

**APPENDIX A**  
**UPDATED EA WILDLIFE AND VEGETATION**  
**RESOURCES ANALYSIS**

# 3A. WILDLIFE AND VEGETATION RESOURCES

## SCOPE OF ANALYSIS

While the most frequently guided routes in JHMR's OG SUP are within the Rock Springs-Jensen Canyon area, this analysis of potential direct, indirect and cumulative effects to Threatened, Endangered and Sensitive (TES) wildlife and plant species, as well as Management Indicator Species (MIS), includes the entire 4,020-acre extent of JHMR's OG SUP area.

A Biological Assessment (BA) is required in accordance with Section 7 of the Endangered Species Act of 1973 to document a proposed project's potential effects to federally listed Threatened or Endangered species. A Biological Evaluation (BE) is required in accordance with Forest Service Manual 2672.42 to document a proposed project's potential effects to Forest Service listed regionally sensitive species. It is common practice to combine the BA and BE into a single document.

The discussion of affected environment and environmental consequences is primarily excerpted from four documents:

### **2004 Biological Assessment of Lynx for the Jackson Hole Mountain Resort Development Projects, Fall Creek Watershed (2004 Lynx BA)**<sup>1</sup>

In 1994, the Jackson Ranger District accepted a revised Master Development Plan (MDP) from JHMR. Lynx were not listed as Proposed, or Threatened at that time, therefore the currently required Section 7 consultation on lynx was not completed. Subsequently, the Jackson Ranger District has been consulting on individual projects contained within the MDP on an as-needed basis. In 2000, JHMR submitted additional changes to the MDP, the effects of which were documented in an EA. However, subsequent consultation did not include any of the changes that were incorporated into the updated MDP. Therefore, a BA was prepared by the Forest Service in 2004 to cover all projects proposed by JHMR dating back to the 1996 Record of Decision, which approved the ski area's MDP EIS. In addition to providing analysis of compliance with the Lynx Conservation Assessment and Strategy (LCAS), the 2004 BA evaluates direct, indirect, short- and long-term, irretrievable, irreversible, and cumulative effects to lynx, and their habitat, anticipated as a result of proposed JHMR activities. The 2004 BA analyzes several activities which were not components of previous approvals, including JHMR's ongoing and proposed guided backcountry skiing operations analyzed within this EA.

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<sup>1</sup> Holden, 2004

### **2004 Biological Assessment of the Effects of the High Mountain Heli-Skiing, Inc. Project on Threatened and Endangered Species<sup>2</sup>**

The 2004 High Mountain Heli-Skiing BA addresses the preferred alternative (Alternative C) for the 2004 High Mountain Heli-Skiing DEIS. A portion of the High Mountain Heli-Skiing OG SUP has historically overlapped JHMR's OG SUP in the Rock Springs-Jensen Canyon area.

### **2002 Draft Biological Evaluation and Biological Assessment for Jackson Hole Mountain Resort Guided Skiing and Snowboard Touring<sup>3</sup>**

In 2002 Pioneer Environmental Services, Inc. assembled a *draft* biological assessment and biological evaluation to analyze potential effects to TES species pertaining to JHMR's guided backcountry skiing operation. Much of the information in the draft document was carried forward and updated in subsequent BAs and BEs. However, some of the information pertinent to R4 sensitive species is still relevant and has been incorporated into this analysis and cited from the 2002 Draft BE.

### **2003 Draft Environmental Impact Statement for High Mountain Heli-Skiing<sup>4</sup>**

The 2003 Draft EIS for High Mountain Heli-Skiing (HMH EIS) addresses whether or not a five-year outfitter guide permit should be re-issued for helicopter skiing on the BTNF/CTNF as well as what level of use is appropriate, extent of the OG SUP area, and potential mitigation measures that should be included in the permit. The HMH EIS addresses four alternatives, including No Action. The draft and final wildlife analyses completed for the HMH EIS are tiered to in this EA because portions of the OG SUPs issued to JHMR and HMH overlap.

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<sup>2</sup> Larese-Casanova et.al. 2003

<sup>3</sup> Pioneer Environmental, 2002

<sup>4</sup> USDA Forest Service, 2003

## AFFECTED ENVIRONMENT

Table 3A-1 lists the habitat types found within the analysis area.

**Table 3A-1  
JHMR Existing OG SUP Boundary  
Habitat Types**

Area and Habitat Types	Acreage <sup>a</sup>
<b>Rock Spring/Jensen Canyon</b>	
<i>Douglas Fir</i>	728.7
<i>Lodge Pole</i>	530.1
<i>Spruce Fir</i>	318.1
<i>Water</i>	3.3
<i>Non Forest</i>	531.3
<b>Phillips Canyon</b>	
<i>Aspen</i>	7.6
<i>Douglas Fir</i>	252.7
<i>Lodge Pole</i>	31.1
<i>Spruce Fir</i>	369.1
<i>Clear Cut</i>	59.1
<i>Water</i>	4.1
<i>Non Forest</i>	54.5
<b>Teton Pass</b>	
<i>Aspen</i>	21.5
<i>Douglas Fir</i>	299.3
<i>Spruce Fir</i>	53.5
<i>Non Forest</i>	255.6

<sup>a</sup> Acreage reflects BTNF acreage only and therefore does not total to 4,020 acres.

### Wildlife Species

Several species were eliminated from further detailed analysis within the 2004 Lynx BA because the analysis area has no documented historic occurrences of the species and/or was found not to contain suitable habitat, or was determined to be outside of the known distribution area for the species. The 2004 Lynx BA indicated that four federally listed TES species could be eliminated from further consideration as they have no potential to be affected by the Proposed Action. Furthermore, the 2002 Draft BE indicated that 12 R4 Sensitive species could be eliminated from further consideration as they have no potential to be affected by the Proposed Action.

The remaining species, with known occurrences and/or suitable habitat within the analysis area, are specifically addressed below.

## Threatened Species

### *Grizzly Bear (Ursus arctos horribilis) – Threatened*

JHMR is not within or near the primary conservation area for grizzly bear and the random occurrence of grizzlies in the analysis area has been documented. However, grizzly bear habitat in the forested communities, subalpine/alpine tundra, and wetland/willow/mixed brush communities does exist within the analysis area. Given their very large home ranges (50-300 and 200-500 square miles for females and males, respectively), it is possible a grizzly bear could move through the analysis area. However, grizzlies might be more likely to disperse along river corridors such as the Snake River (where they have been previously sighted) that provide more resources and security. The Greater Yellowstone Area (GYA) is designated as one of six Recovery Zones in the contiguous United States for the grizzly bear. A total of 1.4 and 0.5 million acres of land in this area occurs on the Bridger Teton and Targhee national forests, respectively. The analysis area lies over 20 miles southwest of occupied grizzly bear habitat.

Denning habitat is usually high, remote mountain slopes that remain under deep snow well into spring. Upon exiting denning habitat in mid- to late-April, grizzlies travel to foraging habitats at lower elevations. Grizzlies, especially males, have been documented leaving den sites as early as mid-March in this area, especially following low snowfall winters. Threats to populations today are associated with habitat loss due to development, road building, and mineral exploration and extraction. Other than humans, grizzly bears have few enemies, but cubs that stray from their mother may fall prey to mountain lions, wolves, or other bears.

### *Canada lynx (Lynx canadensis) – Threatened*

On March 24, 2000 the US Fish and Wildlife Service announced their final rule that listed the Canada lynx as Threatened within the lower 48 contiguous states. Lynx are also listed as Threatened for the state of Wyoming.<sup>5</sup>

Historic records indicate lynx do not typically use this portion of the BTNF and it contains primarily low quality lynx habitat. Much of the area in the vicinity of the OG SUP has not been classified as potential lynx habitat due to the presence of primarily open, steep slopes, although the entire Teton Front is considered a north-south travel corridor for lynx. The entirety of the OG and Ski Area SUPs are located within the 75,384 acre Fall Creek North Lynx Analysis Unit (LAU). Based upon vegetation, connectivity, and other characteristics, roughly 47,303 acres of the LAU are capable of

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<sup>5</sup> Under the Canada Lynx Conservation Agreement, the Forest Service and USFWS agreed to follow the recommendations contained in the Canada Lynx Conservation Assessment and Strategy (LCAS) which includes habitat definitions, recommended analysis methodologies, and conservation measures, goals, objectives and standards. LCAS standards are referenced in the 2004 Lynx BA.

providing lynx habitat<sup>6</sup>. Wildfires and historic management activities have reduced the suitable lynx habitat by 5,118 acres, thereby leaving 42,185 acres (89 percent) of lynx habitat that is likely in a suitable condition. However, none of the suitable habitat is located within the project area boundaries.

In Wyoming, most lynx occurrences are noted in moist Douglas-fir and western spruce-fir forest occurring at elevation ranges from 6,500 to 9,800 feet. The forested vegetation within this LAU provides low to moderate quality lynx habitat, consisting of primarily Douglas-fir with sparse amounts of spruce-fir, lodgepole pine, and aspen habitat types in the northern half of the LAU. The southern half of the LAU provides higher quality habitat due to the presence of better habitat conditions for the snowshoe hare, with a dominance of spruce-fir, lodgepole pine, and aspen habitats. The distribution of Canada lynx closely follows that of the snowshoe hare, with high stem density and shrub cover, and in many cases these criteria are met in early seral stage forests. The presence of snowshoe hare and red squirrel provides foraging opportunities in the analysis area. However, other habitat requirements are not readily met, making the analysis area unsuitable for resident lynx. Forest openings are large, often greater than 300 feet wide. It has been suggested that lynx may avoid crossing openings greater than 300 feet wide under normal circumstances. The unconnected forest habitats present in the developed ski area, as well as in the backcountry ski areas within the OG SUP area, are not considered suitable lynx habitat. The likelihood of lynx establishing a home range in the analysis area is low because there is no lynx habitat within the OG SUP area or in the adjacent Ski Area SUP, and both areas have continually high human use during the winter months; however, the OG SUP area could be at the periphery of or within an established home range.

#### **R4 Sensitive Wildlife Species**

##### *Northern goshawk (Accipiter gentiles)*

Conditions for nesting in the analysis area are marginal given the southerly exposure; the absence of large, deep forested ravines; and the high level of human activity. Goshawks have been known to nest along the eastern slope of the Teton Range in the vicinity of Wilson and Teton Village, although no nests have been detected. The probability of occurrence for resident goshawks in the analysis area is high.

##### *Flammulated owl (Otus flammeolus)*

Flammulated owls have some potential to occur in the coniferous and coniferous/aspen forests in the analysis area in the summer. However, these birds are Neotropical migrants and do not occur in the analysis area during the winter. The probability of flammulated owls occurring in the analysis area is therefore low.

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<sup>6</sup> Holden 2004

*Boreal owl (Aegolius funereus)*

Boreal owls have not been observed in the analysis area, but their occurrence has been documented nearby. Boreal owls may occur in the analysis area, as suitable habitat is present for nesting, foraging and roosting.

*Great gray owl (Strix nebulosa)*

Although great gray owls have not been reported in the analysis area, they have been observed nearby. Potential habitat for these owls occurs in the analysis area in the coniferous and coniferous/aspen forests, tall forb and ceanothus shrub community, and wherever grassy meadows may be present. However, the overall habitat conditions are marginal due to the elevation of the analysis area. There is moderate probability that great gray owls may occur in the analysis area.

*Three-toed woodpecker (Picoides tridactylus)*

There is relatively little habitat in the analysis area for the three-toed woodpecker. Foraging and nesting habitat in the coniferous forest is rather poor for this species, and there are no documented occurrences in the analysis area. Three-toed woodpecker has been found in the general vicinity, and is likely breeding outside of the analysis area. However, due to the absence of key habitat, the probability of these woodpeckers occurring in the analysis area is low.

*Spotted bat (Euderma maculatum)*

Spotted bats have not been documented in the analysis area. Suitable roosting and maternity habitat may be present in alpine cliffs, but this remains undetermined. Suitable foraging areas are limited to a few springs and seeps. The probability of spotted bat occurrence in the analysis area is therefore considered to be low.

*Western big-eared bat (Corynorhinus townsendii)*

Suitable foraging habitat exists in the analysis area, but there is not suitable roosting or maternity habitat for western big-eared bats. No big-eared bats have been documented in the analysis area or vicinity. Therefore the probability of western big-eared bats occurring in the analysis area is considered to be low.

*Peregrine Falcon (Falco peregrinus)*<sup>7</sup>

The peregrine falcon at one time inhabited nearly every state in the United States but then declined from exposure to DDT. Since then, peregrine falcon populations have rebounded throughout North America. Peregrine falcons usually migrate to the Gulf of Mexico, inland Mexico and Central America during the winter. Birds return from their wintering areas in March, begin courtship and breeding activities soon after their arrival, and typically lay eggs in April. Although peregrine falcons generally migrate, they have

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<sup>7</sup> USDA Forest Service, 2003

been observed feeding in the area as early as February and on nests in March. Peregrine falcons are most sensitive to disturbance during courtship and at the onset of nesting. The key components of peregrine falcon habitat include nesting cliffs, usually close to forested habitat and water, sufficient avian prey base, and limited human disturbance. Peregrines feed almost exclusively upon birds such as shorebirds, waterfowl, pigeons, doves, robins, flickers, jays, swifts, swallows, and other passerine birds. Although peregrine falcons travel ten miles or more to forage, they get most of their food (80 percent) within one mile of the nest. There are no known peregrine eyries within or adjacent to the analysis area.

*Fisher (Martes pennanti)*

Marginal habitat does exist for fishers in the analysis area in coniferous and coniferous/aspen forests. However, these forests lack the old growth features necessary for denning or escape cover. In addition, the analysis area possesses a high level of localized forest fragmentation, which fishers tend to avoid. No fishers have been documented in the analysis area and their occurrence remains uncertain. The analysis area has a low potential for supporting resident fishers, and given the size of home range, not more than one or two individuals could potentially occur.

*Wolverine (Gulo gulo)*

The wolverine was petitioned for federal listing under the ESA in 1994 and again in 2000. Currently, the USFWS determination is that there is not substantial information to indicate listing is warranted for this species. The wolverine is classified as a Forest Service sensitive species, and as a Species of Special Concern, priority 3, by WGFD.

There is potential for wolverines to use the subalpine/alpine tundra, coniferous and coniferous/aspen forests, and wetland communities in the analysis area, but this is highly unlikely due to the level of human intrusion that currently occurs in the analysis area year-round. If a resident wolverine were to occur, the analysis area would likely only be part of a single individual's home range.

Since the 1950s, eighteen observations of wolverines or their tracks have been recorded within the broader assessment area, including the Snake River, Gros Ventre, Wyoming, and Teton Mountain Ranges. Most of these observations are from the northern portion of the Teton Wilderness, although wolverines have been reported in the Gros Ventre Wilderness and the Buffalo Valley. The majority of observations were reported in the 1970s, but WGFD personnel documented wolverine tracks during winter surveys as recently as 1997. Idaho Conservation Data Center records indicate an older sighting along Palisades Reservoir, and more recent anecdotal reports are known from the 1990s on the Caribou NF. Aside from these surveys and anecdotal reports, little is known about the current status and distribution of wolverines in the area, and even less is known about historic numbers and distribution.

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A known population of wolverines exists and has been under study since 1998 north of the analysis area in the Teton Range. Seven individuals have been trapped, radio collared, and tracked. Wolverine dens have been documented on north-facing slopes of the Teton Range above 7,500 feet, and the movements of radio-collared individuals have been followed throughout the Tetons and adjacent ranges. A dispersing radio-collared male wolverine (M304) moved through portions of the analysis area in 2002, traveling from the northern end of Yosemite National Park south towards Pocatello, ID. .

As part of the analysis conducted for the HMM EIS, wolverine observations within HMM's authorized use area were documented and potential wolverine denning habitat was modeled and mapped for the project and adjacent areas on the CTNF and BTNF. The Out-of-Bounds analysis area contains approximately 150 acres of modeled wolverine denning habitats, with the largest contiguous portions located along the western boundary of the area in the vicinity of Rendezvous Peak. These areas would likely receive lighter use than lower-elevation portions of the analysis area due to the difficulty of access, however, it is unlikely wolverines would den in these areas due to the potential for irregular, unpredictable human presence.

### Management Indicator Species<sup>8</sup>

MIS are keystone species meant to indicate population trends and general health of the ecosystem or community. There are several categories of MIS, including TES species, featured species (those of economic value), and ecological indicators. The MIS addressed in this section are only those that are featured species or ecological indicators. Species designated as TES are covered above.

**Table 3A-2  
Management Indicator Species  
Potentially Present in the Analysis Area**

Common Name	Scientific name
Rocky Mountain Elk	<i>Cervus elaphus</i>
Moose	<i>Alces alces</i>
Mule deer	<i>Odocoileus hemionus</i>
Bighorn sheep	<i>Ovis canadensis</i>
Pine Marten	<i>Martes americana</i>

During the winter ungulates are confined to narrow geographic areas where snow depths allow access to limited forage. By restricting their activity to these areas where food is available, ungulates minimize energy expenditures and survive extreme winter conditions. Even with adaptations to lower their metabolic rates and activity levels during the winter, most wintering ungulates lose weight and are highly vulnerable to disturbance on winter ranges.

Wintering ungulates such as elk, mule deer, moose, and bighorn sheep require relatively

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<sup>8</sup> USDA Forest Service, 2003

quiet and secure habitat with availability of sufficient forage to get them through the physiological slump period of a long, cold winter. Any disturbance and undue stress placed on them reduces the chance of survival greatly. The Wyoming Department of Game and Fish has identified big game winter ranges for elk, deer, and moose on BTNF lands.. Bighorn sheep will generally seek higher elevation terrain in rocky and remote locations above the elk and deer winter range.

### *Elk*

Elk were once widely distributed across most of North America and inhabited all of the major forest and plains ecosystems except deserts and the humid southeast. The present geographic distribution of elk in the western United States and Canada is limited to the mountain forests and grasslands. Increasing human activity, agriculture, hunting, and the establishment of feed grounds has considerably altered elk winter range; elk are as abundant now in the western United States as perhaps anytime in history. Part of the reason is the winter feeding programs practiced in several western states.

Outside feed grounds elk use south and west-facing slopes with reduced snow depths and better mobility, and in many cases, more available food sources. Higher elevations often have snow depths well in excess of a meter (adversely affecting mobility of elk) and do not provide food or conditions suitable for wintering elk. Crucial elk winter range proximal to the analysis area occurs mainly along the Snake River drainage.

### *Mule deer*

The geographic distribution of mule deer ranges from northern British Columbia and Alberta, west to southeast Alaska, and south to central New Mexico and northern California. Mule deer occupy plains and prairies, shrublands, woodlands, and mountain forests. The species prefers rough breaks at elevations near or at the sub-alpine zone in the mountains, but can also be found in the alpine, montane, and foothill zones. When snow is deep, mule deer seek refuge at lower elevations.

Mule deer are primarily browsers in summer, fall, and winter, and will eat all exposed portions of woody plants. In the spring, grasses and forbs compose the bulk of the species' diet. Mule deer are observed throughout the year within the analysis area, except in the winter, when deep snow forces deer to lower elevations or to south/west facing ridges. Winter range for mule deer is generally restricted to areas where snow depths are lower, solar aspect is more conducive to survival, and browse is more available.

### *Moose*

Moose range throughout the boreal forests of North America south into the Rocky Mountains to northwestern Colorado and central Utah. Moose use a variety of habitats including dense coniferous forest, open meadows, and riparian areas. Within the Greater Yellowstone Ecosystem, moose typically move below 7,000 feet during winter. Throughout the year, moose require cover and typically will not use large, open areas

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with little screening vegetation. Moose are somewhat less immobilized by deep snow depths compared to elk or mule deer, but even this species cannot effectively use range that has snow depths in excess of two meters without development of a firm crust or wind pack. Moose often move to valley or river bottoms during the winter where browse such as willows can be readily found. Crucial moose winter range occurs near the analysis area along Mosquito Creek and the Snake River.

### *Bighorn Sheep*

Bighorn sheep of the Teton Herd winter regularly on wind-swept ridges along the Teton Crest in Grand Teton National Park (GTNP) and on the Targhee NF. It is thought that some portion of the Teton Range herd has always wintered at high elevation along wind-swept ridges and mountain peaks. Those that migrated to lower elevation succumbed to death more readily at the direct hand of people or through contact with domestic sheep. Over time, forest succession and fire suppression have erased many of the routes taken between high summer habitat to lower elevation winter habitat, and herd memory of these routes has also been lost, leaving the high elevation winter habitat crucial to the native sheep of the Tetons. Radio telemetry data collected from 1995 to 1997 identified Rendezvous Peak and Upper Jenson Canyon within the analysis area as important bighorn sheep winter habitat.

With the last of the domestic sheep allotments removed from the Tetons in 2004, overgrazing and encounters with domestic sheep can no longer be charged with diminishing the viability of the bighorns. Winter and summer recreation use is now suspected to have the greatest impact to these sheep, their use of native range, and the ability to move between herds and maintain long-term viability.

The Teton Range herd has been estimated at 100 to 125 animals, distributed 50:50 into a northern sub-population around Web Canyon and Moose Basin, and a southern sub-population centered in Darby Canyon and Death Canyon Shelf. This southern sub-population winters on Static Peak (NPS area closure) south to Rendezvous Peak within the analysis area.

Bighorn sheep in the Gros Ventre have been documented moving across the Jackson Valley floor to the Tetons. This supports the idea that the Tetons and Gros Ventre herds are each a meta-population, and that movement between both locations is crucial to the long-term genetic enrichment and viability of each herd.

### *Pine Marten*

Although more widely distributed in Canada, pine martens occur in isolated pockets throughout the boreal forests of the United States, the Northeast, Pacific Northwest, and Rocky Mountains. Martens are most common in dense coniferous stands of Douglas fir and lodgepole pine, as well as mixed forests with dense overstory (>30 percent) and sufficient understory cover for foraging, hiding and denning. However, martens are often

found on rocky slopes above timberline. Open areas, including meadows wider than 300 feet, are generally avoided, especially in winter, unless sufficient hiding cover or downfall with branches protruding above the snow is present. Dens are often in rotten logs, but may be found in jackstraw log piles, slash piles, and rock slides. In the Rocky Mountains, martens inhabit high-elevation basins in coniferous forests.

Pine marten are generally crepuscular or nocturnal, but some individuals (particularly females) are active during the day. The pattern of nocturnal activity coincides with the time of greatest activity of their rodent prey species.

Martens have been reported within the analysis area and are thought to be relatively common. The species is likely to occur in the coniferous and conifer/aspen forest as well as portions of the subalpine/alpine tundra communities in the analysis area. Martens are tolerant of human activity so long as the animals are not trapped. Martens are active during the winter, particularly in forested areas where prey is available. Suitable habitat for both foraging and denning is abundant throughout the analysis area.

## **Plant Species**

### **Sensitive Plant Species**

The listed and proposed R4 Sensitive plant species with potential to occur in the analysis area include:

- creeping twinpod (*Physria intergrifolia* var. *monticola*)
- boreal draba (*Draba borealis*)
- naked-stemmed parrya (*Parrya nudicaulis*)
- Payson's bladderpod (*Lesquirella paysonii*)
- pink agoseris (*Agoseris lackschewitzii*)
- rockcress draba (*Draba desiflora* var. *apiculata*)
- seaside sedge (*Carex incurviformis*)
- soft aster (*Aster mollis*)
- sweet-flowered rockjasmine (*Androsace chamaejasmine* spp. *Carinata*)
- Weber's saw-wort (*Saussurea weberi*)
- single-head pussytoes (*Antennaria monocephala*), *Antennaria aromatica*
- milk kelloggia (*Kelloggia galioides*)
- large flower triteleia (*Triteleia grandiflora*)

As no habitat alteration or ground disturbing activities are proposed as part of either alternatives 2 or 3, detailed narratives of sensitive plant species and their habitats are omitted here. However, this information is contained in the 2002 Draft BE located in the project file at the Jackson Ranger District.

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# ENVIRONMENTAL CONSEQUENCES

## Direct and Indirect Effects

### Alternative 1 - No Action

By selecting Alternative 1, a total of 300 annual service days would no longer occur within the Teton Pass and Rock Springs-Jensen Canyon areas. In light of the existing high levels of use within these areas by both guided and non-guided backcountry skiers,<sup>9</sup> selection of Alternative 1 is not anticipated to either positively or negatively affect TES wildlife or plant species in the analysis area.

### Alternative 2 – The Proposed Action

Table 3A-3 lists the habitat types found within the proposed OG SUP area.

**Table 3A-3  
JHMR Proposed OG SUP Boundary  
Habitat Types**

Area and Habitat Types	Acreage <sup>a</sup>
<b>Rock Spring/Jensen Canyon</b>	
<i>Douglas Fir</i>	728.7
<i>Lodge Pole</i>	530.1
<i>Spruce Fir</i>	318.1
<i>Water</i>	3.3
<i>Non Forest</i>	531.3
<b>Phillips Canyon</b>	
<i>Douglas Fir</i>	113.3
<i>Lodge Pole</i>	7.9
<i>Spruce Fir</i>	36.3
<i>Water</i>	4.11
<i>Non-Forest</i>	40.2
<b>Teton Pass</b>	
<i>Aspen</i>	30.3
<i>Douglas Fir</i>	894
<i>Lodge Pole</i>	16.9
<i>Spruce Fir</i>	334.3
<i>Non Forest</i>	352
<i>Private/Other</i>	2.2

<sup>a</sup> Reflects BTNF acreage only and therefore does not total to 3,998 acres.

The Proposed Action would not require the removal of any timber or involve any permanent or temporary ground disturbances. Furthermore, all activities would occur over-the-snow. However, selection of the Proposed Action would lead to a minor

<sup>9</sup> Refer to the cumulative effects section for more information.

increase in overall skier use levels within the Rock Springs-Jensen Canyon areas. Although the authorized service days for the Teton Pass portion of the reissued OG SUP would not change, the proposal does involve a slight boundary modification to exclude currently permitted use areas on the west side of the Pass and to include new use areas on the east side.

### *Threatened Wildlife Species*

Alternative 2 is not anticipated to impose any direct effects to grizzly bear or any occupied habitat because the nearest designated grizzly habitat is in the vicinity of Yellowstone National Park, over 20 miles north of the analysis area. However, grizzly bears have been observed near Teton Village and in Grand Teton National Park. Therefore, given the relatively large home range of grizzly bears, it is possible, but unlikely, that the species inhabits the analysis area. Skiing activities would generally take place while the bears are in hibernation (until mid- to late-April). The potential overlap of skiing and possible early den emergence in mid-March would be unlikely given that bears emerging this early would generally seek lower elevation, snow-free areas to forage. The Proposed Action will have **no effect** on grizzly bears.

The Proposed Action is not likely to result in direct mortality or alteration of Canada lynx habitat within the analysis area because the Proposed Action would not physically alter any of the lynx habitat elements within the project area. The Proposed Action is consistent with relevant standards and guidelines in the LCAS. Disturbance or displacement of Canada lynx may occur in areas in which guided skiing is conducted; however, Canada lynx are predominantly nocturnal animals. Therefore, the possibility of human interaction is low.

Snow compaction currently occurs in areas that are skied repeatedly throughout the course of several days and throughout the winter season. Areas in which snow compaction occurs are thought to provide travel corridors for other predators, such as coyotes and bobcats that are not as adept at walking in unconsolidated snow as the lynx. This, in turn, could result in increased competition for food and the displacement of Canada lynx. However, because the proposed guided skiing represents only a small fraction of ongoing skier use within the project area, the current level of snow compaction would remain unchanged with or without reissuance of the JHMR OG SUP. Additionally, since the areas skied in the analysis area do not result in highly packed trails or established trails “linking” patches of foraging habitat, there is minimal risk of creating increased access opportunities for additional predator incursions into areas of suitable lynx habitat. The Proposed Action **may affect, but is not likely to adversely affect** Canada lynx.

### *Region 4 Sensitive Wildlife Species*

The Proposed Action would not alter habitat configurations or involve any ground disturbances within the analysis area and therefore is not likely to have any direct or

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indirect effects on Region 4 Sensitive wildlife species. The exception is wolverine, in which indirect effects could occur as a result of increased pressure on the species from high human activity in the Rock Springs-Jensen Canyon area. However, as detailed within the Recreation Section of this EA, the change in actual skier use of the Rock Springs-Jensen Canyon area is anticipated to result in an imperceptible increase.

Forest Sensitive Raptors (boreal, flammulated, and great gray owls; Northern goshawk, and peregrine falcon) are most sensitive to noisy disturbance during the breeding season near their nest sites, but sensitivity varies over the course of the nesting season. In general, disturbances close to nest sites present the greatest risk during the courtship, incubation, and brooding phases, with diminished risk during the later nestling and post-fledging periods. Disturbances during this time period can cause changes in activity patterns (e.g. foraging, prey delivery rates, nest attendance rates etc.) which ultimately could result in lower hatching rates, nestling mortality, or abandonment of the nest site. Abandonment usually only occurs when the disturbance is chronic and occurs in close proximity to the nest site. Disturbance tolerance levels are generally species-specific, but tolerances of most species are poorly understood.<sup>10</sup>

Human activities are known to affect raptors in at least three ways: 1) changing normal behavior patterns, 2) harming eggs or young and 3) altering habitats (Richardson and Miller 1997). The type of response generally depends on the type, intensity, duration, timing (e.g. breeding season, wintering period), and predictability and location of the activity. The presence of skiers has the potential to temporarily disturb raptors, but will not physically alter any important raptor habitats.

#### *Management Indicator Species<sup>11</sup>*

##### *Elk, Mule Deer, Moose*

Elk, mule deer, and moose are not likely to occur within the analysis area during the operational timeframe of the permit, when snow accumulation would prohibit movement and/or access to food resources. *The closest winter range for any of these ungulates to the analysis area is Mosquito Creek (south of the Teton Pass ski area), which is designated critical winter range for moose.* Because the analysis area does not encompass designated crucial winter range, none of these species are anticipated to experience direct or indirect effects resulting from implementation of the proposed alternative within the analysis area.

##### *Bighorn Sheep*

Human influences on bighorn sheep habitat, including recreation, are the biggest threat to population stability. Human activities can affect populations by decreasing habitat suitability, forcing sheep to reduce or terminate use of prime habitat, impeding migration,

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<sup>10</sup> USDA Forest Service, 2003

<sup>11</sup> Id.

or fragmenting and displacing herds. By being reduced to marginal habitats, bighorn sheep can experience reduced productivity and increased mortality. Additional people in the backcountry could adversely affect bighorn sheep in the southern Tetons, where the population is already at a very low conservation status.

Because recent historical (1995 through 1997) radio-telemetry monitoring of bighorn sheep indicates winter use of the Rendezvous Peak and Upper Jensen Canyon portions of the analysis area, JHMR and WYFG are currently preparing a Memorandum of Understanding (MOU) intended to create a cooperative monitoring program specifically pertaining to bighorn sheep. The MOU's objective is to document the presence/absence of wintering bighorn sheep within the analysis area. Contingent upon monitoring results, adjustments could be made to the SUP allowing for seasonal or permanent closures of areas documented to be used by wintering bighorn sheep.

#### *Pine Marten*

Marten are restricted primarily to forested habitat and should not be affected by any of the action alternatives. No habitat alteration will result within the analysis area. The presence of marten within the analysis area may be discouraged in areas receiving high use, however, no direct or indirect effects are anticipated from implementation of the proposed action.

#### *Sensitive Plants*

The Proposed Action would not alter habitat configuration within the analysis area and therefore would have no direct or indirect effects on Region 4 Sensitive plants. The reader is referred to the 2002 Draft BE, located in the project file, for additional information.

### **Alternative 3**

Effects to TES wildlife and plant species from implementation of Alternative 3 would be quite similar to that of the Proposed Action, with the exception that JHMR's 50 annual service days would not be renewed in the Teton Pass portion of the OG SUP and all 900 annual service days would be concentrated in the Rock Springs-Jensen Canyon area.

### **Cumulative Effects**

Past, present, and reasonably foreseeable future actions having potential to affect TES species and their habitat are generally related to overall increased human presence on the BTNF and CTNF, including: winter and summer recreational activities (e.g., developed, dispersed, motorized, and non-motorized), hunting, trapping, livestock grazing, logging and the construction of roads and other facilities.

In addition, full build-out of JHMR's January 2004 Master Development Plan (2004 MDP) could have cumulative effects to wildlife resources in the Rock Springs – Jensen

Canyon area due to increased human use of the area.<sup>12</sup> However, because the 2004 MDP was only recently submitted to the Forest Service and has been conditionally accepted at this time, no analysis has been performed on any proposed project, making a detailed cumulative effects analysis on implementation of the 2004 MDP, in whole or part, impossible. However, the ensuing NEPA process that will be required for approval of projects outlined in the 2004 MDP will include thorough direct, indirect and cumulative effects analyses.

Of all the projects outlined in the 2004 MDP, that with the greatest potential to cumulatively affect wildlife resources is a proposed 690 acre SUP boundary modification into the Rock Springs - Green River area (Note: no lifts or trail development would occur in the Rock Springs – Jensen Canyon area). This area is identified in the Forest Plan as Desired Future Condition 9B – Special Use Recreation Areas. By shifting the SUP boundary line and providing ski patrol and avalanche control in an area currently only used for out-of-bounds skiing, this area would undoubtedly experience use in excess of current or historic levels. Highlights of the 2004 MDP include: construction of new aerial and surface lifts; modification/replacement of existing lifts; installation of additional snowmaking infrastructure to provide coverage on approximately 269 acres of terrain (the majority of which have already been analyzed and approved); construction of additional and previously approved trails; and miscellaneous on-mountain infrastructure and guest services. Aside from the SUP boundary modification, all components of the 2004 MDP are proposed within the existing SUP area.

### **Threatened and Endangered Species**

#### *Grizzly Bear*

Although the southern extent to the distribution of grizzly bear lies at least 20 miles north of the analysis area, an increase in motorized and non-motorized backcountry use is not likely to result in bear-human interactions because the bears hibernate until mid- to late-April. General growth in the Jackson area may lead to increased traffic on highways and roads causing possible vehicular collisions with grizzly bears, although these types of encounters are rare. In summer, increased use of backcountry areas by people will heighten potential for interfacing with grizzly bears, possibly causing displacement or harm to individual grizzlies. Other forms of development will continue to occur throughout the region in grizzly bear habitat, such as oil and gas exploration.

Selection of either of the action alternatives may slightly increase human use of the BTNF. However, the analysis area already experiences a high level of human activity, making it primarily unsuitable for grizzly bears. Furthermore, the additional annual service days potentially contributed by JHMR in the analysis area would be a negligibly

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<sup>12</sup> The reader is referred to Appendix B, Summary of the 2004 JHMR MDP, for a summary of proposed projects.

small percentage of the overall human use. As a consequence, this would not lead to the loss of potential grizzly bear habitat.

As with the direct/indirect effects analysis, the cumulative effects of increased permitted backcountry use in the Rock Springs – Jensen Canyon area with full build-out of the 2004 MDP are likely to be negligible on grizzly bears or occupied habitat. The nearest designated grizzly habitat is in the vicinity of Yellowstone National Park, over 20 miles north of the analysis area. All other components of the 2004 MDP are within the ski area's existing SUP area and would not affect grizzly bears. Construction of a summer hiking trail in the Rock Springs - Green River area would obviously introduce increased human presence in an area that currently experiences little, if any, activity in the summer. Potential effects of this trail on grizzly bears will be analyzed in detail in the forthcoming NEPA analysis.

#### *Canada lynx*

General increased backcountry use of the BTNF may result in the disturbance or displacement of lynx. The repeated use or establishment of trails by people operating snowmobiles would likely result in snow compaction, which may provide avenues by which other predators, such as mountain lions, coyotes, or bobcats that otherwise would be excluded from areas with deep, soft snow, may compete with lynx for food. Other uses that could affect Canada lynx or its habitat include timber harvest, winter recreation, livestock grazing, hunting/trapping, and road construction.

Implementation of the projects approved in the 2000 MDP and identified in the 2004 MDP are expected to be discountable to Canada lynx due to the already extremely developed nature of the present ski area. Full build-out of the 2000 MDP would occur within the boundaries of the developed ski area. Likewise, all disturbance and construction activities proposed in the 2004 MDP are confined to JHMR's existing SUP boundary.

However, should the boundary modification be approved in the future, increases in use of the NFS lands in the Rock Springs - Green River area would be expected. While no formal trails are proposed to be constructed and no grooming would occur here, more intense and frequent use of this area would increase snow compaction throughout the season, which could result in increased competition for food between Lynx and other predators such as bobcats and coyotes. Thus, there is potential for cumulative effects to lynx, however the extent of these potential effects cannot be analyzed at this time and a thorough analysis of direct, indirect and cumulative effects will be analyzed in detail in the forthcoming NEPA review.

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#### **Jackson Hole Mountain Resort**

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## Region 4 Sensitive Species

### *Wildlife*

As noted in the direct/indirect analysis, indirect effects could be expected for wolverine as a result of increased pressure on the species from high human activity in the Rock Springs-Jensen Canyon area. While the change in backcountry skier use of the Rock Springs-Jensen Canyon area is anticipated to result in an imperceptible increase in relation to this EA, the boundary modification proposed in the 2004 SUP would inevitably increase human presence in the Rock Springs-Green River area, potentially leading to elevated effects to wolverine in a cumulative context.

Generalized increases in human presence within the analysis area due to current and future backcountry use, as well as potential in-bounds use should the boundary modification occur, could lead to cumulative effects to Northern goshawk, as well. However, at this time it is not possible to quantify increased use of the area and the forthcoming NEPA analysis on the 2004 MDP will fully analyze potential direct, indirect and cumulative effects to wolverine and Northern goshawk.

No cumulative effects were identified for the remaining Region 4 Sensitive wildlife species.

### *Plants*

No cumulative effects were identified in relation to Region 4 Sensitive plant species. No ground disturbance is proposed to accompany the boundary modification into Rock Springs - Jensen Canyon. However, the 2004 MDP does propose ground and vegetation disturbance within the existing SUP area. Site specific analysis of potential direct, indirect and cumulative impacts to vegetation, including R4 Sensitive plants, will be conducted in the ensuing NEPA analysis for the 2004 MDP.

## Management Indicator Species<sup>13</sup>

The area of the cumulative effects analysis is the analysis area and closely adjacent winter ranges. For most deer and elk winter ranges, there will be no opportunity for conflict with skiers. Snowmobiles have greater opportunity to disturb animals in most of these areas. On occasion, human-related disturbances to animals that elicit a flight response may result in a loss of critical energy reserves necessary to get the animal through the winter period. Vehicle collisions and mortalities are a recurring concern, and additional road construction could be a problem for some animals.

The main cumulative effect on deer, elk and moose comes during the hunting season in both Idaho and Wyoming. These species are not managed for minimal viable populations, but rather for huntable excess. Measurements of elk habitat effectiveness

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<sup>13</sup> Id.

and vulnerability are used to determine whether desirable populations are present. Currently, both states are meeting their population goals in these hunt units. The dramatic increase in motorized ATV hunting in recent years has also added to the overall cumulative effect of hunting on the populations, but is mainly a resource damage and hunter quality issue.

Activities within the project vicinity, including disruption of migration corridors that are expected to cumulatively be adverse to bighorn sheep are: snowmobiling, helicopter skiing, implementation of the 2004 MDP, and future highway work and traffic changes at Teton Pass. In other bighorn sheep areas, cumulative effects include domestic sheep grazing that suppresses bighorn sheep populations and reduces their suitable habitat, as well as hunting. Urban development and rural sprawl affects the route through which bighorn sheep move between meta-populations, of critical concern for the long-term persistence of herds. Future build-out of the 2004 MDP could directly and indirectly induce increased visitation to the Jackson Hole area, as well as increased development and sprawl.

In a cumulative context, each of the actions mentioned above could incrementally erode the viability of MIS and their habitat in the analysis area. However, the population and viability trend of MIS would not be measurably affected on the Forest.