

<table>
<thead>
<tr>
<th>Species</th>
<th>Description of Suitable Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Tanager</td>
<td>Breeding habitat include open coniferous and mixed coniferous-deciduous woodlands of western North America. Common in Douglas-fir, ponderosa pine, lodgepole pine, mixed-conifer, true fir, temperate rain, pine-fir and mixed coniferous deciduous forests of western north America. Favors open woodlands, but occasionally extends into fairly dense forests. Favors open coniferous forests or combination of coniferous forest and forest openings, such as clearings, including clear-cuts and open wetlands that offer natural breaks in canopy. Has been documented in second growth following forest fires or logging.</td>
</tr>
<tr>
<td></td>
<td>early-successional (&lt; 10 years since disturbance) and mid-successional (10-40 years since disturbance) forests resulting from fires or clear-cuts.</td>
</tr>
</tbody>
</table>

1 Descriptions of suitable habitat are summarized from Habitat Chapters in Birds of North America Online, Cornell Lab of Ornithology and the American Ornithologists Union.

**Direct, Indirect and Cumulative Effects**

Table 4 displays the direct, indirect and cumulative effects of the no action alternative and the proposed action alternative on ESA listed species, sensitive species, and MIS.

**Issues**

Effects on Canada lynx habitat - Indicator: Acres treated in lynx analysis unit.

Effects on snowshoe hare habitat- Indicator: Changes in snowshoe hare habitat and the effects on Canada lynx.

Effects on grizzly bear habitat- Indicator: Changes in secure habitat, food resources for the grizzly bear, impact from human disturbance.

Effects on elk hiding cover- Indicator: Reduction in acres of hiding cover.

Effects on elk vulnerability- Indicator: Changes in hunter density and motorized access route densities
Table 4 - Direct, Indirect and Cumulative Effects of the No Action Alternative and the Proposed Action Alternative on ESA Listed Species, Sensitive Species, and MIS.

<table>
<thead>
<tr>
<th>Wildlife Species</th>
<th>No Action Direct, Indirect and Cumulative Effects</th>
<th>Proposed Action Direct, Indirect and Cumulative Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td>With the no action alternative, no precommercial thinning would occur. Effects of no precommercial thinning on forest vegetation have been discussed previously in this EA and will not be repeated here.</td>
<td>With the proposed action alternative, about 7,000 acres of precommercial thinning would occur. About 90% of the proposed thinning would occur within Management Prescription 5.3.5, and about 10% of the proposed thinning would occur within Management Prescription 2.8.3. None of the acres in Prescription 2.8.3 have surface water or riparian vegetation. No precommercial thinning will take place in Prescription area 2.5 or 2.6.2. Effects of the proposed action on forest vegetation have been discussed previously in this EA and will not be repeated here. Approximately 13.82 miles of restricted (gated roads) could be used to access thinning units approximately 3-4 months. However, all of the gated roads would not be used at the same time. Contractor and Forest Service personnel would be required to only unlock the gate for passage through the gate and keep it locked at all other times. Units that are not accessible by an open road or restricted road would require walk-ins. There would be no new road construction or reconstruction. No decommissioned roads would be opened for the project. Effects of precommercial thinning on forest vegetation have been discussed previously in this EA and will not be repeated here.</td>
</tr>
</tbody>
</table>
| **Canada Lynx**  | Alternative 1 would have no impact on lynx or lynx habitat because the area is not within a LAU; therefore, no lynx habitat will be affected by the no action alternative. In the short-term (5-10 years) snowshoe hare habitat would be retained in the few units (23%) that currently have snowshoe hare habitat. In 5-10 years stands that are not thinned would self-prune their lower live limbs and would not be snowshoe hare habitat. | The determination of effects for Alternative 2 is “may affect, but is not likely to adversely affect lynx or lynx habitat.” This determination is based on the following summary from the Biological Assessment prepared for this project: ²
- The Split Creek precommercial thinning project area is not within a LAU; therefore, no lynx habitat will be affected by the project. Management direction prohibiting precommercial thinning in a LAU is not applicable to this project because the project area is not within a LAU.
- This area of the C-TNF is dry persistent lodgepole pine that does not contain developing subalpine fir understory. Lynx do not appear to be associated with dry forest habitat types (e.g., ponderosa pine, dry Douglas-fir, and dry or climax lodgepole pine) except to move among mesic stands. These dry types should not be included as vegetation contributing to lynx habitat. |
<table>
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- The project area is within a linkage area, and all management direction for linkage areas will be met with the proposed project.
- There are no resident reproducing Canada lynx documented on the C-TNF. All available records indicate that Canada lynx rarely use this area. There has only been previous documentation of one male lynx making exploratory movements through the project area during the summer in years 2000 and 2001. All other efforts to document lynx within or adjacent to the project area have failed to document any lynx. No Canada lynx were documented this past winter when 40 winter snow tracking transects were run within proposed thinning units in the project area.
- There is a rare chance that an individual lynx may move through the project area during thinning activity, which could result in the lynx being displaced to an area where no thinning activity is occurring.
- Snowshoe hares were not present on 31 of 40 (77%) winter snow tracking transects in the project area during January to March 2009. Snowshoe hares were present on 9 of 40 (23%) winter snow tracking transects in the project area during January to March 2009. Four transects had high densities of tracks, and 5 transects had low densities of tracks. In the short-term, the proposed project will reduce the quality of snowshoe hare habitat in those stands that currently contain snowshoe hares (23% of the project area) (McKelvey and McDaniel 2001).
- In the long-term, pre-commercial thinning may have a beneficial effect on snowshoe hare habitat when the stands reach 50-55 years of age (Zimmer et al. 2008a). The following summary statement is quoted directly from Zimmer et al 2008a:

  “We used snow tracking to monitor snowshoe hare (Lepus americanus) habitat use during winter in the Bear Creek drainage near Gardiner, Montana, from 1999 to 2003. Of nine available cover types in our study area, we found the greatest frequency of hare trails in older regenerating stands (~50-55 yrs post-harvest) of lodgepole pine (Pinus contorta) that had been pre-commercially thinned. The study area also
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<td>contained young unthinned stands of lodgepole pine (~25-30 yrs post-harvest) and several middle-age and mature forest types. Older lodgepole stands provided a dense understory and a well-developed overhead canopy as well as plentiful food sources. These three characteristics typically define good snowshoe hare habitat within most of the Rocky Mountain region. Some studies of snowshoe hare habitat needs in portions of the Rocky Mountains indicated that pre-commercial thinning of forest stands may reduce snowshoe hare densities and thus reduce quantity of primary prey for Canada lynx (Lynx canadensis). Forest management strategies on USDA Forest Service lands in the Rocky Mountains based on these studies do not allow pre-commercial thinning in areas of potential lynx habitat. Our study showed that thinning portions of regenerating stands may increase the amount of time that lodgepole stands provide suitable habitat for hares.</td>
<td></td>
</tr>
<tr>
<td>Gray Wolf</td>
<td>On May 4, 2009, the U.S. Fish and Wildlife Service (USFWS) identified a Northern Rocky Mountain distinct population segment of the gray wolf, and removed the gray wolf from the list of endangered and threatened wildlife in the states of Idaho, Montana, Washington, Oregon, and Utah (USFWS 2009). The USFWS 2008 population estimate was 1,639 wolves (491 in Montana; 846 in Idaho; 302 in Wyoming) in 95 breeding pairs (34 in Montana; 39 in Idaho; 22 in Wyoming). The USFWS stated that these numbers are about 5 times higher than the minimum population recovery goal and 3 times higher than the minimum breeding pair recovery goal. The end of 2008 marked the ninth consecutive year the population exceeded numeric and distributional recovery goals. The USFWS stated that the States of Montana and Idaho have adopted State laws, management plans, and regulations that meet the requirements of the Act and will conserve a recovered wolf population into the foreseeable future (USFWS 2009).</td>
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<td>Same as Alternative 1, except for short-term and long-term effects as follows: The proposed project will have the following short-term effects: 1) Big game animals (moose, deer, and elk) which are the primary prey for wolves will be displaced from the immediate vicinity of the thinning activity. 2) Wolves will also be displaced from the immediate vicinity of the thinning activity due to the thinning activity and also because their primary prey will also be displaced. 3) Thinning will cause a short-term reduction in elk hiding cover. 4) Thinning will cause a short-term increase in slash and debris on the ground which will impede animal movements for a few years. 5) This is summer range for deer and elk, and summer range is not a limiting factor for these species. Even though animals will be displaced, and there will be short-term reductions in elk hiding cover and increases in slash and debris on the ground, these effects will not result in a population reduction because there is more than adequate summer range habitat</td>
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<tr>
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<td>All existing 1997 Targhee National Forest Revised Forest Plan management direction for gray wolves is being met because: 1) wolf populations have exceeded recovery requirements and restrictions to human activities near den sites are no longer needed; 2) there is no livestock grazing involved with this project. In the short-term existing habitat conditions as described in Chapter 3 will be unchanged. In the long-term, without precommercial thinning, there will be increased competition between trees, crown development will decrease, tree diameter growth will be greatly reduced, lower live limbs will die and be pruned off at a faster rate, elk hiding cover will be reduced at an earlier age. Whether or not this will result in a change in elk distribution is unknown. This is summer range for deer and elk, and summer range is not a limiting factor for these species. The determination of effects for the gray wolf for Alternative 1 is “no impact.”</td>
<td>adjacent to the thinning activity. The proposed project will not have any long-term effects to wolves or their prey. There are no changes in open road densities or restricted road densities with this project. After thinning activities are completed, human disturbance will return to pre-project levels. Thinning will result in reduced competition between trees, which results in better crown development, faster diameter growth and longer retention of lower live limbs, which will increase and maintain elk hiding cover for a longer period of time. The determination of effects for the gray wolf for Alternative 2 is “may impact individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species.” This determination is based on the short-term effects described above, but there will be no long-term effects to wolves or their prey as described above.</td>
</tr>
<tr>
<td>Grizzly Bear</td>
<td>This analysis is based on 1997 Revised Forest Plan direction and 2007 Conservation Strategy. <strong>Secure Habitat.</strong> There would be no change in the amount of secure habitat. <strong>Developed Sites.</strong> There is no change in the number or capacity of any developed site. <strong>Livestock Grazing.</strong> There is no domestic sheep grazing within the Plateau BMU. There would be no change in existing cattle grazing allotments. <strong>Nuisance Bears.</strong> The C-TNF coordinates with state wildlife management agencies to apply Conservation Strategy nuisance bear standards. All contractors and people involved with any projects must comply with the C-TNF existing food storage order.</td>
<td>This analysis is based on 1997 Revised Forest Plan direction and 2007 Conservation Strategy. <strong>Secure Habitat.</strong> There would be no change in the amount of secure habitat. According to the application rules for secure habitat. Activities that do not require road construction, reconstruction, opening a permanently restricted road, or recurring helicopter flight lines at low elevation do not detract from secure habitat. Examples of such activities include thinning, tree planting, prescribed fire, trail maintenance, and administrative studies/monitoring. Activities should be concentrated in time and space to the extent feasible to minimize disturbance. This project meets all of the direction for secure habitat. <strong>Developed Sites.</strong> Same as Alternative 1. <strong>Livestock Grazing.</strong> Same as Alternative 1.</td>
</tr>
<tr>
<td>Wildlife Species</td>
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<td><strong>Food Storage.</strong> The C-TNF has an existing food storage order that covers the Recovery Area. Contractors and people involved with any projects must comply with the food storage order.</td>
<td><strong>Nuisance Bears.</strong> The C-TNF coordinates with state wildlife management agencies to apply Conservation Strategy nuisance bear standards. All contractors and people involved with the proposed project must comply with the C-TNF existing food storage order. This project will not result in grizzly bears becoming habituated to unnatural food sources.</td>
</tr>
<tr>
<td></td>
<td><strong>Food Sources.</strong> None of the four key grizzly bear food sources (ungulate winter range, cutthroat trout spawning streams, army cutworm moths, cone producing whitebark pine) are present within the project area.</td>
<td><strong>Food Storage.</strong> Same as Alternative 1.</td>
</tr>
<tr>
<td></td>
<td>The determination of effects for Alternative 1 is “no effect.” All of the existing management direction standards and guidelines are being followed. The Plateau BMU has the lowest habitat quality and lowest documented bear use of all BMUs on the Forest; therefore, there is a slight chance that an individual grizzly bear may be displaced by human activities in the area (such as dispersed recreation and hunting), but all existing secure habitat is maintained, and an individual bear will not be displaced from a key food source. Any effect or impact on grizzly bear habitat or an individual bear is non-quantifiable.</td>
<td>The determination of effects for Alternative 2 is “may affect but not likely to adversely affect grizzly bear and its habitat”. This determination is based on the Biological Assessment prepared for this project: 2 All of the existing management direction standards and guidelines will be achieved with this project. The Plateau BMU has the lowest habitat quality and lowest documented bear use of all BMUs on the Forest; therefore, there is a slight chance that an individual grizzly bear may be displaced by the thinning activity, but all existing secure habitat is maintained, and an individual bear will not be displaced from a key food source. Any effect or impact on grizzly bear habitat or an individual bear is non-quantifiable. 2</td>
</tr>
<tr>
<td>Fisher</td>
<td>Alternative 1 will not affect any mature or older forest habitat. There will be no effect to any aquatic influence zones. There will be no changes to open motorized access. In the short-term, sapling lodgepole pine stands are not suitable fisher habitat whether they are thinned or unthinned.</td>
<td>Alternative 2 will not affect any mature or older forest habitat. There will be no effect to any aquatic influence zones. There will be no changes to open motorized access. In the short-term, sapling lodgepole pine stands are not suitable fisher habitat whether they are thinned or unthinned.</td>
</tr>
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<td>In the long-term, stands that are not thinned will contain smaller diameter trees and will self prune lower live limbs and have smaller crown diameters and smaller crown height ratios. Stands that are not thinned may never reach mature and older size classes. Stands that are not thinned will have sparse understories with few grasses and forbs. Stands that are not thinned will provide lower quality habitat conditions for prey species such as forest grouse and red squirrels in the long-term.</td>
<td>In the long-term, thinning will allow faster tree growth, create larger diameter trees, allow for more crown development, and will allow development of better understory forbs and grasses. Stands that are thinned can grow to reach mature and older size classes. Thinning will provide better long term habitat conditions for prey species such as forest grouse, red squirrels.</td>
</tr>
<tr>
<td></td>
<td>The determination of effects for Alternative 2 is “no Impact” in the short-term, but in the long-term thinned stands can grow to reach mature and</td>
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### Wildlife Species

<table>
<thead>
<tr>
<th>Wildlife Species</th>
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<th>Proposed Action Direct, Indirect and Cumulative Effects</th>
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<tbody>
<tr>
<td><strong>Wildlife</strong></td>
<td><strong>No Action</strong></td>
<td><strong>Proposed Action</strong></td>
</tr>
<tr>
<td><strong>Species</strong></td>
<td><strong>Direct, Indirect and Cumulative Effects</strong></td>
<td><strong>Direct, Indirect and Cumulative Effects</strong></td>
</tr>
<tr>
<td></td>
<td>The determination of effects for Alternative 1 is “no Impact” in the short-term, but in the long-term unthinned stands will have lower habitat quality. However, fishers have always been very rare on the Forest, and the effects of Alternative 1 are unquantifiable.</td>
<td>older size classes which provide better habitat quality. However, fishers have always been very rare on the Forest, and the effects of Alternative 2 are unquantifiable.</td>
</tr>
<tr>
<td>Wolverine</td>
<td>Alternative 1 will not affect any mature or older forest habitat forest habitat. There will be no effect to any aquatic influence zones. There will be no changes to open motorized access.</td>
<td>Alternative 2 will not affect any mature or older forest habitat. There will be no effect to any aquatic influence zones. There will be no changes to open motorized access.</td>
</tr>
<tr>
<td></td>
<td>The determination of effects for Alternative 1 is “no Impact.” No wolverine presence has been detected in the project area. Wolverine dispersing from other occupied areas could travel through this area.</td>
<td>The determination of effects for Alternative 2 is “no Impact.” No wolverine presence has been detected in the project area. Wolverine dispersing from other occupied areas could travel through this area.</td>
</tr>
<tr>
<td>American (Pine)</td>
<td>Marten are associated with mature and older conifer forests, but may occur in other vegetation types if sufficient structures useful to marten are present (USDA Forest Service 1994). Coarse woody debris, especially in the form of large diameter boles, is an important feature of marten habitat (USDA Forest Service 1994). As noted in Chapter 3, marten are currently not present in the unthinned sapling stands. In Alternative 1, tree stands will not be thinned, resulting in smaller diameter trees, reduced live crowns, fewer large standing snags in the future because trees will not be able to grow to larger sizes, and fewer large diameter coarse woody debris. Therefore, Alternative 1 results in lower habitat quality for marten now and in the future.</td>
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</tr>
<tr>
<td>Marten</td>
<td>Red squirrels are strongly associated with cone crops in conifer forests, and their population densities fluctuate with cone crops (Smith 1968, Gurnell 1983, Halvorson and Engeman 1983). Since red squirrels are so strongly dependent upon conifer seeds as a food supply, conifer forests must be of seed producing age before red squirrels will make significant use of them. Larger trees and larger live tree crowns also affect the amount of cone production. Red squirrel habitat quality is also related to nesting cover and food caching sites. Natural cavities are preferred by red squirrels as nest sites (Hamilton 1939, Layne 1954). However, underground nests and external tree nests are more commonly used where cavities are not available (Fancy 1980). Large diameter trees, large standing snags, and fallen trees are important sites for cone storage (Vahle and Patton 1983). In Alternative 1, tree stands will not be thinned, resulting in smaller diameter trees, reduced live crowns, fewer large standing snags in the future because trees will not be able to grow to larger sizes, and fewer large diameter coarse woody debris. Therefore, Alternative 1 results in lower habitat quality for marten now and in the future.</td>
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<td>stands will not be thinned; resulting in smaller diameter trees reduced live crowns, fewer large standing snags in the future because trees will not be able to grow to larger sizes. Therefore, Alternative 1 results in lower habitat quality for red squirrels now and in the future.</td>
<td>resulting in larger diameter trees, larger live crowns, larger standing snags in the future because trees will be able to grow to larger sizes. Therefore, Alternative 2 results in higher habitat quality for red squirrels now and in the future.</td>
</tr>
<tr>
<td>Elk Habitat Effectiveness</td>
<td>The current EHE in Watershed 10 is 0.63. Alternative 1 will not change EHE in the short-term.</td>
<td>The current EHE in Watershed 10 is 0.63. Proposed thinning of about 6,770 acres as proposed with this project will reduce hiding cover for a short period of time (3 to 5 years), and EHE will decline to 0.60. As tree crowns expand after thinning, hiding cover values will return and EHE will increase to 0.63.</td>
</tr>
<tr>
<td>Elk Vulnerability</td>
<td>The current EV in Watershed 10 is 60%. Alternative 1 will not change any motorized access; therefore, there will be no change in EV.</td>
<td>The current EV in Watershed 10 is 60%. Alternative 2 will not change any motorized access; therefore, there will be no change in EV.</td>
</tr>
<tr>
<td>Elk &amp; Deer Winter Range</td>
<td>There are no impacts with Alternative 1 because there is no elk or deer winter range within the watershed.</td>
<td>Same as Alternative 1. 3</td>
</tr>
<tr>
<td>Pygmy Rabbit</td>
<td>There are no impacts with Alternative 1 because there is no pygmy rabbit habitat in Watershed 10.</td>
<td>Same as Alternative 1. 3</td>
</tr>
<tr>
<td>Rocky Mountain Bighorn Sheep</td>
<td>There are no impacts with Alternative 1 because there is no Rocky Mountain bighorn sheep habitat in Watershed 10.</td>
<td>Same as Alternative 1. 3</td>
</tr>
<tr>
<td>Western (Townsend’s) Big-eared Bat</td>
<td>The determination of effects for Alternative 1 is “no impact.” Existing tree cavity habitat in mature and older forest stands will not be affected. Documented occurrences and distributions of this bat species are not near the project area.</td>
<td>Same as Alternative 1. 3</td>
</tr>
<tr>
<td>Spotted Bat</td>
<td>There are no impacts with Alternative 1 because there is no suitable spotted bat habitat in Watershed 10.</td>
<td>Same as Alternative 1. 3</td>
</tr>
<tr>
<td>Three-toed Woodpecker</td>
<td>In the short-term, Alternative 1 will have “no impact” because the sapling stands are not habitat for three-toed woodpeckers. Suitable habitat for this species is mature or older coniferous forests with an abundance of insect-infested snags or dying trees created by disturbances such as disease, fire, flooding, insects, pollution and windthrow (Leonard 2001). Alternative 1 has no impact to existing mature and older coniferous forests in the watershed. In the long-term, stands that are not thinned will contain smaller diameter trees and will self prune lower live limbs and have smaller crown diameters and smaller crown height ratios. Stands that are not thinned may never reach mature and older size classes. Stands that are not thinned will provide lower quality habitat conditions for this species in the long-term.</td>
<td>In the short-term, Alternative 2 will have “no impact” because the thinning units which are sapling stands are not habitat for three-toed woodpeckers. Suitable habitat for this species is mature or older coniferous forests with an abundance of insect-infested snags or dying trees created by disturbances such as disease, fire, flooding, insects, pollution and windthrow (Leonard 2001). Alternative 2 has no impact to existing mature and older coniferous forests in the watershed. Precommercial thinning can have long-term beneficial effects. Reduced competition between trees results in better crown development, faster diameter growth and longer retention of lower live limbs. Trees with high rates of diameter growth grow more quickly to a size that is suitable for cavity nesting species. 3</td>
</tr>
<tr>
<td>Wildlife Species</td>
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<td>Proposed Action Direct, Indirect and Cumulative Effects</td>
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<tr>
<td>Other Primary Cavity Nesting Species 1</td>
<td>Same as for three-toed woodpecker.</td>
<td>Same as three-toed woodpecker.</td>
</tr>
<tr>
<td>Flammulated Owl</td>
<td>There are no impacts with Alternative 1 because the project area is comprised of dense small diameter lodgepole pine forest, which is not suitable flammulated owl habitat. Surveys have been done throughout the Ashton/Island Park Ranger District in the past and this species has not been documented, except in the Douglas-fir forests at lower elevations. The project area does not contain any flammulated owl territories.</td>
<td>Same as Alternative 1. The proposed thinning of lodgepole pine sapling stands will not have short-term or long-term impacts because lodgepole pine forests are not habitat for flammulated owls.</td>
</tr>
<tr>
<td>Boreal Owl</td>
<td>In the short-term, there are no impacts with Alternative 1 because there are no changes to existing mature and older forest stands. In the long-term, stands that are not thinned will contain smaller diameter trees and will self-prune lower live limbs and have smaller crown diameters and smaller crown height ratios. Stands that are not thinned may never reach mature and older size classes. Stands that are not thinned will provide lower quality habitat conditions for boreal owls in the long-term.</td>
<td>In the short-term, there are no impacts with Alternative 2 because there are no changes to existing mature and older forest stands. Precommercial thinning can have long-term beneficial effects. Reduced competition between trees results in better crown development, faster diameter growth and longer retention of lower live limbs. Trees with high rates of diameter growth grow more quickly to a size that is suitable for boreal owls.</td>
</tr>
<tr>
<td>Great Gray Owl</td>
<td>In the short-term, there are no impacts with Alternative 1 because there are no changes to existing mature and older forest stands. In the long-term, stands that are not thinned will contain smaller diameter trees and will self-prune lower live limbs and have smaller crown diameters and smaller crown height ratios. Stands that are not thinned may never reach mature and older size classes. Stands that are not thinned will provide lower quality habitat conditions for great gray owls in the long-term.</td>
<td>In the short-term, there are no impacts with Alternative 2 because there are no changes to existing mature and older forest stands. Precommercial thinning can have long-term beneficial effects. Reduced competition between trees results in better crown development, faster diameter growth and longer retention of lower live limbs. Trees with high rates of diameter growth grow more quickly to a size that is suitable for great gray owls.</td>
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| Northern Goshawk                         | The determination of effects for Alternative 1 is “may impact individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species.” This determination is based on the following:  
  - No thinning activity will occur in the nest area, the PFA or the foraging area.  
  - There will be no reduction in snowshoe hare habitat in the foraging area. | The determination of effects for Alternative 2 is “may impact individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species.” This determination is based on the following:  
  - No thinning activity will occur in the nest area or the PFA.  
  - A small amount of thinning activity within the foraging area may result in a small temporary disturbance to goshawks if
In the short term, however, the existing research is divided on this subject. Zimmer et al. (2008a) found that pre-commercial thinning may have a beneficial effect on snowshoe hare habitat when the stands reach 50-55 years of age. However, on the C-TNF, McKelvey and McDaniel (2001) found no evidence of hare concentrations in older stands, regardless of forest type. Therefore precommercial thinning on the C-TNF may not have a beneficial effect on snowshoe hare habitat when the stands reach 50-55 years of age.

- In the long-term, stands that are not thinned will contain smaller diameter trees and will self-prune lower live limbs and have smaller crown diameters and smaller crown height ratios. Stands that are not thinned may never reach mature and older size classes. Stands that are not thinned will provide lower quality habitat for prey species such as forest grouse and red squirrels.

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<th>No Action Direct, Indirect and Cumulative Effects</th>
<th>Proposed Action Direct, Indirect and Cumulative Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbian Sharp-tailed Grouse</td>
<td>There are no impacts with Alternative 1 because there is no sharp-tailed grouse habitat in Watershed 10.</td>
<td>Same as Alternative 1.³</td>
</tr>
<tr>
<td>Greater Sage-grouse</td>
<td>There are no impacts with Alternative 1 because there is no sage-grouse habitat in Watershed 10.</td>
<td>Same as Alternative 1.³</td>
</tr>
<tr>
<td>Trumpeter Swan</td>
<td>There are no impacts with Alternative 1 because there is no trumpeter swan habitat in Watershed 10.</td>
<td>Same as Alternative 1.³</td>
</tr>
<tr>
<td>Harlequin Duck</td>
<td>There are no impacts with Alternative 1 because there is no harlequin duck habitat in Watershed 10.</td>
<td>Same as Alternative 1.³</td>
</tr>
<tr>
<td>Common Loon</td>
<td>There are no impacts with Alternative 1 because there is no common loon habitat in Watershed 10.</td>
<td>Same as Alternative 1.³</td>
</tr>
<tr>
<td>Bald Eagle</td>
<td>There are no impacts with Alternative 1 because there will be no project activities within bald eagle nesting zones or wintering areas.</td>
<td>Same as Alternative 1. The proposed thinning units are not within bald eagle nesting zones or wintering areas.³</td>
</tr>
<tr>
<td>Peregrine Falcon</td>
<td>There are no impacts with Alternative 1 because the project area is upland lodgepole pine habitat which is not suitable habitat for peregrine falcons. There are no known eyries near the project area (Idaho Department of Fish and Game 2008; Targhee National Forest 1997).</td>
<td>Same as Alternative 1.³</td>
</tr>
<tr>
<td>Wildlife Species</td>
<td>No Action Direct, Indirect and Cumulative Effects</td>
<td>Proposed Action Direct, Indirect and Cumulative Effects</td>
</tr>
<tr>
<td>------------------------</td>
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<td>------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Columbia Spotted Frog</td>
<td>There are no impacts with Alternative 1 because no precommercial thinning would occur.</td>
<td>There are no impacts with Alternative 2 because all of the proposed thinning units are dry upland lodgepole pine habitat with no surface water. Spotted frogs are most likely found near permanent water such as marshy edges of ponds or lakes, in algae-grown overflow pools of streams, or in wet areas with emergent vegetation (Gomez 1994; Targhee National Forest 1997). There is no suitable habitat within the proposed thinning units for spotted frogs. There is one large pond within the larger analysis area, and this pond was surveyed on July 28, 2009. No spotted frogs were documented at this pond. 3</td>
</tr>
</tbody>
</table>

1 Other Primary Cavity Nesting Species include: Lewis's woodpecker, red-napped sapsucker, Williamson's sapsucker, downy woodpecker, hairy woodpecker, black-backed woodpecker, northern flicker.

2 The Biological Assessments for Canada Lynx and Grizzly Bear for Split Creek Precommercial Thinning Project provide additional detail and documentation located in the project record.

3 The Biological Evaluation for sensitive species provides additional detail and documentation located in the project record.
Additional Effects Analysis for Red Squirrel

Sullivan and Klenner (1996) designed a study to test the hypothesis that large-scale habitat alteration by stand thinning would reduce red squirrel populations and feeding damage in young lodgepole pine forest. In each of 3 study areas, lodgepole stands were thinned to densities of 500 trees/hectare (low density; this is equal to 202 trees/acre), 1000 trees/hectare (medium density; this is equal to 405 trees/acre), 2000 trees/hectare (high density; this is equal to 809 trees/acre) with unthinned stands and old-growth pine stands for comparison. Results of the study were as follows:

- Red squirrel populations were significantly reduced in the low-density stand compared with either the medium or high-density stands at 2 study areas.
- Squirrels were less abundant in both the low and medium density stands at one study area.
- Squirrel populations in the unthinned and old-growth stands were similar or lower in abundance than those in the thinned stands.
- There were significantly higher numbers of red squirrel first captures in the medium and high density stands than in the low-density stand.
- There were no consistent significant differences between stands in proportion of squirrels breeding, recruitment, mean survival over summer and winter periods, or mean body mass.

The thinning densities in the proposed action are similar to the 1000 trees/hectare (405 trees/acre) in the above study. We can conclude from this study that red squirrel densities will be similar to or higher in the thinned units than in unthinned and old growth stands. Also, there will be no consistent significant differences between stands in proportion of squirrels breeding, recruitment, mean survival over summer and winter periods, or mean body mass.

Additional Effects Analysis for Snowshoe Hare

The information that we obtained from snow tracking agrees with previous snowshoe hare research on the C-TNF. McKelvey and McDaniel (2001) found that snowshoe hares occur in reasonably high concentrations when stand conditions are exactly right: lodgepole pine tall enough to have about ½ to ¾ of their canopy above the snow, and stem densities > 4,000 stems/ha. Additionally, they found that more snowshoe hares were caught in stands with larger quantities of forbs, grass, and horizontal cover. These correlations with grass/forb vegetation suggest that a somewhat clumped distribution (allowing patches of light and therefore more vegetation on the forest floor), and/or more mesic sites that allow both high stem densities and foliage on the forest floor may be optimal. McKelvey and McDaniel (2001) concluded: “However, based on our observations, we believe that these stand conditions will be difficult to reliably achieve and maintain. In many areas post fire or post clear-cut regeneration does not achieve these densities. Additionally, this stand condition is ephemeral on any given site. The unthinned young stands where we found pellets were composed of trees between 15-25 years old with tree heights between 3-10 m. Based on our sampling and additional observations, we do not believe that the stands in which we found the most pellets and caught the most hares will be productive 10-15 years in the future. We found no evidence of hare concentrations in older stands, regardless of forest type. We therefore believe that while some stands in Island Park can
produce hares at densities similar to those observed in the Seeley Lake area (an area known to
support lynx [in Montana]), these stands will remain scattered, and will only constitute a small
proportion of the landscape.”

**Migratory Birds**

Based on the habitat descriptions presented in Table 3, effects of the No Action and Proposed
Action Alternatives on migratory birds are presented in Table 5. These effects are based on the
forest vegetation changes that will occur with each alternative, which have been presented
previously in this EA.
Table 5 - Direct, Indirect and Cumulative Effects of the No Action Alternative and the Proposed Action Alternative on Priority Migratory Bird Species That Use Lodgepole Pine Habitats.

<table>
<thead>
<tr>
<th>Priority Migratory Bird Species</th>
<th>No Action Direct, Indirect and Cumulative Effects</th>
<th>Proposed Action Direct, Indirect and Cumulative Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calliope Hummingbird</td>
<td>Habitat is limited in the project area for this species because the age of the lodgepole pine trees is nearing the end of the age span that provides the best habitat, there is no running water in any of the proposed thinning units, and flowering plants are limited in this area due to the natural understory vegetation dominated by pine grass, elk sedge and grouse whortleberry. The no action alternative has no measurable effect on the habitat for this species.</td>
<td>Habitat is limited in the project area for this species because the age of the lodgepole pine trees is nearing the end of the age span that provides the best habitat, there is no running water in any of the proposed thinning units, and flowering plants are limited in this area due to the natural understory vegetation dominated by pine grass, elk sedge and grouse whortleberry. The proposed action alternative has no measurable effect on the habitat for this species.</td>
</tr>
<tr>
<td>Cassin’s Finch</td>
<td>The existing dense lodgepole pine sapling stands do not provide suitable habitat for this species. In the long-term, the no action alternative would slow the development of mature lodgepole pine forests, and may create stagnated forests that never become open mature coniferous forests. In the long-term, the no action alternative would provide only limited suitable habitat.</td>
<td>The existing dense lodgepole pine sapling stands do not provide suitable habitat for this species. In the long-term, the proposed action alternative would create more open coniferous forest conditions and speed up the development of mature lodgepole pine forests that would provide suitable habitat for this species. The proposed action alternative would provide the best and most abundant habitat for this species in the long-term.</td>
</tr>
<tr>
<td>Hammond’s Flycatcher</td>
<td>Based on descriptions of breeding habitat, the no action alternative should provide suitable habitat for this species.</td>
<td>Based on descriptions of breeding habitat, the proposed action alternative should provide suitable habitat for this species.</td>
</tr>
<tr>
<td>Mountain Chickadee</td>
<td>The existing unthinned sapling stands do not provide habitat for this species. The no action alternative would slow the development of mature lodgepole pine forests, and in some instances may create stagnated forests that never reach mature size classes. In the long-term, stands that are not thinned will contain smaller diameter trees and will self prune lower live limbs and have smaller crown diameters and smaller crown height ratios. Stands that are not thinned may never reach mature and older size classes. Stands that are not thinned will provide either no habitat or lower quality habitat conditions.</td>
<td>The existing unthinned sapling stands do not provide habitat for this species. The proposed action alternative would create more open coniferous forest conditions and speed up the development of mature lodgepole pine forests that would provide suitable habitat for this species. In the long-term, reduced competition between trees results in better crown development, faster diameter growth and longer retention of lower live limbs. Trees with high rates of diameter growth grow more quickly to a size that is suitable for cavity nesting species.</td>
</tr>
<tr>
<td>Priority Migratory Bird Species</td>
<td>No Action Direct, Indirect and Cumulative Effects</td>
<td>Proposed Action Direct, Indirect and Cumulative Effects</td>
</tr>
<tr>
<td>--------------------------------</td>
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</tr>
<tr>
<td>Olive-sided Flycatcher</td>
<td>The dense sapling stands in the proposed project area are not suitable habitat for this species. The no action alternative will have no effect on this species in the short-term. In the long-term, the no action alternative will not create good habitat for this species because it will not create forest openings, forest edges near natural openings or human-made openings (e.g. harvest units), or open to semi-open forest stands.</td>
<td>The dense sapling stands in the proposed project area are not suitable habitat for this species. The proposed action alternative will have no effect on this species in the short-term. In the long-term, the proposed action alternative will create some suitable habitat for this species by creating more open to semi-open forest stands.</td>
</tr>
<tr>
<td>Pygmy Nuthatch</td>
<td>The dense sapling stands in the proposed project area are not suitable habitat for this species. The no action alternative will have no effect on this species in the short-term. In the long-term, stands that are not thinned will contain smaller diameter trees and will self prune lower live limbs and have smaller crown diameters and smaller crown height ratios. Stands that are not thinned may never reach mature and older size classes. Stands that are not thinned will not provide suitable habitat species because the stands will not be open stands of large lodgepole pines and fewer trees will grow to a large enough diameter to provide suitable cavity nesting habitat.</td>
<td>The dense sapling stands in the proposed project area are not suitable habitat for this species. The proposed action alternative will have no effect on this species in the short-term. In the long-term, the proposed action alternative would create more open coniferous forest conditions and speed up the development of mature lodgepole pine forests that would provide suitable habitat for this species. In the long-term, reduced competition between trees results in better crown development, faster diameter growth and longer retention of lower live limbs. Trees with high rates of diameter growth grow more quickly to a size that is suitable for cavity nesting species.</td>
</tr>
<tr>
<td>Red Crossbill</td>
<td>The dense sapling stands in the proposed project area are not suitable habitat for this species. The no action alternative will have no effect on this species in the short-term. In the long-term, stands that are not thinned will contain smaller diameter trees and will self prune lower live limbs and have smaller crown diameters and smaller crown height ratios. Stands that are not thinned may never reach mature and older size classes. Stands that are not thinned will provide less cone production because trees will have smaller reduced live crowns.</td>
<td>The dense sapling stands in the proposed project area are not suitable habitat for this species. The proposed action alternative will have no effect on this species in the short-term. In the long-term, the proposed action alternative would create more open coniferous forest conditions with reduced competition between trees resulting in better crown development, faster diameter growth and longer retention of lower live limbs. Trees that are more open grown have larger limbs and bigger crowns. Large tree crowns provide more cone production for natural regeneration and food for species that utilize conifer seed.</td>
</tr>
<tr>
<td>Red-breasted Nuthatch</td>
<td>The dense sapling stands in the proposed project area are not suitable habitat for this species. The no action alternative will have no effect on this species in the short-term. In the long-term, stands that are not thinned will contain smaller diameter trees and will self prune lower live limbs and have smaller crown diameters and smaller crown height.</td>
<td>The dense sapling stands in the proposed project area are not suitable habitat for this species. The proposed action alternative will have no effect on this species in the short-term. In the long-term, the proposed action alternative would create more open coniferous forest conditions with reduced competition between trees resulting in better crown development, faster diameter growth and longer retention of lower live limbs. Trees that are more open grown have larger limbs and bigger crowns. Large tree crowns provide more cone production for natural regeneration and food for species that utilize conifer seed.</td>
</tr>
</tbody>
</table>
### Priority Migratory Bird Species

<table>
<thead>
<tr>
<th>Species</th>
<th>No Action Direct, Indirect and Cumulative Effects</th>
<th>Proposed Action Direct, Indirect and Cumulative Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Townsend's Solitaire</td>
<td>Stands that are not thinned may never reach mature and older size classes. Stands that are not thinned will provide</td>
<td>development, faster diameter growth and longer retention of lower live limbs. Trees that are more open grown are more</td>
</tr>
<tr>
<td></td>
<td>either no habitat or lower quality habitat conditions for this species because fewer trees will grow to a mature</td>
<td>capable of growing to mature size classes which would create better habitat for this species.</td>
</tr>
<tr>
<td></td>
<td>size class (large enough diameter) to provide suitable habitat.</td>
<td></td>
</tr>
<tr>
<td>Western Tanager</td>
<td>Based on descriptions of breeding habitat (prefers relatively open stands to dense forest), the no action alternative</td>
<td>Based on descriptions of breeding habitat (prefers relatively open stands to dense forest), the proposed action</td>
</tr>
<tr>
<td></td>
<td>should provide suitable habitat for this species.</td>
<td>alternative should provide suitable habitat for this species.</td>
</tr>
<tr>
<td></td>
<td>The no action alternative does not provide the preferred habitat for this species (it favors open woodlands and open</td>
<td>In the long term, the proposed action alternative provides the best habitat because it will create more open</td>
</tr>
<tr>
<td></td>
<td>coniferous forests). However, since this species occasionally extends into fairly dense forests, the no action</td>
<td>coniferous habitat which is preferred by this species.</td>
</tr>
<tr>
<td></td>
<td>alternative may provide occasional suitable habitat in the long-term.</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER 4 – CONSULTATION AND COORDINATION

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

**ID TEAM MEMBERS:**

Ali Abusidi  
Position: Archaeologist  
Contribution: Cultural Resource Analysis

Mark Orme  
Position: Wildlife Biologist  
Contribution: Wildlife Analysis

Rose Lehman  
Position: Botanist  
Contribution: TES Plants Analysis

Brad Higginson  
Position: Hydrologist  
Contribution: Hydrologic Analysis

Lee Mabey  
Position: Fisheries Biologist  
Contribution: Fisheries Analysis

Cathey Hardin  
Position: Forester  
Contribution: Vegetation Analysis & Team Leader

Kara Kleinschmidt  
Position: Soils Scientist  
Contribution: Soils Analysis

Mike Alfieri  
Position: Forestry Technician  
Contribution: Team Leader
FEDERAL, STATE, AND LOCAL AGENCIES:

Office of Senator Michael Crapo  
Office of Senator James E. Risch  
Office of Congressman Michael Simpson  
Environmental Protection Agency  
U. S. Fish and Wildlife Service  
Idaho Dept. of Agriculture  
Idaho Dept. of Fish and Game  
Idaho Dept. of Lands  
Idaho Dept. of Parks and Recreation  
Idaho State Historical Preservation Office  
Fremont County Commissioners

TRIBES:

Shoshone-Bannock Tribes

OTHERS:

Letters were mailed to 13 additional individuals and organizations.
APPENDIX A - REFERENCES AND LITERATURE CITED


Birds of North America On-Line


Caribou-Targhee National Forest. 2009. Biological Evaluation for Northern Goshawk (Accipiter gentilis), Flammulated Owl Otus flammeolus), Boreal Owl (Aegolius funereus), Great Gray Owl (Strix nebulosa), Trumpeter Swan (Cygnus buccinator), Columbia Spotted Frog (Rana luteiventris), Common Loon (Gavia immer), Harlequin Duck (Histrionicus histrionicus), Spotted Bat (Euderma maculatum), Townsend’s Big-eared Bat (Corynorhinus townsendii), Fisher (Martes pennanti), Wolverine (Gulo gulo), American Three-toed Woodpecker (Picoides dorsalis (formerly Picoides tridactylus)), Peregrine Falcon (Falco peregrinus anatum), Columbian Sharptailed Grouse (Typanuchus phasianellus columbianus), Greater Sage Grouse (Centrocercus urophasianus), Pygmy Rabbit (Brachylagus idahoensis), Bald Eagle (Haliaeetus leucocephalus), Gray Wolf (Canis lupus), Rocky Mountain Bighorn Sheep (Ovis canadensis canadensis) for Split Creek Precommercial Thinning Project. Prepared by Mark L. Orme, Caribou-Targhee National Forest, Idaho Falls, ID. 27 pp + attachments.


McKelvey and McDaniel. 2001. An Analysis of Snowshoe Hare (Lepus americanus) Numbers in Island Park Based on Pellet Sampling and Capture/Recapture Trapping. USDA Forest Service, Rocky Mountain Research Station, Forestry Sciences Laboratory, Missoula, MT. 20 pp. + tables, maps and figures.


