Biological Assessment and Biological Evaluation

of

Threatened, Endangered, Candidate, Sensitive (TES)

and

Management Indicator (MIS) Species

for the

Calamity Summer Homes

Hazardous Fuels Reduction Project

Palisades Ranger District
Caribou-Targhee National Forest
Bonneville County, Idaho

April 2008

Table 1.
Summary of Determinations of the Proposed Action On Threatened, Endangered and Candidate Species

(Treatment of 273 acres of conifer-aspen forest)
USFWS Species Listed for the Palisades Ranger District, 2008.
(MIS and FS Sensitive Species Determinations - See Table 2 below)

Species	Federal Status	Alternative Effects
Canada Lynx (*Lynx canadensis)*	**Threatened; MIS**	**NE**
Yellow-Billed Cuckoo *(Coccyzus americanus)*	**Candidate**	**NE**
Ute Ladies'-Tresses *(Spiranthes diluvialis)*	**Threatened**	**NE No habitat See separate BABE Lehman, R. 2008**

NE = No Effect; NLAA = May affect, but not likely to adversely affect; MALAA = May affect, but likely to adversely affect; BE = Beneficial effect; NLJCE = Not likely to jeopardize the continued existence. Refer to tables below for determinations for Forest Service Sensitive Species.

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Introduction

Documentation: This document is a Biological Assessment (BA) of federally listed threatened and endangered (TE) species and a Biological Evaluation (BE) for Forest Service listed Sensitive (S) and Management Indicator Species (MIS). It is written for the Proposed Action Alternative as described below and in the associated NEPA document for the Calamity Summer Home Hazardous Fuels Reduction Project, Palisades Ranger District, Caribou-Targhee National Forest (CTNF). Refer to separate biological documents for signed determinations by the Forest Fish Biologist (Capurso, J. 2008), and Forest Botanist (Lehman, R., 2008). There will be no further analysis of Ute Ladies Tresses or Yellowstone Cutthroat in this document.

FWS Species List: The most recent federal species list update (2008-SL-0268) issued to the Forest Service (FS) by the US Fish and Wildlife Service (FWS) is dated April 14, 2008. Refer below for list of TES and MIS species.

Streamlining: The project was reviewed by FS and FWS streamline team members on September 19, 2005. Preliminary determinations from this review for lynx, Ute ladies tresses and Yellow-billed Cuckoo were the same as shown in the Determination Tables here.

Relationship to Other Plans: Canada Lynx management is guided by the Northern Rockies Lynx Management Direction (NRLA; USDA, FS 2007) which amended the 1997 Revised Targhee Forest Plan (USDA 1997). There are also documents guiding the management of Ute Ladies Tresses (USDI, FWS 2002) and the Yellow-billed cuckoo (USDI, FWS 2001). See reference section for the full citation of these documents. No critical habitat has been currently designated for any federally listed species on the Caribou-Targhee National Forest, but designation for lynx is now in process by U.S. Fish and Wildlife Service.

A summary of effects on all species listed as threatened, endangered, sensitive or MIS is shown below. All species either occur or not occur in the project area as indicated below.

PROJECT – Location, Purpose, Need and Proposed Action

This Environmental Assessment associated with this Biological Assessment and Evaluation has detailed information on issues and concerns for this proposal (USDA 2008; EA) and additional documentation and maps. This and other information can be found in the project planning record located at the Palisades Ranger District Office in Idaho Falls, Idaho.

Location: The Caribou-Targhee National Forest is proposing several vegetation management activities in a 273 acre area in and near the Calamity Special Use Summer Homes, located within Bonneville County. The proposal is approximately 0.25 mile west of the Palisades Reservoir and dam. The project is entirely within identified wildland - urban interface as authorized under the Healthy Forest Restoration Act. The legal description is T1S R45E Sections 7, 17 and 18.

Purpose and Need: Due to decades of fire exclusion and a number of other factors, forest fuel loadings have accumulated and in many areas vegetation has become unnaturally dense. Where these conditions are found in proximity to Calamity Summer Homes (the "Wildland Urban Interface"), they represent a wildfire hazard to public safety and property. The project area occurs within a "Wildland Urban Interface" area as defined and displayed in the Teton Basin & Palisades Ranger Districts' Wildland Urban Interface Map (2007). Public and firefighter safety, homes and improvements, and other values can be negatively affected by severe wildfire that burns through these unnaturally dense sites when they are in proximity to the Wildland Urban Interface (WUI).

The purpose is to implement the National Fire Plan, specifically goal #2 "Reduce Hazardous Fuels" (A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment, August 2001). The project is also designed to meet and implement purpose # 1 of the Healthy Forests Restoration Act of 2003, "(1) to reduce fire risk to communities, municipal water supplies, and other at risk Federal land through a collaborative process of planning, prioritizing, and implementing hazardous fuel reduction projects." These two companion purposes have been combined into a project specific purpose as follows:

1) Reduce wildfire hazard to Calamity Summer Homes by completing hazardous fuels reduction on surrounding federal lands.

2) Reduce tree crown density, increase canopy base heights, and increase crown spacing to reduce the risk of crown fires.

3) Reduce ladder fuels that provide vertical and horizontal fuel continuity thereby reducing crown fire risk.

4) Reduce surface fuel load to reduce surface fire intensity.

5) Reduce overall horizontal and vertical fuel bed continuity within the WUI to reduce the fire hazard adjacent to the summer homes, while increasing the likelihood of firefighter success and safety.

6) Create stand conditions and manage fuel loadings in strategic areas that can be maintained through the use of low intensity prescribed fire or by the summer home permittees on their lots.

Proposed Action: This section provides a short summary of the activities proposed for the Calamity Hazardous Fuels Reduction Project. A more detailed description of the 273 acre proposed action is presented in the Environmental Assessment (EA), Alternative 2. The proposed action will reduce fuels to protect recreational residences and provide for public and firefighter safety. Features of the Proposed Action (Alternative 2; Environmental Assessment; USDA 2008) include:

Proposed Action – Activities		
Category	**Unit of Measure**	**Amount**
Commercial thin	acres	92
Mastication or Thin & Pile	acres	no more than 170
Thin & Pile, no Mastication	acres	43
Prescribed fire		
Broadcast Burn	acres	133
Pile Burn	acres	43 - 215
Biomass Removal in lieu of Pile Burn	acres	43 - 215
Road improvement	miles	0.35
Road construction	miles	0.2

Note: Acres overlap. A single acre might receive as many as 3 treatments.

- **Commercial thinning** of mature and mixed aged stands to reduce standing ladder fuels and create greater crown separation (approximately 92 acres). Leave a forested appearance. Do not create openings (greater than a 50 ft crown spacing) by removing all trees unless they are dead or have bark beetles. When choosing between merchantable healthy/good form lodgepole pine, leave the small diameter tree (more beetle resistant). Do not cut dead trees that have visible nests or nest cavities. Do not cut unique trees that would provide good nesting sites (i.e. wide forks, broken tops with heavy branching). Do not cut large diameter Douglas-fir (DF) (>24") unless there is a compelling reason to do so. Vary the spacing of leave trees to take advantage of fire resistance. Leave clumps of 4-5 conifers periodically (especially along the unit boundaries adjacent to open roads or near summer homes) to limit sight distances.

- **Pre-commercial thinning or mastication** (with skid steer masticator equipment) in stands of smaller diameter vegetation will reduce standing ladder fuels and create greater crown separation (approximately 215 acres).

- **Prescribed fire** on those areas to be commercially and/or pre-commercially thinned (approximately 273 acres). This would be a mix of hand pile, machine pile burns and broadcast burning, depending upon site conditions. These treatments are designed to reduce the level of ground fuels following the mechanical thinning and ladder fuel removal.

- **Road construction** of approximately 0.2 miles of road will be added to Forest Service Road 061A to improve fire protection access to the summer home area. At the present time, this portion of the summer home area is limited to one route in and out. Firefighters, engines and equipment are unable to provide adequate protection in the event of a wildfire without alternate escape routes. Additionally, there will be 0.35 miles of road improvement.

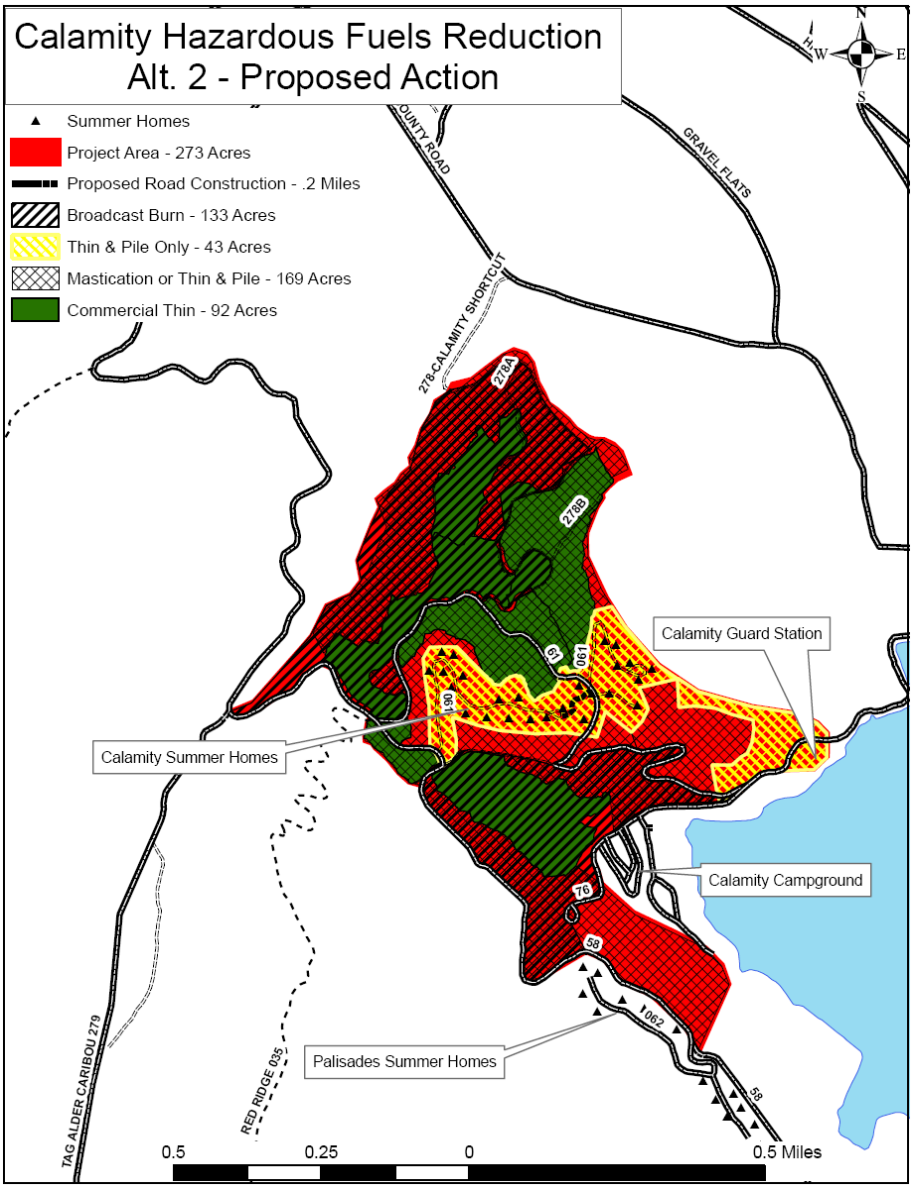


Figure 1. Calamity Summer Home Special Use Area Hazardous Fuels Reduction Project including all vegetation treatments in Alternative 2 (USDA, CTNF GIS database; map by Kristy Swartz).

Habitat At This Location: The summer home area is located in mixed conifer habitat of lodgepole pine, Douglas-fir, subalpine fir and aspen forest with mountain brush. It has an eastern to southern aspect facing Palisades Reservoir. The home sites were planned in the mid to late 1950s as Palisades Dam was being built (USDA 2008 and prior; 2700 files). Figure 2 shows habitat in 1969 had less conifer and more aspen forest cover type. Currently high fuel loads in the forested portion persist across the proposed area. Mountain pine and Douglas-fir beetles are active resulting in numerous dead and dying trees which benefit woodpeckers and other snag/cavity nesters, but add to the already high fuel load.

Figure 2. Calamity Special Use Summer Home Area in 1969 (photo by Rollo Brunson, District Ranger). Note the relatively greater amount of aspen present in 1969 compared to today.

The smaller amount of non-forested habitat includes grass, forbs, sagebrush, bitterbrush, snowberry, various mountain brush, and few riparian shrubs. There is no riparian habitat within the project, but Coyote Hollow and Bear Wallow Canyon are adjacent. A more complete understanding of habitat can be gained by reviewing the vegetation section of the EA document (USDA 2008). There is no Forest Service designated big game winter range for deer or elk here, but moose are found in the project area year-round.

Figure 3 (left). The cabins at the Calamity Special Use Summer Home sites are in a hazardous Wildland Fire Urban Interface (WUI) situation with aging conifer, snags and down woody material. Large old relict Douglas-fir trees scattered in the area are potential bald eagle nesting habitat along Palisades Reservoir (photo Bud Alford 2003).
Figure 4 (right). Calamity Campground is immediately downhill and southeast of the summer home special use area on the shore of Palisades Reservoir. It was logged in the early 1990s to reduce dying lodgepole pine trees which were a hazard to campers. It is returning to a more mixed conifer early seral forest type in and around camping units (photo Bud Alford 2003).

Palisades Reservoir is on the east side of the project area. This habitat interfaces with a large open lake and associated mudflats brings many other species not normally associated with the conifer forest type. Bald eagles are common on the reservoir and a territory from Van Point is associated with the shoreline near Calamity Campground (USDA 2003; Bear C. Watershed Analysis). Refer to the map below from USDA (2003) for details of special use project areas in relation to current and historical bald eagle nesting habitat and big game winter range.

In the project most of the forest is in one of four habitat types: *Abies lasiocarpa/ Symphoricarpos albus* (subalpine fir/common snowberry), *Abies lasiocarpa/ Physocarpus malvaceus* (subalpine fir/ninebark), *Abies lasiocarpa/ Spiraea betulifolia* (subalpine fir/white spirea) and *Abies lasiocarpa/ Acer glabrum* (subalpine fir/mountain maple). The types fall into fire group six (Bradley et al. 1992). Aspen is found where it has been suppressed by conifer succession, and the aspen ecosystem here has been reduced in size during the past century due to a lack of natural wildfire.

Habitat Modification: Refer above to the Proposed Action Alternative 2 and to EA chapter 2 (USDA 2008). This project is intended to leave the area in a condition class I (low intensity fires) rather than the current condition class II (moderate to high intensity fires).

Mitigation and Monitoring: The main mitigation related to wildlife for this project is direction (e.g. standards and guides, prescriptions, etc.) in the current Revised Targhee Forest Land Management Plan (USDA, 1997). Additional mitigation for migratory birds and other species is to protect nesting/birthing activity during the spring season from March 16 through July 10 each year from mechanical treatments which would be expected to harm or kill animals while in the nest or den.

Monitoring will continue to be done by the Forest Service to determine if objective's of the project are met. Monitoring of FS sensitive owls and furbearers will continue as part of the Targhee Forest Plan Priority 1 monitoring program. Other incidental monitoring will occur as needed or desired for other TES or MIS species. Currently, there are Forest Plan monitoring transects in and near the project area for sensitive owls and furbearers. Owl transects have been run from 2000 to 2007, and furbearer transect data is available from 1999 to 2007 (USDA 2008; forest data).

Desired Future Condition: The desired condition is open stand conditions and reduced surface fuels that will reduce the risk of large-scale fires affecting the WUI surrounding Calamity Summer Homes. Wildfire incidents that do occur would more likely be less intense surface fires that would be more easily managed and safer for firefighting personnel. The desired condition would entail species composition that favored fire tolerant species like mature Douglas-fir and aspen. Brush heights within the project area are currently very high, averaging 12 feet throughout the project area. The target average brush height for the entire project area would be 4-6 feet, with heights no greater than 2-4 feet within 100 feet of the structures. The project area would have a reduction in canopy bulk density, an increase in canopy base height, and a reduction in ladder/surface fuels.

This trend toward historic conditions would decrease the probability of uncharacteristic stand replacing wildfires that are the major risk to the environment and adjacent communities. The structure would include more vigorous aspen clones and more open forest with large relict Douglas-fir trees. Basal area of trees between 50 to 90 sq. ft. per acre with less than 150 trees/ acre is desired.

Consistency with 1997 Revised Targhee Forest Land Management Plan Direction (RTFP):
The project is located primarily in prescriptions 5.1.3b (No clear-cutting, urban interface fuels management), and prescription 4.2 (special use permit recreation sites). This project is in accordance with the direction, prescriptions, standards and guides of the Revised Targhee Forest Plan (RTFP; USDA FS, 1997) and Caribou Subsection direction. It is also consistent with the Caribou-Targhee Travel Plan (USDA FS 2001). Selected direction (RTFP; USDA FS, 1997) related to wildlife and the project is shown below.

5.1.3b Prescription – Timber Management (No clearcutting, Urban Interface)
"The purpose of this prescription is to allow timber management with no clearcutting, and to allow fuels management within and adjacent to urban areas of the forest." Goal: Manage vegetation and fuels to minimize fire risk for urban facilities within the interface.(RTFP, III-137). Most of the project is in this prescription.

Prescription 5.1.3b Standards and Guidelines	
Standard	No clear-cutting is allowed in this prescription area.
Guideline	Wildfires will normally be suppressed using control strategies during the fire season. Pre- and Post-fire season strategies may include containment, confinement, or control.
Guideline	Prescribed fire may be used to reduce fuel loading; obtain natural regeneration; improve livestock forage conditions; for wildlife habitat improvement; and for other purposes that meet the needs of this prescription.
Guideline	Maintain snag habitat at 40 percent of the biological potential for woodpeckers.

4.2 Prescription – Special Use Permit Recreation Sites
"This prescription applies to ski areas, resorts, summer home sites and organization camps that are allowed under a special use permit." (RTFP III-128). The project has about 15 percent of the acres in this prescription. Goals: Protect and enhance a natural appearing environment to the extent possible while providing for private and group recreation opportunities. Strive to incorporate opportunities for watchable wildlife.

Prescription 4.2 Standards and Guidelines	
Standard	Control insects and disease consistent with visual objectives.
Standard	All wildfires that threaten these areas will be aggressively suppressed.
Standard	Developed recreation sites are removed from the suitable timber base. These lands do not contribute to the ASQ.
Guideline	Prescribed fire generally will not apply here. It may be used, however, to achieve resource objectives.
Guideline	Natural fuels will be reduced or otherwise treated so the potential fireline

	intensities will not exceed 100 BTU per second per foot on 90 percent of the days during the regular fire season.
Guideline	Projects that allow selected wildlife species to be more visible to recreation users may be allowed when compatible with special use permit recreation sites.
Guideline	All vegetation treatment options are available, but only as required to meet specific recreation objectives.
Guideline	Stipulate removal of unsafe and/or dead trees in the special use permit. Native species may be planted to provide cover when naturally-occuring vegetation is inadequate.

4.1 Prescription – Developed Recreation Sites

Approximately 5 percent of the project occurs in this prescription. "This prescription applies to existing campgrounds, picnic areas, boating sites/ramps, and other facilities such as trailheads, snow parks, scenic and wildlife viewing areas, fishing access points, and inventoried National Forest recreation sites…The area around the campground will generally exhibit a variety of visual conditions, depending on past insect, disease, and fire activity and management's response to those disturbances." (RTFP III-125)

Goals: Promote wildlife viewing opportunities when compatible with developed recreation sites. Manage aspen for its value in providing seasonal color.

Prescription 4.1 Standards and Guidelines	
Standard	Control insects and disease consistent with recreational objectives.
Standard	All wildfires that threaten these areas will be aggressively suppressed.
Guideline	Prescribed fire generally will not apply here. It may be used, however, to obtain natural regeneration in preference to soil-disturbing activities.
Guideline	Natural fuels will be reduced or otherwise treated so the potential fireline intensities will not exceed 100 BTU per second per foot on 90 percent of the days during the regular fire season.
Guideline	VQO – Manage for a full range from retention to modification. Facilities are often evident but harmonize and blend with the natural setting.

8.1 Prescription – Concentrated Development Areas and
6.1b Range Management

Less than 10 acres of the project area occurs within these two prescriptions.

Prescription 8.1 Standards and Guidelines	
Standard	All wildfire will be aggressively suppressed.
Standard	These lands are removed from the suitable timber base. They do not contribute to the ASQ.
Guideline	Attempt to control epidemics at small outbreak sizes. Salvage of dead and dying trees of commericial value is possible.
Guideline	VQO – The visual quality objective is generally Partial Retention to Maximum Modification.

Prescription 6.1b Standards and Guidelines	
Standard	These areas are removed from the suitable timber base. They are not part

	of the ASQ.
Guideline	Prescribed fire is allowed to achieve desired forage or ecological condition.
Guideline	VQO – Retention to Modification.
Guideline	Timber may be harvested to improve wildlife habitat and to provide miscellaneous products (such as posts and poles, firewood, etc.) as long as the harvest does not trigger the need for reforestation.

RTFP Caribou Subsection Direction: The Calamity Hazardous Fuels project area lies entirely within Caribou Subsection (M331Di) discussed on pages III-63 through III-164 in the Revised Forest Plan. Selected direction related to wildlife and this project.

Caribou Subsection Standards & Guidelines	
Desired Future Condition	Recreation use around Palisades Reservoir and South Fork of the Snake River will continue, but be balanced with the needs of wildlife and other resources.
Desired Future Condition	On lands suitable for timber harvest silvicultural management will reduce the risks of insect and disease attach while improving big game winter range conditions. Prescribed fire and some vegetation manipulation will be used on the remainder of the subsection where access permits to help restore and maintain a healthy ecosystem.
Goal	Develop a fire management plan which allows for natural fire and which considers summer home development and risk around the Palisades Reservoir. (Note this Plan was completed and approved in 2004)
Guideline	Within one mile of the Palisades Reservoir and the South Fork of the Snake River, emphasis will be given to managing old growth Douglas-fir, spruce and cottonwood habitats for wildlife species.

Caribou-Targhee Travel Map Direction: FS road 058 (Elk Jensen-Bear Creek Road), and FS 076 (Snake River-Calamity Road) are open to all motorized use in summer and is a designated snowmobile route in winter. They are open to over-snow motorized vehicles unless plowed in winter. The area is open to cross-country snowmobile travel, but not summer motorized cross-country travel. The roads are within and adjacent to the proposed project along with other summer home and campground service roads.

Bear Creek 2003 Watershed Analysis Direction: This project area was analyzed at the landscape level with the Bear Creek Watershed Analysis document (USDA 2003). The analysis provided past, present and future data on the watershed and provided recommendations for future action in anticipation of a fuels reduction project proposal in the Calamity Summer Homes Special Use Area. The list below is not comprehensive, but provides a key selection for the project.

Recommendations – Bear Creek WSA Document

- Although very limited, conifer removal should be encouraged where accessible and where resource damage is minimal to include small harvest sales to improve forest health.
- Use of fire treatment for aspen regeneration should be encouraged.

- Encourage treatment activities that will take stands back to early to mid succession stages.
- Recommend that a Wildland Fire Management Plan be developed for the analysis area (Note: this plan was approved in 2004).
- Strive to achieve properly functioning conditions for ecological types in the watershed by applying vegetation treatments that are ecologically sound.
- Prevent new invasive species from becoming established in the watershed.
- Use prescribed fire in specific areas of heavy fuel loading to reduce the chance of catastrophic or stand-replacement fire.
- Reduce the ladder fuels through vegetation management projects within the analysis area where fuel loads are approaching 20 tons/acre in the timber types.
- Develop an aggressive aspen regeneration program in order to restore aspen habitat throughout the watershed.

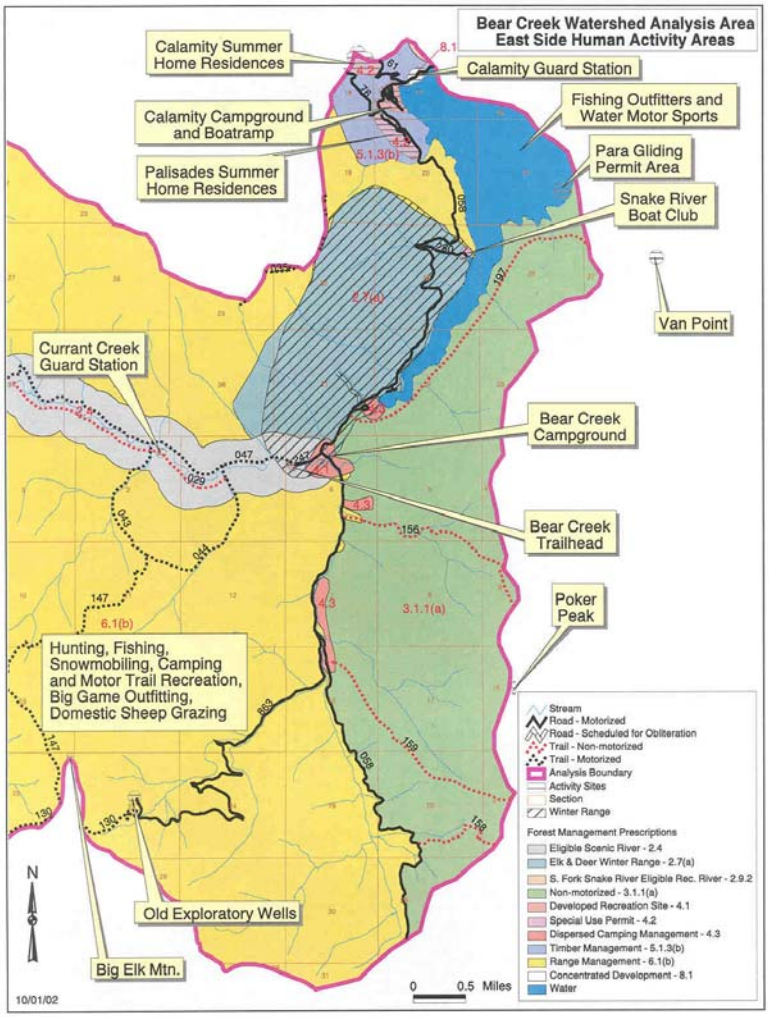


Figure 5. Human Activity Areas on the east side of the Bear Creek Watershed. Palisades Ranger District, Caribou – Targhee National Forest, 2002. This map shows some of the cumulative activities occurring along the east end of the watershed. This includes Palisades Reservoir and hydro-electric dam (which removed forests prior to 1957), special use summer home urban interface, reservoir recreation, backcountry recreation, previous oil wells, roads and trails, Calamity Campground/ Boat Ramp, special use boat club area, outfitting activities, motorized and non-motorized trail activities and domestic sheep grazing both past and current. This map also shows mule deer and elk winter range and the Revised Targhee Forest Plan (RTFP, 1997) Prescription areas. More details on prescriptions can be found in the Revised Plan. Source of map is Bear Creek Watershed Analysis document (USDA 2003; J. Warrick).

Excerpt quote from the 2003 Bear Creek Watershed Analysis Document related to this project: The summer home urban interface area in Calamity and Palisades summer home sites are currently being managed to reduce conifer and aging trees and other fire prone material. This is being done under the special use permits which have been issued to individuals to build cabins on National Forest (NF) lands here. These permits began to be issued in the mid 1950s (Pers. comm., J. Kopp 2003). Homes here are in potential bald eagle habitat and territories may have occurred here when Palisades Reservoir was flooded in the late 1950s, but no record is known of it happening. Nesting osprey are often found in this north facing slope mixed conifer area. Currently, this land is managed for prescriptions 8.1 (campground), 4.2 (summer homes) and 5.1.3b (urban interface timber management) as described in the RTFP (USDA 1997). Refer the Human Uses map in the Appendix section (see Fig. 5). Currently, no timber sales are planned for reducing the fire hazard, but local management of fuels near homes is occurring. There are also some power lines in the urban interface area. These may have both a positive and negative effect on raptors. Subsection standards and guides for the Caribou Subsection call for emphasizing management of late seral and old growth Douglas-fir, cottonwood and spruce trees within 1 mile of Palisades Reservoir for eagles, raptors and other wildlife (USDA 2003; BCWA).

Threatened, Endangered and Candidate Species – Biological Assessment

Canada Lynx

Affected Environment

LAU and Habitat Status: Currently, there are no Lynx Analysis Units (LAUs) overlapping the proposed 273 acre project area. The project area is within the Caribou Subsection and has been mapped as "linkage" habitat (RTFP 1997 and USDA 2005; CTNF lynx maps) and is mostly secondary forest habitat for lynx along with open brush/ shrub-steppe. Primary forested habitat is present in the Caribou Subsection linkage zone, but is limited to smaller acreages (USDA 2005; LAU map; Fig. 6). The closest adjacent LAUs to the project area are in the Big Holes Subsection about 5 miles to the east (see Fig. 6, LAU map). The project area is not considered suitable for lynx breeding and denning, but traveling lynx may occur.

Forest Data: There are no confirmed lynx reports for the project area. One possible was reported on a deck of a summer home in the spring of 2000 and a video was taken. Alford (2000) viewed the video and determined it to be a light colored bobcat which looked very much like a lynx. The tail marking was that of a bobcat. Bobcat tracks had also been picked up on the Forest Plan Calamity snow tracking transect about the same time by Alford and Kerner (USDA 2008 and prior; FS data). Lynx have been reported in Swan Valley both northwest (11 miles) and north (17 miles) from the project area (Lewis and Wenger 1998; BLM/FS Tech. Bull. 98-11; Whitfield and Coburn 1999; confirmed). A sighting of possible lynx tracks was made in the Big Hole Mountains in October 2007 (Dave Ovard, personal communication). In 2004 tracks were reported in the Snake River Canyon by the Wildlife Conservation Society (WCS) wolverine team (21 miles; Berg and Gathercole 2004) and later confirmed lynx (DNA) in the Gros Ventre and Wyoming Ranges (Berg 2005). Currently, no active dens are known in the project area or on the Palisades Ranger District.

Forest Data and Hair Transects: In January 1999 a confirmed lynx was sighted and tracks found in the Big Hole Mountains adjacent to the area where the Big Holes lynx hair grid (USDA FS, 2000)

was to be placed (about 20 miles north). Beginning in 2001, the CTNF established a lynx hair survey grid in the Big Hole Mountains following the National Lynx Survey Protocol. This lynx hair survey grid was run for three years (2001, 2002 and 2003). No lynx hair were documented on the Big Hole grid in 2001, 2002 or 2003, however a single hair was found with lynx DNA on the Westslope of the Tetons grid in 2003 (USDA, FS 2008 and prior; CTNF database). Of the 5 lynx hair snare grids on the CTNF (1999-2003) only the one hair hit in the Tetons has been collected. Note that in 2002 no cougar or bobcat hair was collected on either the Big Holes or Teton hair grids, but black bear hair was the most common (Orme, M. 2003; pers. comm.).

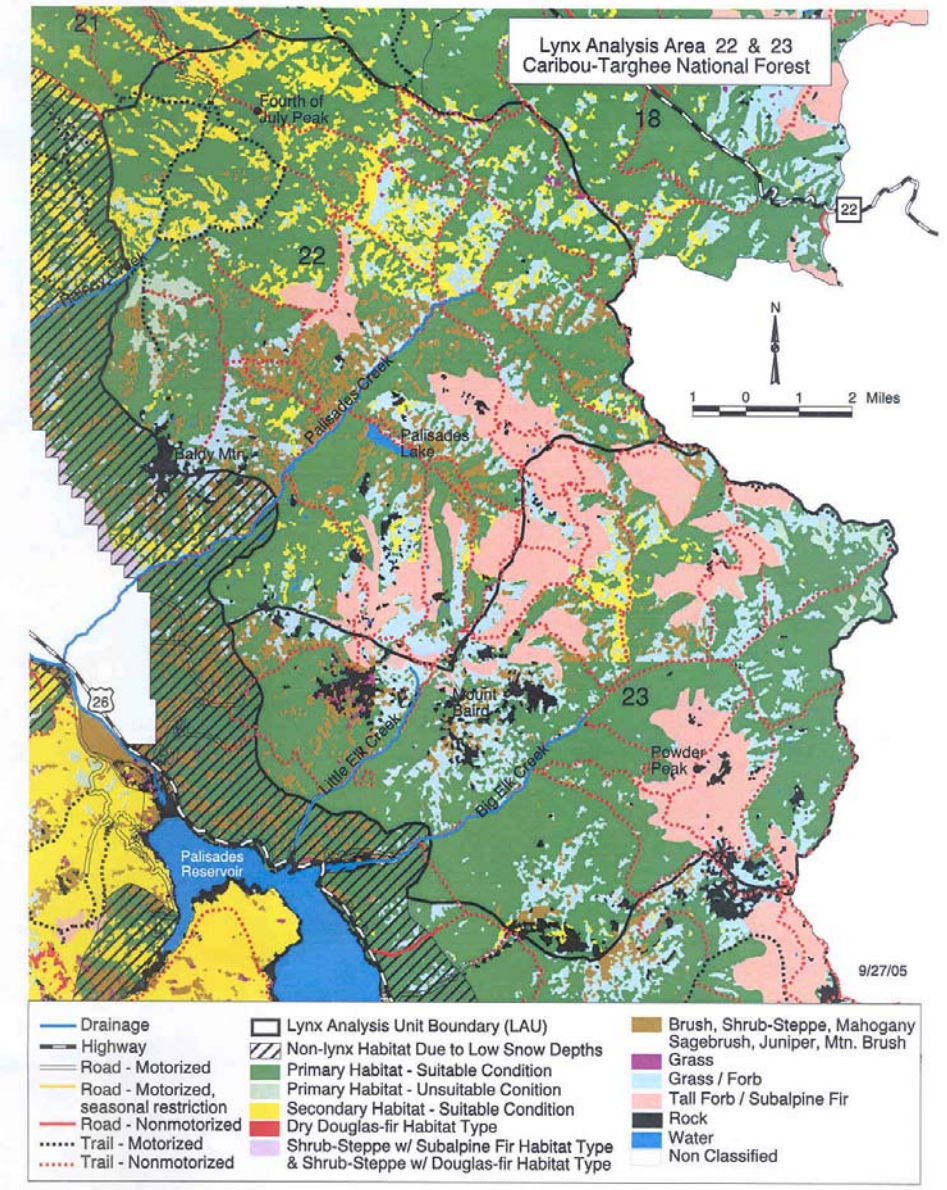


Fig. 6. Lynx Habitat map showing secondary "linkage" habitat in suitable condition in the southwest part of the map in the area of the proposed Calamity Project. The closest Lynx Analysis Units (LAUs) 22 and 23 in the Palisades Backcountry of the Big Hole Mountains Subsection are to the east of Palisades Reservoir. January 2006. GIS data from Caribou-Targhee National Forest corporate database (USDA 2008; map by J. Warrick).

Forest Furbearer Tracking Transects: Of the 5 Palisades furbearer tracking transects (1999-2008) for monitoring per Revised Targhee Forest Plan (2 in the Big Holes subsection and 3 in the Caribou subsection) no lynx tracks have been detected (USDA, FS 2008; tracking data). About 400 miles of

snowmobile tracking has been completed on the 5 Palisades furbearer transects since they began over the same 47 miles of transect.

Regional and Historical: Prior to the 1960's a Caribou Forest wildlife report indicated there were more than a few lynx in the north end of the Caribou NF (Webster 1974), but no specifics were given. Oliver Peterson lived in Montpelier and evidence shows him to have trapped more lynx than any person in Idaho yet he said lynx were never numerous in his area (Lewis and Wenger 1998). He began trapping in 1945 through the 1960s. In about 1948 he trapped 5 lynx south of the Grays Lake area in a beaver pond complex with a mosaic of aspen, conifer and mountain brush, similar to the project habitat area. He said most all his lynx came from this vegetation type.

Lewis and Wenger (1998) reported that half of the documented lynx in Idaho came from the Salmon, Snake and Bear River drainages in areas not typically thought to be good lynx habitat for their primary prey, snowshoe hare. They suggested that the historical lynx in this area used a larger variety of prey (especially beaver and whitetail jackrabbits) and not just snowshoe hare. Beaver use was documented by the local trappers. Berg et al. (2005; lynx researcher) indicated snowshoe hare prey show up in lynx diets as low as 37 percent in some studies. Many experienced trappers that Lewis and Wenger (1998) interviewed thought increasing snowmobile and ATV use contributed to the decline of lynx in the east Idaho area where access was previously only by snowshoes or skis. They also indicated that increased competition or depredation from coyotes and lion caused the lynx population to decline in east Idaho (Lewis and Wenger 1998).

Connectivity for lynx in the western mountains is an important habitat factor for the species (Schwartz et al. 2002). Radiotelemetry and DNA studies show lynx are a wide ranging species (Slough and Mowat 1996, Mowat, et al. 2000, Schwartz et al. 2002) linked to boreal forests and snowshoe hare prey (Koehler and Aubry 1994) and have low population densities (McKelvey et al. 2000). Individuals can regularly travel more than 62 miles and can go up to 680 miles (Slough and Mowat 1996, Mowat, et al. 2000). During the winters of 2004-2006 lynx tracks, hair and scat were confirmed with DNA analysis on the adjacent Bridger-Teton National Forest (BTNF) about 46 miles from the project area. This (2005 study) is the first confirmation of lynx in the south Yellowstone Ecosystem region since the breeding pair in the Wyoming Range in 1997–2001 (Berg 2005).

In the same BTNF study area (within 31+ miles of the Calamity project) Berg et al. (2005) used snowmobiles to run 4500 miles or more of tracking transects during the winter of 2004-2005 and found 25 or more separate sets of lynx tracks (Smith 2005) from north of Jackson Hole southward into the Wyoming Range. Hair samples and urine were collected in the tracks/ beds last winter and analyzed by the USDA, FS Lab in Missoula, Mt. Lynx DNA was confirmed in 2004-2005 from about 12 detections and 4 were from the Hoback Rim or Wyoming Range area which is about 31+ miles from this project (Berg 2005). Hair pad snares were placed on trees with National Lynx Survey Protocol stinky scent (beaver based) in the areas with lynx tracks. Remote camera stations were also placed in areas where lynx tracks were located. No lynx hair were collected from the scented pads near the lynx tracks. Also, camera stations did not collect any lynx photos. There was no evidence from this study that these identified lynx had traveled over to either the Targhee or Caribou National Forests and no LAUs overlap with the proposed 273 acre project area.

Colorado Lynx: In recent years many lynx which were captured in Canada and taken to the Colorado transplant area for release have been making their way back to Canada. According maps from the post-release monitoring report of reintroduced animals in southwestern Colorado (Shenk

2007) some of these lynx have been coming through the Caribou-Targhee National Forest including the Palisades Ranger District. The Colorado experiment with dispersing lynx appears to be indicating the suitability of capable habitat in forests north of Colorado. Berg (2008; pers. comm.) doing snowshoe habitat studies on the adjacent Bridger-Teton National Forest indicates an correlation with dispersing Colorado lynx with suitable snowshoe habitat plots about 30-40 miles east of the Calamity project.

Canada Lynx Management Direction Documents

The lynx was federally listed as threatened under ESA in March 2000 after the Revised Targhee Forest Plan (USDA 1997) was issued, therefore RTFP lacked specific direction. Many other standards and guides however in the RTFP related to creating a diversity of habitats and maintaining down dead woody material (RTFP III-15 has benefited lynx habitat). Direction in the Lynx Conservation Assessment Strategy (LCAS) (Ruediger, et al. 2000) has served to guide management for lynx since listing occurred. Most recently (March 2005) the 2000 LAU map for the CTNF and local BLM District was revised in consultation with the FWS to provide guidance (USDA 2005; LAU map).

Northern Rockies Lynx Management Direction: Currently the Northern Rockies Lynx Amendment (NRLA) to the 18 forests with lynx habitat (including CTNF) was approved and implemented in the summer of 2007 (NRLA; USDA 2007). This amended the Revised Targhee Forest Plan (RTFP; USDA 1997) to solve the lack of analysis in that document. This NRLA includes analysis on Forests where lynx historically occurred in Idaho, Montana, Wyoming and Utah to aid in the recovery of Canada lynx in the Rocky Mountains. Attachment 1 of the NRLA Record of Decision (ROD) summarizes objectives, standards and guidelines in both LAUs and Linkage habitats (USDA 2007; NRLA ROD Attachment 1, pages 1-15). Below is selected direction which may apply to the Calamity Fuels Reduction Project. There may also be other direction not listed here which will also apply (USDA 2007; NRLA Direction, FEIS).

ALL MANAGEMENT PRACTICES AND ACTIVITIES (ALL): The following objectives, standards, and guidelines apply to all management projects in lynx …. linkage areas subject to valid existing rights. They do no apply to wildfire suppression, or to Wildland Fire Use.

> Objective ALL O1: Maintain or restore lynx habitat connectivity in and between LAUs, and in Linkage areas.
>
> Standard ALL S1: New or expanded permanent development and vegetation management projects must maintain habitat connectivity in a …. Linkage area.
>
> Connectivity Defined: Habitat connectivity consists of an adequate amount of vegetation cover arranged in a way that allows lynx to move around. Narrow forested mountain ridges or shrub-steppe plateaus may serve as a link between more extensive areas of lynx habitat; wooded riparian areas may provide travel cover across open valley floors (LCAS).

LINKAGE AREAS (LINK): The following objective, standard, and guidelines apply to all projects within linkage areas in occupied habitat, subject to valid existing rights.

Objective LINK O1
In areas of intermingled land ownership, work with landowners to pursue conservation easements, habitat conservation plans, land exchanges, or other solutions to reduce the potential of adverse impacts on lynx and lynx habitat.

Standard LINK S1
When highway or forest highway construction or reconstruction is proposed in linkage areas, identify potential highway crossings.

Guideline LINK G1
NFS lands should be retained in public ownership.

Guideline LINK G2
Livestock grazing in shrub-steppe habitats should be managed to contribute to maintaining or achieving a preponderance of mid- or late-seral stages, similar to conditions that would have occurred under historic disturbance regimes.

Environmental Consequences – Canada Lynx

Effects of the Proposed Action (Treat 273 Acres)

Direct, Indirect and Cumulative Effects

There will be no negative effect on lynx productivity due to treating 273 acres in the Calamity Summer Home Area. No dens or reproducing lynx are currently known on the Palisades Ranger District or Caribou-Targhee National Forest, and none are expected. Traveling or roaming lynx moving through the District are expected however from time to time. As they do they will benefit from the expected increase in lynx prey in the area even though it is not in an LAU.

When cover patches are treated there will be a short term lack of cover, but forage for lynx prey will improve in the treated units in the next 2-4 decades as has been observed on other harvest areas on the Palisades District. For example harvest units in the Fish Creek Moody area of the District logged in 1962 (USDA 2008; timber data) produce an estimated 5 to 27 hare (0.80-16.9/hectare) or rabbit tracks per mile (over the whole 9.9 mile transect). This is compared to other furbearer transects on the District in un-harvested or lightly harvested areas (USDA 2008; furbearer transect data). Hare or rabbit tracks on all other transects (4 of them) have been measured at 0 to 3.8 tracks per mile (0.0-2.38/hectare) during the 5 year period tabulated. A 0.8 mile section on the Fish Creek transect on Windy Ridge has a high density of brush and regenerating conifer/ aspen habitat in the old 1962 clearcut area. Live conifer needles are also at snow level during the winter. Tracking data on Windy Ridge indicate up to a high of 89 hare and rabbit tracks per mile (55.8/hectare), and sub-sections of this stretch can have even more than that. Based on data collected here on the Palisades RD (USDA 2008; furbearer transects) it is expected that treating 273 acres of conifer/ aspen forest will actually improve the habitat for lynx's favored prey after a period of decades, and that increase will be meaningful for predators over the next 30-40 years.

The proposed vegetation project to treat 273 acres will maintain "habitat connectivity" (no clearcuts) and vegetative cover will be arranged in a way that allows lynx to move through and around the area as required by "Standard ALL S1" and "Objective ALL O1" in NRLA Forest Plan

Amendment (USDA 2007). Little or no part of the project or special use permit area is used by domestic sheep for grazing, therefore, "Guideline LINK G2" related to livestock grazing will be met. A preponderance of mid- or late-seral stages will be maintained as would have occurred under historic disturbance regimes (e.g. wildfire). No negative direct, indirect or cumulative effect on lynx or lynx habitat is expected by this project.

Selected measures, guidelines and standards from the Canada Lynx Conservation Assessment and Strategy, 2nd Edition, August 2000 (Ruediger, et al. 2000) that relate to treating 273 acres in the Calamity Project area.

Conservation Measures, Questions, Standards and Guidelines	Explanation and Discussion
Conservation measures will generally apply only to lynx habitat on federal lands within LAUs.	The project area does not qualify as a lynx analysis unit (LAU). See USDA 2005; LAU map.
Within each LAU, map lynx habitat. Identify potential denning habitat and foraging habitat (primarily snowshoe hare habitat, but also habitat for important alternate prey such as red squirrels), and topographic features that may be important for lynx movement (major ridge systems, prominent saddles, and riparian corridors). Also identify non-forest vegetation (meadows, shrub-grassland communities, etc.) adjacent to and intermixed with forested lynx habitat that may provide habitat for alternate lynx prey species.	Project is not within a LAU, therefore, this measure does not apply.
Maintain habitat connectivity within and between LAUs.	This area would provide habitat for traveling lynx. Connectivity is being maintained by leaving uncut trees, stands of forest and brush cover habitat along riparian areas.
Management actions (e.g., timber sales, salvage sales) shall not change more than 15 percent of lynx habitat within a LAU to an unsuitable condition within a 10-year period.	This does not apply. Proposed project is not in a LAU.
In lynx habitat, pre-commercial thinning will be allowed only when stands no longer provide snowshoe hare habitat (e.g., self-pruning processes have eliminated snowshoe hare cover and forage availability during winter conditions with average snowpack).	This does not apply. Proposed project is not in a LAU.
In aspen stands within lynx habitat in the Cascade Mountains, Northern Rocky Mountains and Southern Rocky Mountains Geographic Areas, apply harvest prescriptions that favor regeneration of aspen.	This does not apply because the proposed project is not in a LAU. However, aspen regeneration is being favored.
Locate trails and roads away from forested stringers.	This project does not propose any new roads or trails and is not within a recognized LAU so this measure does not need to be a consideration here.
Do not allow livestock use in openings created by fire or timber harvest that would delay successful regeneration of the shrub and tree components. Delay livestock use in post-fire and post-harvest created openings until successful regeneration of the shrub and tree components occurs.	Even though the project area is not within a LAU, this is a consideration. All treatment areas will be rested for two growing seasons if livestock use any of the area.
Manage grazing in aspen stands to ensure sprouting and sprout survival sufficient to perpetuate the long-term viability of the clones.	Even though the project area is not within a LAU, this is a consideration. Objectives will be set to protect aspen regeneration. All treatment areas will be rested for two growing seasons as necessary.
Identify key linkage areas that may be important in providing landscape connectivity within and between geographic areas, across all ownerships.	The specific project area is not within a LAU, but it is an important linkage location.

Citations in the reference section provide information about Canada Lynx biology, habitat requirements, population, distribution, and management direction in the Revised Forest Plan.

Determination of Effects – Canada Lynx

The determination is that the proposed project to treat 273 acres will have **"no effect"** on lynx or lynx habitat. The project is not within a lynx analysis unit (LAU), but linkage habitat connectivity will be maintained.

Yellow-billed Cuckoo

Affected Environment

Forest Data and Natural History: For the project area no nesting habitat is present, but migratory cuckoo birds will travel through the general area. Migratory birds are sighted on a regular basis in the areas west of the Palisades Ranger District. They appear to be seeking out isolated stands of trees in the open country (IBLE 2008 and prior). Nesting pairs of this federal candidate species require a minimum of about five acres of prime riparian habitat, which, in Idaho and much of the west, consists of old growth cottonwoods, with a dense understory of willow or dogwood (TREC 2004). Suitable nesting habitat blocks are located along the South Fork of the Snake River from Swan Valley downstream and varies up to 250 acres per block. The river is about 1 mile from the project area, but suitable cottonwood habitat is about 8 miles away in the valley. Even though this habitat represents some of the last 10 percent left in the western US, no cuckoos have been documented in the Swan Valley area (TREC 2004). At least one spring calling survey was run in Swan Valley in 2003 (TREC 2004). A recent study by T. Reynolds and others (TREC 2004) indicates that Eastern Idaho along the Snake River including the South Fork is the stronghold for breeding cuckoos in the whole state. TREC (2004) reported cuckoos 13 times on the South Fork in 2003, but none were recorded in the upper 30 miles below Palisades Dam. TREC (2004) concluded that cuckoos are rare migrants and summer residents and would not have more than 10 pairs nesting statewide with most being in East Idaho on the Snake River system. The closest observations have been above Heise, Idaho and the closest known nesting birds are just downriver of Heise.

Regional: The Yellow-billed cuckoo is a federal candidate which is migratory and present in Idaho during the breeding, nesting and brood rearing seasons (TREC 2004). The USFWS determined that listing this species on the federal list is warranted, but precluded by higher priority listing actions (USDI FWS 2001). In Idaho, they are considered rare and local. In 2001 the USFWS stated that available information for Idaho is inadequate to judge population or distributional trends, and the known breeding population was limited to a few breeding pairs at most (USDI FWS 2001). Groves (1997) classified it as critically imperiled in Idaho. Cuckoos have had a 90 percent loss (or more) of habitat in the western US because of degradation of riparian areas along streams and rivers due to conversion to agriculture, dams and river flow management, bank protection, grazing and exotic plant species (Laymon and Halterman 1987; Hughes 1999; USDI FWS 2000, 2001). They require large blocks of riparian habitat, particularly cottonwoods with understory shrubs for nesting (Magill and Halterman 1998). Laymon and Halterman (1989) report that habitat block sizes range from 10 to 200 acres. Patch sizes in lowland California are larger. Sizes in narrow riparian streams such as in Colorado and Arizona have smaller blocks, but the larger the habitat the better (Laymon and Halterman 1985; Laymon and Halterman 1989; Pima Co. 2001- Sonoran Desert Cons. Plan).

Yellow-billed Cuckoo Management Direction Documents

The cuckoo is not federally listed under ESA as endangered, threatened or proposed. There is no direction in the Revised Targhee Forest Plan for its management. The FWS considers it "warranted" for listing, but lacks funding to process the listing (USDI FWS 2001). The FWS lists it as a candidate species.

Environmental Consequences – Yellow-billed Cuckoo

Direct, Indirect and Cumulative Effects

The proposed project to treat 273 acres of forest will have no effect on migrating cuckoos and there is no habitat available for nesting here. Because of their rarity, it would be an uncommon occurrence for a bird to be observed during migration in the project, and as they come through there would be plenty of trees for birds needing rest and food. No direct, indirect or cumulative effects are expected from this project.

Determination of Effects – Yellow-billed Cuckoo

The determination of effects to yellow-billed cuckoo for this project is **"no effect"** because there is no nesting habitat.

Ute's Ladies Tresses

Refer to separate biological assessment for this federally listed plant by the Forest Botanist (Lehman, 2008).

Sensitive Species and Management Indicator Species

Table 2.
Biological Evaluation - Summary of Determinations
Calamity Summer Home Hazardous Fuels Reduction Project
(Treatment of 273 acres of conifer-aspen forest)
Palisades Ranger District, 2008.

Bald Eagle	*Haliaeetus leucocephalus*	MINTFL
Northern Goshawk	*Accipiter gentilis*	MINTFL
Peregrine Falcon	*Falco peregrinus anatum*	NI
Boreal Owl	*Aegolius funereus*	MINTFL
Flammulated Owl	*Otus flammeolus*	MINTFL
Great Gray Owl	*Strix nebulosa*	MINTFL
Trumpeter Swan	*Cygnus buccinator*	NI
Common Loon	*Gavia immer*	NI
Harlequin Duck	*Histrionicus histrionicus*	NI
Columbian Sharp-tailed Grouse	*Tympanuchus phasinellus columbianus*	NI
Sage Grouse	*Centrocercus urophasianus*	NI
Three-Toed Woodpecker, and other MIS Primary Cavity Nesters	*Picoides tridactylus*	MINTFL
Western Big-Eared Bat	*Plecotus townsendii*	MINTFL
Spotted Bat	*Euderma maculatum*	NI
Grizzly Bear	*Ursus horribilis*	NI
Gray Wolf	*Canis lupus*	NI
Wolverine	*Gulo gulo*	NI
Fisher	*Martes pennanti*	MINTFL
Pygmy Rabbit	*Brachylagus idahoensis*	NI
Spotted Frog	*Rana pretiosa*	NI
Yellowstone Cutthroat Trout	*Oncorhynchus clarki bouvieri*	Refer to J. Capurso, Biological Evaluation 2008
Sensitive Plants		Refer to R. Lehman Biological Evaluation 2008
Red Squirrel Habitat (MIS only)	*Tamiasciurus hudsonicus*	Local negative effect for a period of time
Pine Marten (MIS only)	*Martes americana*	Local negative effect for a period of time, but improved habitat over time
Big Game (Elk, MIS only)	*Cervus elaphus nelsoni,*	Short Term Effect Forage Benefit
Neotropical Birds	*Less than 119 Species*	Local negative effect and change in species composition to birds

		preferring open forest.

Sensitive Species: NI = No Impact; MINTFL = 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; WICTFL = Will impact individuals or habitat with a consequence that the action may contribute to a trend towards federal listing or cause a loss of viability to the population or species;
BI = Beneficial Impact. Note: for Non-Sensitive MIS species there is no official wording for effects.

Affected Environment and Environmental Consequences
Sensitive, Management Indicator Species and Migratory Birds

General Habitat and Species

The project and surrounding terrain is rich in suitable forested and non-forested habitat for certain sensitive and forest management indicator species as described below. Some species classified as sensitive or MIS are not found or expected here. There is some evidence of past timber cutting and firewood cutting. The Calamity Campground was logged in the early 1990s. Some of the area is grazed by domestic sheep, particularly the Calamity area. It provides year-round range for elk, deer, moose, black bear, mountain lion as well as habitat for coyotes, raptors, owls, rabbits, furbearers, song birds and other species. There is no designated big game winter range, but some is nearby on the south slopes of Bear Creek.

Neotropical Migratory Birds (NTMB) are not listed as a group in the RTFP (USDA 1997) for analysis, and only a few are federally listed by the FWS or as a FS Sensitive species, however, because of federal direction and the Migratory Bird Treaty Act protections they will be discussed below per direction of Executive Order (EO) 13186, signed January 10, 2001. It lists several responsibilities of federal agencies to protect migratory birds to the extent practicable.

Table 3. Occurrence of Sensitive and MIS Species on Caribou-Targhee National Forest, plus neotropical migratory birds.

Common Name	Scientific Name	Occurrence
Bald Eagle *(Haliaeetus leucocephalus)* (MIS, S)	***Haliaeetus leucocephalus***	**Project area is potential nesting habitat and foraging habitat is closely adjacent on the edge of Palisades Reservoir and along the South Fork Snake River below the dam. The closest nest is at Van Point.**
Northern Goshawk (MIS, S)	***Accipiter gentilis***	**Suitable habitat is present, but none are known to nest nearby. Closest known nest site is about 7 miles away. A territory is reported about 3 miles away, but not found in 2005 (Reynolds 2005).**
Peregrine Falcon (MI S, S)	***Falco peregrinus anatum***	**Project area is foraging habitat and the closest active eyrie is about 2-3 miles away.**
Boreal Owl (MIS, S)	***Aegolius funereus***	**Known to be present on the District. None found during project surveys or past surveys in the area. Surveys will continue.**
Flammulated Owl (MIS, S)	***Otus flammeolus***	**Spring breeding males have responded nearby and territories are located in the**

Common Name	Scientific Name	Occurrence
		general area, but none have yet to be found within the project area. One has been repeatedly found near Russell Creek on the Calamity RTFP monitoring transect on some years (USDA 2008 and prior). One was found between Tag Alder and Russell Creek in May 2006 (Alford 2006). Surveys will continue before project implementation.
Great Gray Owl (MIS, S)	***Strix nebulosa***	**Habitat is present and surveys have been done in this area from 2000 – 2007 and none have responded to calling surveys. Surveys will continue.**
Trumpeter Swan (MIS, S)	***Cygnus buccinator***	**No habitat is available in or near the project. They are found on the adjacent Palisades Reservoir at times and 1 mile away on the SFSR.**
Common Loon (MIS, S)	***Gavia immer***	**No habitat is available in or near the project. They are found on the adjacent Palisades Reservoir during the spring migratory season. None are known to nest on the reservoir or District.**
Harlequin Duck (MIS, S)	***Histrionicus histrionicus***	**Habitat not in the project area. They are seen on Palisades Reservoir, but rarely.**
Columbian Sharp-tailed Grouse (S)	***Tympanuchus phasinellus columbianus***	**Present on Swan Valley benches on and off National Forest. No habitat is found in or near the project area.**
Sage Grouse (S)	***Centrocercus urophasianus***	**No records in the Swan Valley area or project area, habitat is not present.**
Three-Toed Woodpecker (MIS, S), and other MIS Primary Cavity Nesters	***Picoides tridactylus***	**Habitat present in project area. No surveys have been done. Many species common and currently benefiting from high level of dead snags in the area.**
Western Big-Eared Bat (MIS, S)	***Plecotus townsendii***	**Forest, rangeland, cliff and riparian habitat present on District and project area. Closest known caves with bats are about 53 miles west and northwest and 84 miles south. Vocal recorded about 23 miles to NNW by Bybee (2006).**
Spotted Bat (MIS, S)	***Euderma maculatum***	**Forest, rangeland, cliff and riparian habitat present on the District and the project area. Vocal record reported about 31 miles northwest from the project (Austin 2004) and 23 miles NNW by Bybee (2006).**
Grizzly Bear (MIS, S)	***Ursus horribilis***	**GB is not known to be here or Caribou Subsection. Idaho State GB plan indicates that it may expand to Big Holes/ Palisades area north of the Snake River, and this project area is south of the river. Closest**

Common Name	Scientific Name	Occurrence
		record is about 11 miles north in Rainey Creek in fall 2007 (Hanauska-Brown 2007).
Gray Wolf (MIS, S)	***Canis lupus***	**Records are known on the Palisades Ranger District. In winter of 2007 a single wolf crossed the project area (USDA 2008; furbearer data). In 2007 an adult female with a pup was found in Fall Creek and denning is probable, but the den was not found. This was not classified as an official pack, because the definition for "pack" was not met by Dec 2007. The suspected adult male was killing livestock in Brockman and was killed by USDA Wildlife Services, APHIS in fall 2007 (Alford 2008).**
Wolverine (MIS, S)	***Gulo gulo***	**Records on Palisades District in 1997, 2002, 2004, 2005. Radio marked male within 2 miles of the project in 2002. Potential denning habitat is mapped in the Palisades area within 5 miles. Data is available of wolverine crossing the reservoir/river near this location (Inman 2006 and prior).**
Fisher (MIS, S)	***Martes pennanti***	**Habitat present. Closest Idaho CDC record 18 miles north near Forest boundary.**
Pygmy Rabbit (S)	***Brachylagus idahoensis***	**No animals or habitat is known or suspected on Palisades Ranger District. Closest population is about 50 miles from project area to the northwest.**
Spotted Frog (MIS, S)	***Rana pretiosa***	**Recorded on north end of Ranger District, but none are known in the project area. No surveys done here.**
Yellowstone Cutthroat Trout (MIS, S)	***Oncorhynchus clarki bouvieri***	**Present in the South Fork of the Snake River about 1 mile away and in Palisades Reservoir adjacent. Refer to fisheries analysis and determination by Capurso 2008.**
Sensitive Plants		**Refer to botanical analysis and determination by Lehman 2008.**
Red Squirrel Habitat (MIS)	***Tamiasciurus hudsonicus***	**Common in the pines and mixed edge habitat. Tracking data available in Forest database (USDA, 2008 and prior).**
Pine Marten (MIS)	***Martes americana***	**Present on Ranger District in conifer forests. Tracking data available in Forest database (USDA, 2008 and prior).**
Big Game Range (MIS) Elk, Deer and Moose	***Cervus elaphus nelsoni, Odocoileus hemionus, Odocoileus virginiana, Alces alces***	**Project area is elk and deer spring-summer-fall range. Forage consumed here provides body fat for winter survival. Moose are local all year.**
Neotropical Migratory Birds (Non Sensitive and Non MIS)	***In Idaho 119 species of NTMB.***	**Neotropical migratory birds (NTMB) use all habitats within the project area during the**

Common Name	Scientific Name	Occurrence
		breeding season.

Bald Eagle

Affected Environment

Forest Data and History: Since delisting by the US Fish and Wildlife Service as a "federally threatened" species in 2007 the bald eagle is now treated as a "sensitive" species by the USDA, Forest Service. Bald eagles are common in the Calamity area and adjacent Palisades Reservoir. They are reproducing at nest sites along the reservoir shore on the north side of Van Point about 1.5 miles away (Fig. 7), and are often seen flying near the project area (Alford 2008). The number of nesting territories on the reservoir and South Fork of the Snake River below the dam are at a recent historical high (Alford 2008) since the era of DDT use reduced their population nationwide. The Van Point territories are located on both the north and south sides of the peninsula and the north shore is a popular eagle feeding area (USDA 1985).

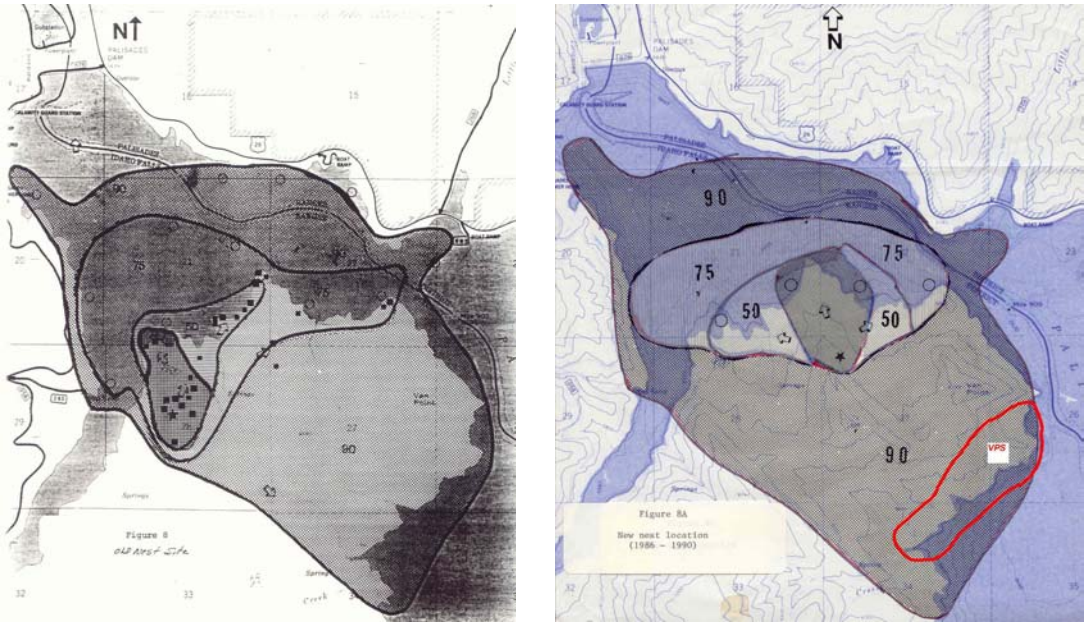


Figure 7. Map on left shows Bald Eagle habitat use at the Van Point North breeding territory. The star on the left map represents the nest location in 1985 and prior and data on feeding and activity collected in the early 1980's. The star on the right map shows the location of the nest site from about 1986 – 1990 and the current location (2002) is not too far from it. On the left map the Open circles are observed fishing sites. Black squares are favored perch sites (larger squares depict more frequently used perches). Arrows represent frequently used flight routes. Zone 1 is shown as the smallest shaded area. Zone 2 which encloses the 75 percent use of adult bald eagle activity is a different shading. Enclosing 90 percent use area of adult bald eagle activity, zone 3, is depicted as the largest area. Zone 4 represents 50 percent of adult bald eagle use. These maps are somewhat outdated, but represent important use patterns in the area in the Van Point North territory. A new eagle nest called Van Point South was detected in 1994 and is shown on the map as "VPS" with an estimated 50 percent primary use area on the south shore.

The project is near the edge of the Van Point North eagle territory as shown in Fig. 7 (USDA 2003). The summer home project area is potential nesting habitat, however, no birds are known to have

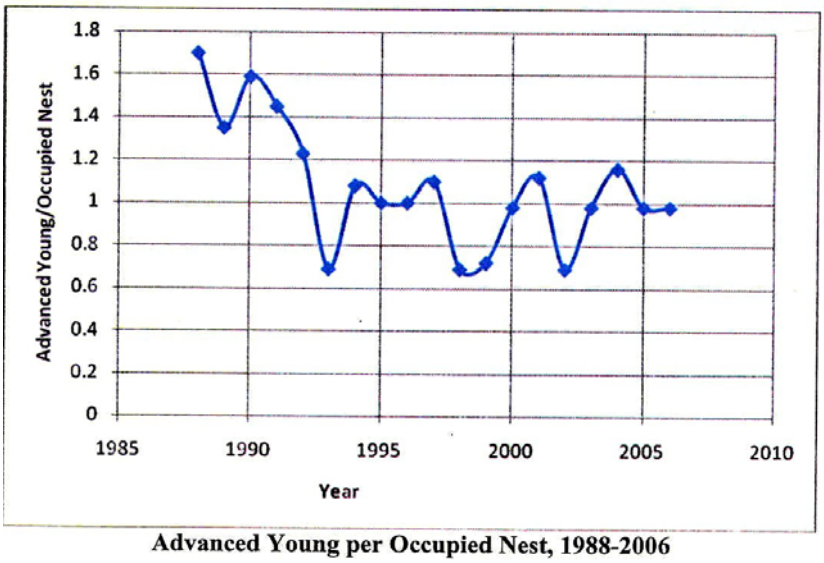
ever attempted to nest here or around the summer homes in the past 70 years (Hansen, 2005; pers. comm., retired FS District Recreation Technician who lived along the river where it is now inundated; dam was finished and flooded in 1958). Prior to the construction of Palisades Dam the eagles nested immediately along the river in the cottonwoods and thereafter on Van Point (Hansen 2005**).** Refer also to the Management plan for bald eagles and osprey of Palisades Reservoir prepared by M. Whitfield and others (USDA 1985). A large amount of data was collected as to how eagles use this area and it was used to delineate territory zones used by the eagles here. Though dated, this information is still useful and relevant to birds nesting there now. The earliest record of productivity was in 1978 (see Table), but R. Brunson (previous FS District Ranger) indicated nesting being here in 1969 (USDA 2003).

Table 4. Activity and productivity of the Van Point North Bald Eagle Nest territory (18-IS-03) on Palisades Reservoir in years shown (USDA 2003; Bear C. WS Analysis; Whitfield et al. 2007 and prior; and pers. comm.. Whitfield, 2006).

Nesting year	Productivity	Advanced Young	Comments
1978	Active, Successful	2	per John Weaver
1979	Unknown	?	
1980	Unknown	?	
1981	Active, Unsuccessful	0	
1982	Active, Successful	1	
1983	Active, Successful	2	
1984	Active, Successful	1	
1985	Active, Unsuccessful	0	
1986	Active, Successful	1	
1987	Unknown	?	
1988	Active, Successful	1	1 banded
1989	Active, Successful	1	1 banded
1990	Active, Successful	1	
1991	Active, Successful	1	1 banded
1992	Active, Successful	2	
1993	Active, Unsuccessful	0	All reservoir nests failed except Hoffman; wet spring
1994	Active, Successful	2	2 banded, new nest found on south side of Van Point
1995	Active, Unsuccessful	0	
1996	Active, Unsuccessful	0	
1997	Active, Successful	1	
1998	Active, Successful	1	
1999	Active, Successful	1	
2000	Active, Successful	2	
2001	Active, Successful	2	
2002	Active, Successful	1	
2003	Active, Successful	1	
2004	Active, Successful	2	2 nestlings banded
2005	Active, Successful	2	
2006	Active	unknown at this time	Active as of May 2006; pers. comm., M. Whitfield

Forest and Bald Eagle Management Direction Documents

Bald Eagle Recovery Plan: The bald eagle was delisted from the federal list in 2007, however the recovery plan areas are still being monitored under the original planning structure. This project is within the Greater Yellowstone Bald Eagle Management Zone as identified in the Pacific States Bald Eagle Recovery Plan (USDI FWS 1986). For the Idaho part of this management zone, the recovery goal was 25 nesting territories (USDI FWS 1986). At the end of 2006 in the Idaho portion (Snake Idaho Unit & Continental Unit), there were 63 breeding territories reported. Out of 43 active breeding areas in just the Snake Idaho Unit a total of 53 advanced young were produced in 2006. These 53 young came from 30 successful nests. The productivity ratio was 1.76 advanced young per successful nest (Whitfield et al. 2007 and prior) or 1.26 per active/occupied nest. Effective August 8, 2007 the U.S. Fish and Wildlife Service removed the bald eagle from the Federal list in the lower 48 United States.



Advanced Young per Occupied Nest, 1988-2006

Year	Advanced young/ Occupied nest
1988	1.70
1989	1.35
1990	1.59
1991	1.45
1992	1.23
1993	0.69
1994	1.08
1995	1.00
1996	1.00
1997	1.10
1998	0.69
1999	0.72
2000	0.98
2001	1.12
2002	0.69
2003	0.98
2004	1.16
2005	0.98
2006	0.98

Figure 8. Bald eagle productivity per occupied nest in the Idaho portion of the Greater Yellowstone Ecosystem (Zone 18) at the end of the 2006 season (Whitfield et al. 2007 and prior). Note that production per nest for the whole area has dropped, but this has been more than made up for by a large increase in active territories.

Other plans giving direction for bald eagle management on the Forest and Ranger District include:

South Fork of the Snake River Activities / Operations Plan (USDI/ USDA 1991): This project area borders the edge of the Calamity project (Alford 2008; BE for 2008 Snake River Plan, Fig. 14 map) and even though the area is closeby none of the specific direction in this plan would relate to the project area meaningfully. The direction therein relates to cottonwood forests along the river in relation to bald eagle nesting habitat. This plan is being revised in 2008 by the BLM and Forest Service.

The Revised Targhee Forest Plan (RTFP; USDA 1997): The RTFP identifies the minimum standards and guides, subsection direction and management prescriptions related to maintaining sustainable bald eagle habitat quality, structure and quantity as well as managing human disturbance.

- **RTFP Standards and Guides:** Standards and guides for bald eagle are found on page III-18 of the Forest Plan and relate to site specific nest territory zones I and II. The relationship between the standards and guides and eagle nest zones are explained in the standard and guide list (RTFP, III-18). This project borders the territory of the Van Point pair of bald eagles, but it does not overlap with the territory. Therefore, this direction does not currently apply. The project is, however, within suitable habitat and if future eagles establish a territory here RTFP direction would be applied at that time.

- **RTFP Subsection Direction:** There is specific Caribou Subsection direction related to maintaining the proper functioning condition for cottonwoods along the South Fork as well as old growth (relict) trees of other species (e.g. Douglas-fir, spruce and cottonwood) within 1 mile of the river or reservoir. See pages III - 62 through 64 in the RTFP (USDA 1997). The project would fall within this zone and old trees here will be important for special emphasis and management.

- **RTFP Management Prescriptions:** Prescription direction is discussed above for 4.2 (Special Use Permit Recreation Sites) and for 5.1.3b (No Clear-Cutting Urban Interface Fuels Management). Prescription 4.2 strives to incorporate watchable wildlife opportunities and this would relate to bald eagles as part of the wildlife community. As a note, nesting eagles have occurred in 4.2 prescription in the late 1990's in the Hoffman Summer Home Area along Palisades Reservoir (Whitfield et al. 2007; Alford 2008). Prescription 4.2 also allows selected wildlife to be more visible if compatible with the SUP site. Bald eagles are common along the reservoir AIZ (prescription 2.8.3 Aquatic Influence Zone), but this prescription does not include the project area. The closest adjacent riparian habitat to the project is Coyote Hollow and Bear Wallow Canyon.

Forest Service Manual Direction: The manual indicates that practices should be developed and implemented that ensure species do not become threatened or endangered because of Forest Service decisions. The Forest Service manual also directs that we maintain viable populations of all native and desired non-native wildlife, fish, and plant species in habitats distributed throughout their geographic range on National Forest System lands. Riparian dependent birds such as the bald eagle fall in that category and currently the GYE birds have exceeded their productivity goal as defined by the US Fish and Wildlife Service recovery plan. Manual direction for bald eagle as well as all other species discussed in this document has its basis in federal law including the 1973 Endangered Species Act (ESA). ESA and the FS Manual are the foundation documents for all other plans and direction given here pertaining to threatened or endangered species.

East Idaho Bald Eagle Annual Reports: Annual recommendations, direction and data are collected or summarized in these reports. They have been critical documents in making Forest Service and Bureau of Land Management decisions for each territory in Zone 18 of the Greater Yellowstone Ecosystem (Whitfield et al. 2007 and prior). This project is about 1.5 miles from the closest nest (North Van Pt) and the territory borders the project, but not within it.

National Bald Eagle Management Guidelines (USFWS 2007): During the 2007 year that the bald eagle was delisted from the federal list as "threatened" these guidelines were published. The US Fish and Wildlife Service produced this guide to provide for future habitat management direction on all lands once they were off the list, and to maintain sustainable production in the lower 48 United States.

Environmental Consequences – Bald Eagle

Effects of the Proposed Action (Treat 273 Acres)

Direct Effects

There will be minor direct effects on bald eagles due to this project. Potential nesting habitat is present, but the history shows that no eagles have nested in this north slope forested area (from the dam to Bear Creek) since the dam was filled in 1958 or before (Hansen 2005; Whitfield et al. 2007; Alford 2008). Prior to the dam and reservoir construction the eagles nested in cottonwood habitat along the now inundated river channel and thereafter on Van Point (Hansen 2005). Hansen reported that no eagles are known to have ever attempted to nest around the summer home location during the past 70 years he has lived in the area and observed these eagles.

However, future nesting is always a possibility in or near the Calamity Summer Home Area, but this project will preserve large old Douglas-fir which are favored nesting trees on the reservoir shore. Any large old cottonwoods will also be protected. For example, in the past decade bald eagles have nested in the Hoffman territory on the reservoir about 11 miles south immediately adjacent to summer home buildings. These Hoffman birds have been successful here. In 1995 they nested among the homes and had the only production of young on the entire reservoir (Whitfield et al. 2007; Alford 2008). All other Palisades Reservoir nests failed that year.

Indirect and Cumulative Effects

Minor indirect or cumulative effects are expected on bald eagles from this project. Related to cutthroat trout prey, little or no sediment is expected to be produced from this project and even if it were, it would be trapped in the reservoir basin before it would reach the South Fork of the Snake River below. Refer to the soils analysis for this project.

This project is in Zone 18 of the Idaho bald eagle population. Eagle production on the District and for the Greater Yellowstone population in Idaho is currently high, as detailed in the affected environment section. This project will have an effect on bald eagles because it is modifying potential nesting habitat, however, based on the past and current situation it is not likely to adversely affect them.

The Proposed Action to treat forest vegetation on 273 acres of potential bald eagle habitat in the Calamity Summer Home Area is discussed below in relation to the Revised Targhee Forest Plan Standards and Guides (RTFP; USDA 1997).

Questions/ Standards and Guidelines	Explanation and Discussion
1. Is the project within occupied nesting zones (Zone I) and/or primary use areas (Zone II)? If	No, but the project is on the outside edge of the outermost territory line identified in the Palisades eagle plan (USDA 1985).

Questions/ Standards and Guidelines	Explanation and Discussion
yes, respond to items A through M, and then items 2 through 8. If no, go to items 2 through 8.	
A. Minimize all human activities from February 1 to August 1. (G)	Not Applicable
B. No new roads in Zone I. (S) Avoid building new roads in Zone II. (G)	Not Applicable
C. Manage human use on existing roads at levels which do not adversely affect use and productivity of the nest site. (G)	Not Applicable
D. No new developed recreation sites or facilities in Zone I. (S) Avoid building new recreation sites or facilities in Zone II. (G)	Not Applicable
E. Manage existing recreation use at levels which do not adversely affect use and productivity of the nest site. (S)	Not Applicable
F. Use the "No Surface Occupancy" stipulation for all minerals activities. (S)	Not Applicable
G. If eagles choose to establish new nest sites and use areas in an area already receiving human use, the human activities may be restricted or modified. Expanded human activity, however, should be discouraged. (G)	No expanded activity is encouraged by this project. The project is in potential nesting habitat, but historically no eagles are known to have nested here. If they do in the future this guideline will be applied.
H. Use silvicultural techniques which maintain or promote mature and old growth timber stand characteristics in both the short and long term, but reduce the risks of insects and disease epidemics. (S)	Even though the project is outside zones I and II, maintaining mature and late seral fire resistant trees is an objective of this project. Maintaining old growth relict trees (i.e. Douglas-fir) is also an objective within one mile from Palisades Reservoir per RTFP 1997 Subsection direction. See pages III- 62 through 64.
I. Vegetation management can only occur between September 1 and January 31. (S)	Not Applicable
J. Use "control" as the appropriate suppression response for wildfires to minimize loss of habitat. (G)	Not Applicable
K. Prohibit new structures that have the potential to cause direct mortality to bald eagles (e.g. power lines). (S)	Not Applicable
L. Permit historic levels of livestock use as long as no adverse impacts (such as abandonment of nest territory or reproduction failures) occur related to this activity. Manage livestock to allow successful reproduction of cottonwood where applicable. (G)	Not Applicable
M. Prohibit wildlife management or predator control activity with the potential to cause mortality to bald eagles (such as exposed traps). (S)	Not Applicable
2. Within Home Ranges (Zone III) follow existing site-specific management plans (when they exist) for each bald eagle territory, or Zone III management direction in the Bald Eagle Management Plan for the Greater Yellowstone Area when site-specific management plans do not exist. (S)	This project is not located in a Zone III area. The project is on the outside edge of the outermost territory line identified in the Palisades eagle plan (USDA 1985).
3. Within Zones I, II, and III, prohibit all use of herbicides and pesticides which cause egg shell thinning as determined by EPA labeling. (S)	Not Applicable
4. Recreation activities and developments will	Not Applicable

Questions/ Standards and Guidelines	Explanation and Discussion
be designed to minimize conflicts with bald eagle wintering and migration habitat. (G)	
5. New roads and trails will be located to avoid bald eagle wintering and migration habitat. Where these areas cannot be avoided the roads and trails will be designed and located to minimize impacts to eagles. (G)	There are no new permanent roads with this project.
6. Are there other site specific concerns which need to be discussed for this project related to bald eagle habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document.)	No additional mitigation is required above the "subsection direction in the RTFP 1997". This will be followed related to special emphasis for old growth (relict) trees within one mile of the reservoir. If eagles do establish a nest territory in the Calamity area in the future, then further mitigation measures will be analyzed and implemented at that time as needed.
7. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	Minor indirect or cumulative effects are expected on eagles from this project. Historically, this area was more dominate in aspen. Currently, the conifer is appearing to dominate the landscape. Moving the stand conditions back to aspen with scattered relict old Douglas-fir will make the potential nesting trees more resistant from wildfire loss.
8. Determination of effects.	**Bald Eagle: It is determined that the Proposed Action to treat 273 acres in the Calamity Summer Home Area "may affect bald eagles, but is not likely to adversely affect them".**

Citations in the reference section provide information about bald eagle biology, habitat requirements, population, distribution, and management direction in the Revised Forest Plan.

Northern Goshawk (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

Proposed Action to treat vegetation on 273 acres in the Calamity Summer Home Area is discussed below in relation to the Goshawk and the Revised Targhee Forest Plan Standards and Guides (RTFP; USDA 1997).

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
1. Does suitable goshawk habitat exist in the project area? Is the project area within a known goshawk territory (either active or historic)?	1. Yes suitable habitat is present, but no known territory has been found either active nor historic in this area. There are 11 documented historical or active territories on the District (Alford 2006). The closest nest sites (2 territories) are about 3 and 7 miles away (Van Pt. and Long Gulch).
2. Have surveys been done to document the presence of goshawks? (current survey work, any previous survey work, any documentation of historical records (see Process Paper D), etc.)	2. Yes surveys have been done in 2005 and 2006 and no goshawk have responded to played calls. No sign of active nest trees or nests have been found currently. Surveys will continue until project implementation.
3. If the project area is within an active or historic goshawk territory, has a 200 acre nest area been identified? Will Revised Forest Plan S&G's for the nest area be achieved with this project? (see pages III-20 & 21 of the Revised Forest Plan and Targhee NF letter of April 20, 1998)	3. No active nest territory is known at this time. If a nest is found RTFP direction will be followed.
4. If the project area is within an active or	4. No active nest territory is known at this time.

historic goshawk territory, has a 400 acre PFA been identified? Will Revised Forest Plan S&G's for the PFA area be achieved with this project? (see pages III-20 & 21 of the Revised Forest Plan and Targhee NF letter of April 20, 1998).	If a nest is found RTFP direction will be followed.
5. If the project area is within an active or historic goshawk territory, has a 5,400 acre foraging area been identified? Will Revised Forest Plan S&G's for the foraging area be achieved with this project? (see pages III-20 & 21 of the Revised Forest Plan and Targhee NF letter of April 20, 1998)	5. No active nest territory is known at this time. If a nest is found RTFP direction will be followed.
6. Are there other site specific concerns which need to be discussed for this project related to goshawk habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document.)	6. The project area will continue to be surveyed so that no harm will come to any goshawk nests or territory habitat if found. The placement of guzzlers and creation of nest structures as funding opportunities (e.g. KV) occur will help this species. FS personnel working in the area will report any nests found.
7. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	7. Little direct, indirect or cumulative impacts are expected because no nest territory is known to be present.
8. Determination of effects.	**8. 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.**

Peregrine Falcon (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

Proposed Action to treat vegetation on 273 acres in the Calamity Summer Home Area is discussed in relation to the Peregrine Falcon and the Revised Targhee Forest Plan Standards and Guides (RTFP; USDA 1997).

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
1. For proposed projects within two miles of known falcon nests consider such items as: 1) human activities (aircraft, ground and water transportation, high noise levels, and permanent facilities) which could cause disturbance to nesting pairs and young during the nesting period March 15 to July 31; 2) activities or habitat alterations which could adversely affect prey availability. (G)	1. The project area is foraging habitat. An active eyrie site is located about 2 plus miles from the Summer Homes. This nest site was one of the last historical eyries in Idaho during the DDT era. About 20 years later in 1991 it became active again and in 1992 produced 4 young. It has been active since then. In about 1992 the FS issued a closure order in the area of Sheep Creek eyrie to prohibit off road vehicle use, shooting, picnicking or camping from April 15 to July 15 each year for nesting birds within a designated area. This order has been in effect for 14 seasons now. The influence of the Calamity Fuels project will

	be low or non existent on this eyrie.
2. Within 15 miles of all known nest sites, prohibit all use of herbicides and pesticides which cause egg shell thinning as determined by risk assessment (USDA-Forest Service, 9/92. (S)	2. No pesticides causing egg shell thinning will be used. Strychnine the approved gopher control chemical used post sale is put underground in burrows, and does not cause shell thinning.
3. Restrict climbing and other human disturb-ances from March 15 through July 31 to avoid adverse impacts at known falcon nest sites. (S)	3. The project area is outside the area of negative influence or direct impact to nesting birds.
4. Are there other site specific concerns which need to be discussed for this project related to peregrine falcon habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document).	4. Future logging and burning treatment and opening up of the project area is expected to increase of bird prey species by the diversification of the seral stages in the forested type and the opening up of the forest canopy will create more edge habitat. Diversifying seral habitats is a plus for foraging falcons and as KV funds are available small game guzzlers and non game nest structures will benefit avian prey species as well as meet S&Gs in the RTFP (1997) for recreation site prescription 4.2 for wildlife. An improved habitat for falcon prey during the nesting season is expected. No additional mitigation is foreseen.
5. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	5. Little direct, indirect or cumulative impacts are expected because activity will occur outside the nesting season. All territories on the District including Sheep Creek have been monitored by the Idaho Dept. of Fish and Game and have been relatively successful (Alford 2008 and prior, pers. comm.; IDFG 2007; Peregrine monitoring reports).
6. Determination of effects.	**6. No Impact**

Boreal Owl (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

Proposed Action to treat vegetation on 273 acres in the Calamity Summer Home Area is discussed in relation to the Boreal Owl and the Revised Targhee Forest Plan Standards and Guides (RTFP; USDA 1997).

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
1. Does suitable boreal owl habitat exist in the project area? Is the project area within a known boreal owl territory (either active or historic)?	1. Yes habitat is present, but is not considered prime habitat. Spruce which is a preferred habitat is a minor or lacking component. No known territories are in or near this area.
2. Have surveys been done to document the presence of boreal owls? (current survey work, any previous survey work, any documentation of historical records (see Process Paper D), etc.)	2. Yes, surveys have been done here and no owls have been detected. Borealss have been found present on the District in a spruce bog area in the north Big Hole Mtns, but were not found in a dry spruce area near Palisades Reservoir (Alford 2008). None found during project surveys or past RTFP surveys in the immediate area.

3. If the project area is within an active or historic boreal owl territory, will Revised Forest Plan S&G's for the 30 acre nest area be achieved with this project? (see page III-21 of the Revised Forest Plan)	3. Does not apply. If owls are found before the project is implemented RTFP standards will be applied to protect the nest area.
4. If the project area is within an active or historic boreal owl territory, will Revised Forest Plan S&G's for the 3,600 acre territory be achieved with this project? (see page III-22 of the Revised Forest Plan)	4. Does not apply.
5. Are there other site specific concerns which need to be discussed for this project related to boreal owl habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document.)	5. Surveys will continue before project implementation and RTFP direction will apply as mitigation if boreals are found. The placement of and creation of nest structures as funding opportunities occur will help this species.
6. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	6. Little direct, indirect or cumulative impacts are expected because activity will occur outside the nesting season and no territory is present.
7. Determination of effects.	**7. 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.**

Flammulated Owl (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

Proposed Action to treat vegetation on 273 acres in the Calamity Summer Home Area is discussed in relation to the Flammulated Owl and the Revised Targhee Forest Plan Standards and Guides (RTFP; USDA 1997).

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
1. Does suitable flammulated owl habitat exist in the project area? Is the project area within a known flammulated owl territory (either active or historic)?	1. Suitable habitat exists, but there are no known territories in the specific project area. Spring breeding males have responded nearby and territories are located in the general area. The project is not known to be in an active or historic territroy
2. Have surveys been done to document the presence of flammulated owls? (current survey work, any previous survey work, any documentation of historical records (see Process Paper D), etc.)	2. Yes, surveys have been done in the project area. Spring breeding males have been detected to the north of the project near Russell Creek on the Calamity RTFP (1997) monitoring transect. But no birds have responded from within the project during project surveys. A flammulated owl was heard near First Canyon (south of project) by a FS volunteer in the spring of 2002 (pers. comm. Dr. R. Grimshaw). In May 2006 a territorial male was found between Tag Alder and Russell Creek (Alford 2006).
3. If the project area is within an active or	3. Currently, does not apply to the project area.

historic flammulated owl territory, will Revised Forest Plan S&G's be achieved with this project? (see page III-21 of the Revised Forest Plan)	No territory has been found so far within the project area, but surveys will continue prior to project implementation and if found any territory will be protected according to RTFP direction.
4. Are there other site specific concerns which need to be discussed for this project related to flammulated owl habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document.)	4. Direct, indirect or cumulative negative effects on nesting owls will be softened by not implementing vegetation manipulation from March 16 to July 10 and surveys will continue prior to project implementation. Habitat modification: Opening up of the closed forest canopy in the project is expected to improve foraging habitat. The placement of guzzlers and creation of nest structures as funding opportunities occur will help this species. Maintaining mature and late seral fire resistant trees is an objective of the project. Maintaining old growth relict trees (i.e. Douglas-fir) is also an objective within one mile from Palisades Reservoir per RTFP 1997 Subsection direction. See page III- 62 Caribou Subsection Direction, goals, standards and guides. These measures are also consistent with RTFP Caribou Subsection direction to balance wildlife needs with recreation, as well as to improve watchable wildlife in prescription 4.2.
5. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	5. Owls prefer conifer, aspen, juniper and sage-grassland edge habitat with associated snags. Open areas with available insects are suitable habitat (ID PIF 2000). They also hunt in the canopies of older conifer trees (Montana PIF 2000). They prefer mature Douglas-fir with open canopies where trees with cavities exist and where hunting for moths is easier. They have been found throughout the canyons of the Palisades Ranger District and they have been found in both Douglas-fir and aspen communities (Alford 2008). They are insectivorous, preying on moths, beetles, caterpillars, crickets as well as arachnids in the conifer canopy. Aspen tree cavities are important as well as large old Douglas-fir trees and snags. Nesting in aspen snags has been documented on the District (Levine 1998), and Merrill (1997) reported unfledged young being in an aspen snag. The project activity will be outside the nesting season (July 11 – March 15) and a minor negative direct, indirect or cumulative effect is

	expected. The removal of large old stable snags providing cavities to reduce fuels will have a longer term negative effect in specific locations, however snags outside the immediate housing area will provide standing dead cavity habitat. Snags for the 581 acre 5.1.3b urban interface prescription area are estimated at 6.5 per acre post-harvest.
6. Determination of effects.	**6. 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.**

Great Gray Owl (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

Proposed Action to treat vegetation on 273 acres in the Calamity Summer Home Area is discussed in relation to the Great Gray Owl and the Revised Targhee Forest Plan Standards and Guides (RTFP; USDA 1997).

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
1. Does suitable great gray owl habitat exist in the project area? Is the project area within a known great gray owl territory (either active or historic)?	1. Yes, suitable habitat is present in the project area, but no territory has been identified in the project area. In 1980 Franklin (USDA 2008 and prior; data records; Franklin 1988) reported a territory on the northwest side of Calamity Point near the project area. He never found the nest, but did find nestlings. Habitat in the project area is typical for great gray owls on the District where they use lodgepole, Douglas-fir and aspen forests with small openings or meadows (Alford 2008). They prey primarily on pocket gophers in the northern portion of their range in North America (Franklin 1988), as well as voles. Semi-open areas where gophers are abundant, near dense coniferous forests for nesting and roosting are the optimum habitat for great gray owls. They will also eat birds, amphibians and insects, and hunt during both dusk and dawn from a perch at a forest edge. They also hunt at night and during the day (Peregrine Fund 2005). Great grays like to forage low in open grassy areas of the forest for rodents and use low perches such as fence posts (Bull and Henjum 1990). Great gray owls have also been found in similar habitats across the District (Alford 2008).
2. Have surveys been done to document the presence of great gray owls? (current survey work, any previous survey work, any	2. Yes, surveys have been done in the project area and surrounding area. Spring breeding males have not been detected on RTFP (1997)

documentation of historical records (see Process Paper D), etc.)	monitoring transects from 2000 -2006. Surveys will continue prior to project implementation. A historic territory is known on the northwest side of Calamity Point but outside the project proposal (Alford 2006).
3. If the project area is within an active or historic great gray owl territory, will Revised Forest Plan S&G's for the 20 acre nest area be achieved with this project? (see page III-22 of the Revised Forest Plan)	3. The project is not within the known historic territory so the RTFP standard does not apply. If nesting owls are found before the project is implemented RTFP standards will be applied to protect the nest area.
4 If the project area is within an active or historic great gray owl territory, will Revised Forest Plan S&G's for the 1,600 acre territory be achieved with this project? (see page III-22 of the Revised Forest Plan)	4. Yes, 40 percent of late seral forest within the 1600 acre territory will be maintained (Murphy 2006). The 1600 acre historic territory would overlap with the currently proposed project. This refers to the 1980 historic territory reported by Franklin (Idaho CDC record).
5. Does the project include the use of strychnine poison? If yes, will the guideline for the use of this poison around active great gray owl nest sites be followed? (see page III-22 of the Revised Forest Plan)	5. Yes. The approved gopher control chemical, strychnine, is standard operating procedure for post sale activity. It is used underground in gopher burrows. RTFP direction will be met with its use. Strychnine use will not be allowed within one-half mile of any active nest sites.
6. Are there other site specific concerns which need to be discussed for this project related to great gray owl habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document.)	6. At this time there are no concerns because no nest site is within the project. The 1600 acre area of the 1980 historic nest does however, overlap. For this reason surveys will continue prior to the implementation of the project and RTFP direction will be used as needed. The placement of guzzlers and creation of nest structures as funding opportunities (e.g. KV) occur will help this species.
7. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	7. Minor direct, indirect or cumulative effects are expected. Activity will not take place from March 16 to July 10 and this will soften any potential problems.
8. Determination of effects.	**8. 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.**

Trumpeter Swan (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

No positive or negative effects are expected from this project, because no habitat is available in the project. There is no RTFP Forest Plan direction (USDA 1997) for swans at this location. Swans do use the South Fork of the Snake River just below Palisades Dam nearby and on the adjacent Palisades Reservoir, but no habitat is being altered which would affect them. They are most often

seen on the river in the winter (Alford 2008 and USDA 2008; swan count data) and on the reservoir during the ice free seasons. The closest known swan nesting is on the Salt River at the head of Palisades Reservoir (Patla 2008 and prior). There are no direct, indirect or cumulative effects. The determination for this species for this project is **"no impact".**

Common Loon (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

The project area does not provide suitable habitat. They are seen on the adjacent Palisades Reservoir during spring migration (Alford 2008). There is no Forest Plan direction (USDA 1997) for loons at this location. No positive or negative effects are expected from this project, because no habitat is available. There are no direct, indirect or cumulative effects expected and the determination for this species for this project is **"no impact".**

Harlequin Duck (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

No habitat is found at this location. They require larger swift flowing streams. There is no Forest Plan direction (USDA 1997) for harlequin at this location. Closest ones are found on tributaries to Palisades Reservoir. There are no direct, indirect or cumulative effects, and no positive or negative effects are expected from this project, because no habitat is available. The determination for this species for this project is **"no impact".**

Columbian Sharp-tailed Grouse (S)-Direct, Indirect and Cumulative Effects

Proposed Action to treat vegetation on 273 acres in the Calamity Summer Home Area is discussed in relation to the Columbian Sharp-tailed Grouse.

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
1. Does suitable habitat for sharp-tail grouse exist in the project area?	1. No. Columbian sharp-tailed grouse prefer large tracts of undisturbed native habitat and are associated with sagebrush and mountain brush communities with a diversity of forbs and bunchgrasses for nesting, brood rearing and summer/fall use (Giesen and Connelly 1993). They are found on open upland benches in Swan Valley (Alford 2008; Merrill 2006 and prior).
2. If suitable habitat exists, have surveys been done to document the presence of sharp-tail grouse? (current survey work, any previous survey work, any documentation of historical records (see Process Paper D), etc.)	2. There are no known surveys in or near the project area. The closest Id. Dept. of Fish and Game survey route is on Pine Creek bench in Swan Valley (Alford 2008; Naderman 2004 and prior).
3. Are there other site specific concerns which need to be discussed for this project related to grouse habitat? Include additional mitigation measures (any additional mitigation measures	3. No concerns. The project is in hilly forested habitat and grouse live mainly in open flat brush and forest edge.

should also be included in the NEPA document.)	
5. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	5. None.
6. Determination of effects.	**6. No Impact**

Sage Grouse (Sensitive) - Direct, Indirect and Cumulative Effects

No habitat is found at this location and no surveys have been done. There are no records in adjacent Swan Valley. They require larger more open upland sagebrush and mixed brush habitat than what is available adjacent to the project. The project is in forested habitat. There is no Forest Plan direction (USDA 1997) for sage grouse in this location. This area would be covered by the direction of the Upper Snake Sage Grouse Local Working Group (IDFG 2004). There are no direct, indirect or cumulative effects, and no positive or negative effects are expected from this project, because no habitat is available. The determination for this species for this project is **"no impact".**

Three-toed Woodpecker (Sensitive, MIS); Black-backed Woodpecker, Williamson's Sapsucker, Lewis's Woodpecker, Red-napped Sapsucker, Downy Woodpecker, Hairy Woodpecker, Northern Flicker (others MIS only) - Direct, Indirect and Cumulative Effects

Proposed Action to treat vegetation on 273 acres in the Calamity Summer Home Area is discussed in relation to the Three-toed Woodpecker and other primary cavity nesters and the Revised Targhee Forest Plan Standards and Guides (RTFP; USDA 1997).

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
1. Does suitable habitat for three-toed woodpeckers exist in the project area?	1. Yes, as well as the other MIS woodpeckers, except Lewis Woodpecker is not expected.
2. If suitable habitat exists, have surveys been done to document the presence of three-toed woodpeckers? (current survey work, any previous survey work, any documentation of historical records (see Process Paper D), etc.)	2. No surveys have been done for three toed or other woodpeckers, but they are assumed present through habitat relationship as well as for other woodpeckers listed.
3. Will biological potential for snag habitat be maintained as identified in the Management Prescriptions of the Revised Forest Plan? (In the Revised Forest Plan, see pages III-16, III-17, and individual Rx's)	3. Biological potential (BP) for snags in the larger landscape scale in the watersheds overlapping this project were estimated in 1997 in Process Paper D (USDA 1997), prepared for the Revised Targhee Forest Plan (RTFP; USDA 1997). For Watershed 037 this analysis estimated a BP of 84 percent for the lodgepole pine type and 87 percent for Douglas-fir. For Watershed 038 lodgepole was 98 percent BP and the Douglas-fir type was at 53 percent. Timber sale on-the-ground surveys for this project area in 2007 estimated 7.6 snags per acre or about 73 percent BP in prescription 5.1.3b (urban interface).

	BP guidelines will be met for both prescription 4.2 (Special Use area) and 5.1.3b (urban interface area). In the Special Use Permit Recreation Sites Prescription 4.2, snags will be maintained as possible to strive to incorporate opportunities for watchable wildlife as directed in the RTFP if compatible with the SUP site. There is no Forest Plan requirement BP for this prescription, but as many as possible will be left. In the No Clear-Cutting Urban Interface Fuels Management Prescription 5.1.3b snag habitat will be maintained to at least 40 percent biological potential for woodpeckers. This requires about 3.7 snags per acre in the whole prescription parcel (not just the treated area). Based on timber cruise data collected in the Calamity area in 2007 an average density of 6.5 snags per acre will be left in the 581 acre prescription 5.1.3b (USDA, 2007; FS data files) after the project. This will be after 80 acres are harvested resulting in about 3800 snags remaining (3800snags/581ac). Post-harvest snag BP for prescription 5.1.3b is estimated at 63 percent. This exceeds the RTFP (USDA 1997) snag guideline for cavity nesting birds by about 23 percent. Additionally, some Douglas-fir in the project area, including old relicts (which provide the best living snags and future snags) are being left more protected from future wildfire.
4. Are there other site specific concerns which need to be discussed for this project related to three-toed woodpecker habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document.)	4. Cutting activity will be delayed until after July 10 each year (March 16 to July 10). This will help get broods out of the tree cavities and fledged better. This is true for all the cavity nesters. The placement of and creation of nest structures as funding opportunities occur will help this species.
5. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	5. None
6. Determination of effects. **Three-Toed Woodpecker, and other MIS Primary Cavity Nesters**	**6. 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.**

Western (Townsend's) Big-eared Bat (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

Proposed Action to treat vegetation on 273 acres in the Calamity Summer Home Area is discussed in relation to the Townsend's big-eared Bat and the Revised Targhee Forest Plan Standards and Guides (RTFP; USDA 1997).

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
1. Does suitable roosting habitat for big-eared bats exist in the project area or adjacent to the project area? (roosting habitat consists of rock crevices, caves, mine shafts, and tree cavities)	1. Yes, in mature trees and snags as well as lightly scattered outcrops. The closest known NF bat cave is about 84 miles south on Montpelier Ranger District and others about 54 miles west on BLM lands (lava caves). Vocal record reported by Bybee (2006) 23 miles north.
2. If suitable roosting habitat exists, have surveys been done to document the presence of big-eared bats? (current survey work, any previous survey work, any documentation of historical records (see Process Paper D), etc.)	2. No local surveys. Regional surveys have been done. A FS survey in 2005 reported them about 23 miles north (Bybee 2006; unpubl. data at FS office). It is assumed they are present based on habitat relationships.
3. If suitable roosting habitat exists, and big-eared bats are present, will the project maintain suitable habitat? Will biological potential for snag habitat be maintained as identified in the Mgmt Prescriptions of the Revised Forest Plan?	3. No big-eared bats are known to be present. Some suitable habitat in snags and mature trees will be impacted. BP direction for snags in the RTFP will be met. Refer to the cavity nester information above.
4. Will the project cause disturbance to roosting big-eared bats at roost sites?	4. No roost sites are known. Little or no impact is expected.
5. Are there other site specific concerns which need to be discussed related to big-eared bat habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document.)	5. The placement of guzzlers and creation of snags as funding opportunities occur will help this species.
6. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	6. A little cumulative effect has occurred by snag and wood removal by summer home permittees around the cabins.
7. Determination of effects.	**7. 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.**

Spotted Bat (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

Proposed Action to treat vegetation on 273 acres in the Calamity Summer Home Area is discussed in relation to the Spotted Bat and the Revised Targhee Forest Plan Standards and Guides (RTFP; USDA 1997).

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
1. Does suitable roosting habitat for spotted bats exist in the project area or adjacent to the project area? (roosting habitat consists of rock crevices, caves, and mine shafts)	1. Bats would be in and around the general area based on records in the region and there is mature tree habitat and snags as well as rock outcrops. Habitat suitability would be weak in

	the local project area. Bybee (2006) reported hearing and recording them (with Anabat) about 23 miles northward and Austin (2004) reported hearing them 31 miles northwest. The nearest confirmed site is in Owyhee County 273 miles west (ISU 2005; IDFG-CDC database). In southwest Idaho, they have been documented in two counties.
2. If suitable roosting habitat exists, have surveys been done to document the presence of spotted bats? (current survey work, any previous survey work, any documentation of historical records (see Process Paper D), etc.)	2. No surveys have been done in the immediate area. A survey about 31 miles away near Bone, Id. detected a spotted bat in 2003. A FS survey in 2005 reported them about 23 miles north (Bybee 2006; unpubl. data at FS office). It is assumed they are present based on habitat relationships.
3. If suitable roosting habitat exists, and spotted bats are present, will the project maintain suitable habitat?	3. There should be little impact on spotted bat habitat. None are known to be present.
4. Are there other site specific concerns which need to be discussed for this project related to spotted bat habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document.)	4. No concerns. The placement of guzzlers and creation of snags as funding opportunities occur will help this species.
5. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	5. No cumulative effects are expected.
6. Determination of effects.	**8. No Impact**

Grizzly Bear (MIS, S) - Direct, Indirect and Cumulative Effects

In 2007 the grizzly bear was removed from the federal endangered species list as threatened. It is now a sensitive species on the Targhee National Forest. The closest confirmed record is about 11 miles north in Rainey Creek (Palisades roadless area) during the fall 2007 (Hanauska-Brown 2008 and prior). However, the grizzly bear is not confirmed to be known at the Calamity fuels project area or on the Caribou National Forest Subsection.

State of Idaho Yellowstone Grizzly Bear Plan (State of Idaho 2002) indicates that "it is expected that grizzly bears will occur …. outside the PCA (primary conservation area) … into the Palisades and Big Hole Mountain areas …. and that primarily roadless, these areas are the most likely to be inhabited". This location is the Palisades backcountry area north of the Snake River, and the Calamity project area is south of the river.

Therefore, the grizzly bear is dismissed as a sensitive species in both the biological evaluation and environmental assessment for the Calamity Fuels Reduction Project in the Caribou Subsection.

There are no direct, indirect or cumulative effects expected and the determination for this species for this project is **"no impact".**

Gray Wolf

Affected Environment – Gray Wolf

Life History and Habitat: The following overview is summarized from the Idaho Wolf Conservation and Management Plan (Idaho Legislative Wolf Oversight Committee 2002). As of March 2008 the Rocky Mountain Gray Wolf was delisted from the federal endangered species list in Idaho and surrounding states. Since full recovery has occurred the Idaho Department of Fish and Game manages the population and it is now considered a Forest Service Sensitive species. Prior to delisting in Idaho, wolves south of I-90 were listed as "experimental, non-essential," under Section 10(j) of the Endangered Species Act (USDI 1994).

The pack is the basic social unit in wolf populations. Packs are formed when 2 wolves of opposite sex develop a pair bond, breed, and produce pups. Wolves typically do not breed until 22 months of age (Mech 1970). Breeding usually occurs only between the dominant male and female in the pack, but occasionally, a male may breed more than one female and more than one litter may be produced by a pack (Ballard et al. 1987, Smith 1998).

In the northern Rockies, wolves breed between late January and early March. Usually between 2 - 9 pups are born between late March and late April after a 63-day gestation period. Wolf packs may be sensitive to disturbance by humans during this period.

By about October, pups are mature enough to travel with adults, and packs begin to move throughout their territories. In most populations wolves occupy exclusive territories that they defend against intruding wolves. Some overlap may occur. Wolf pack territories in Idaho ranged from about 200 – 700 sq. mi. (average = 359 sq. mi.) during 1995 through 1998 (Mack and Laudon 1998).

In low-density populations, wolves may disperse just outside of their pack's territory into an unoccupied area, find another lone wolf of the opposite sex, and form a new pack (Fritts and Mech 1981). In some cases, however, young wolves disperse hundreds of miles. For example, a radio-collared female wolf from Glacier National Park, Montana was shot 520 miles north of its natal pack's territory (Ream et al. 1991). Wolves disperse at ages ranging from 9-18 months or older (Packard and Mech 1980), but dispersal of yearlings in late winter is common.

Protected wolf populations at low density can increase rapidly if prey is abundant. Keith (1983:66-67) concluded that an annual increase of 30% is probably the maximum rate at which wolf populations are likely to increase in the wild over a period of several years. However, newly recolonizing or reintroduced populations have been documented to increase at much greater rates over a period of several years where prey was abundant (Phillips and Smith 1997, Mack and Loudon 1998). Social interactions intensify among wolves as population density increases, and at some level, social factors interact with food competition and reduce or prevent population growth (Packard and Mech 1980, Keith 1983, Fuller 1989). Combined effects of wolf density and prey density are strongly related to growth rates of wolf populations (Keith 1983, Fuller 1989).

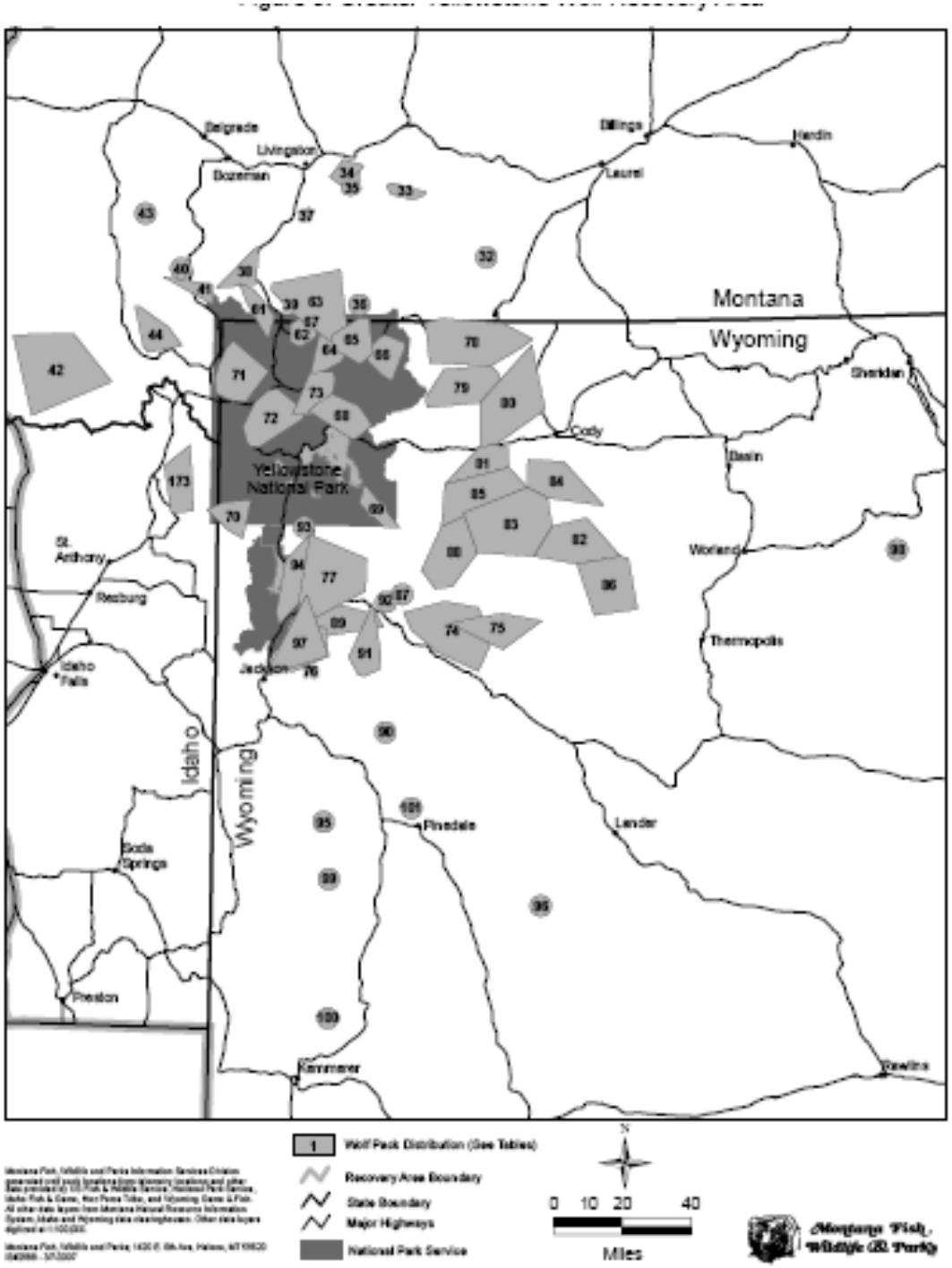


Figure 9. Wolf Pack Distribution in the Yellowstone Nonessential Experimental Population Area in 2006.

In areas with minimal killing of wolves by humans, the primary causes of mortality are disease and poor nutrition of pups or yearlings, and death of adults caused by attacks from other wolves (Pletscher et al. 1997). Mortality in populations unexploited by humans can average about 45% for yearlings and 10% for adults. Mortality of pups in exploited populations can reach 80% (USFWS 1994). Beginning in autumn, wolf mortality is most influenced by the degree of legal and illegal exploitation or control by humans. Over-winter (October-March) mortality within packs ranges

from 0-33% for a minimally exploited population to 14-88% for a heavily exploited population (USFWS 1994). Established wolf populations can apparently withstand human-caused mortality of 28-50% without declining (Mech 1970, Ballard et al. 1997, Keith 1983, Fuller 1989, USFWS 1994).

Wolves are effective predators and scavengers that feed primarily on large ungulates throughout their range (Murie 1944, Pimlott 1967, Mech 1970, Van Ballenberghe et al. 1975, Carbyn 1983, Ballard et al. 1987, Gasaway et al. 1992, Boyd et al. 1994). Ungulates comprise nearly all of the winter diet of most wolves.

Smaller animals become more important in the diet of wolves during the snow-free months, but ungulates remain the main food source. Small animals typically consumed by wolves include beavers, marmots, ground squirrels, snowshoe hares, pocket gophers, and voles. Porcupines, ruffed grouse, ravens, coyotes, striped skunks, and golden eagles have also been killed by wolves (Boyd et al. 1994).

Kill rates of wolves may vary widely by area and from year to year depending upon primary prey species, prey abundance, and weather conditions, among other factors. Most often the effects on prey populations that are attributable to wolf predation are unknown because of the lack of information on population dynamics of the prey populations and the rates of other mortality sources.

However, Kunkel and Pletscher (1999) documented that predation by wolves and other predators (i.e., mountain lions, grizzly bears, black bears, coyotes, and humans) on ungulate species in northwestern Montana appeared to be mostly additive to the effect of other mortality factors and that predation appeared to be the primary factor limiting the growth of deer and elk populations.

Although wolves feed primarily on large, wild ungulates, they occasionally do kill livestock and other domestic animals (Fritts and Mech 1981; Fritts and Paul 1989; Fritts et al. 1992; Bangs et al. 1995, 1998).

Forest Data and History: The Calamity project area is within historical habitat for the gray wolf. It is not currently within any known territory of an established pack or breeding pair with dens (USFWS et al. 2005), but records are known on the Palisades Ranger District. In winter of 2007 a single wolf crossed the project area (USDA 2008; furbearer data). Also, in 2007 an adult female with a pup was found in Fall Creek and radio collared about 15 miles west. Denning in Fall Creek was expected, but the den was not found. Other males were present and still are in this location. This wolf group was not classified as an official pack, because the definition for "pack" was not met by Dec 2007. An adult male was killing livestock in the Brockman area during the late summer of 2007 and was killed/removed by USDA Wildlife Services, APHIS (Hanauski-Brown 2008 and Alford 2008).

There have been other past reports of wolf sign near the project area (B. Alford, FS employee, and L. Hanauska-Brown, IDFG, personal comm. 2008 and prior). Alford documented and cast a track about 2.5 miles from here in 2002 with FS crews. Brown (2005) reported tracks within 3 miles in the fall of 2005. There are other unconfirmed reports of wolves (groups of 2 or more) in the Swan Valley area in recent years as well (USDA, FS 2008 and prior). Of the 5 Revised Targhee Forest Plan monitoring furbearer tracking transects on the Palisades RD (2 in the Big Holes subsection and 3 in the Caribou subsection) no wolf tracks have been detected from 1999 until 2007 except for the one lone wolf crossing the Calamity Fuel Project area (USDA, FS 2008 and prior; tracking data).

The Calamity furbearer tracking transect runs through the project area and has been read from 1999 – 2007. The last historical wolf packs were trapped on the District in 1929 in Fall Creek about 15 miles west of the project area. At that time control was done by trapping, shooting or poisoning and the last bounty was removed in 1938 (Webster 1974). Until that year the Fall Creek Basin Cattle Association had a $50 bounty on wolves and an old report showed they paid $400 in 1921 for 8 wolf pup scalps (Webster 1974). Lee Twitchell the Idaho agent for the Fish and Wildlife Service in 1945 said he trapped the last wolves in Caribou Basin and Fall Creek Basin in 1929.

Gray Wolf Management Direction Documents

Prior to wolves being delisted on March 28, 2008, they were found in Idaho south of I-90 and were listed as "experimental, non-essential," under Section 10(j) of the Endangered Species Act (U.S. Department of the Interior, 1994). They are now treated as a Forest Sensitive Species and managed by the Idaho Department of Fish and Game (IDFG). Management direction can be found on IDFG State website: http://fishandgame.idaho.gov/cms/wildlife/wolves/.

Environmental Consequences – Gray Wolf (MIS, S)

Effects of the Proposed Action (Treat 273 Acres) - Direct, Indirect and Cumulative Effects

Implementation of this vegetation project will have a positive long term direct, indirect or cumulative effect on a potential wolf pack if a pack establishes at this location. It will also have a positive long term effect for any individual wolves now roaming the area. Treatment of 273 acres of forested habitat will benefit wolf prey species such as elk, mule deer and other smaller animals as a greater amount of forage will be available to them. This would result in a greater number of prey in the area which will attract any carnivore including the gray wolf. At the current time little or no effects, including cumulative effects, are expected due to the project because no wolf packs are known here. The proposed action is not likely to have a negative impact on wolves.

The Proposed Action to treat 273 acres in the Calamity area in relation to the Gray Wolf Standards and Guides in Revised Targhee Forest Plan (USDA 1997).

Questions/ Standards and Guidelines	Explanation and Discussion
1. Restrict intrusive human disturbances (motorized access, vegetation management, livestock grazing, etc.) within one mile around active den sites and rendezvous sites between April 1 and June 30, when there are five or fewer breeding pairs of wolves in the Yellowstone Nonessential Experimental Population Area (applies to the portion of the Forest east of Interstate 15) or the Central Idaho Nonessential Experimental Population Area (applies to the portion of the Forest west of Interstate 15). After six or more breeding pairs become established in each experimental population Area, land-use restrictions will not be needed. (USDI Fish and Wildlife Service 1994 a and b) (S)	1. The recovery population goal has been met and these stipulations do not apply. Currently, there are no den sites or rendezvous sites within or near the project area. Land use restrictions are not needed.
2. The ability of individuals holding grazing permits on public land to harass adult wolves in an	2. This management direction does not apply to this project.

opportunistic, noninjurious manner will become part of their permit conditions so it is clearly understood exactly what can occur. There is a seven day reporting requirement. (USDI Fish and Wildlife Service 1994 a and b) (S)	
3. The following conditions and criteria will apply in determining the problem status of wolves. (USDI Fish and Wildlife Service 1994 a and b) (S) A. Wounded livestock or some remains of a livestock carcass must be present with clear evidence that wolves were responsible for the damage and there must be a reason to believe that additional losses would occur if the problem wolf or wolves were not controlled. Such evidence is essential since wolves may simply feed on carrion they have found while not being responsible for the kill. B. Artificial or intentional feeding of wolves must not have occurred. Livestock carcasses not properly disposed of in an area where depredations have occurred will be considered attractants. Removal or resolution of such attractants must accompany any control action. Livestock carrion or carcasses not being used as bait in an authorized control action (by agencies) must be removed, burned, treated with an acceptable chemical repellant, or otherwise rendered such that the carcass(es) will not attract wolves using methods approved by the District Ranger. C. Animal husbandry practices previously identified in existing approved Allotment Management Plans (AMPs) and annual operating plans for allotments must have been followed.	3. This management direction does not apply to this project.
4 If additional livestock depredations are likely, proper animal husbandry practices are employed (proper disposal of livestock carcasses, etc.), artificial feeding does not take place, and AMPs are followed, the Forest may implement procedures to harass, capture, move, or kill wolves that attacked livestock (defined as cattle, sheep, horses, or mules only) on National Forest land. (G). Prior to the establishment of six breeding pairs, depredating females and their pups will be captured and released at or near the site of capture, one time prior to October 1. If depredations continue, or if six packs are present, females and their pups will be removed. (USDI Fish and Wildlife Service 1994 a and be (S)	4. This management direction does not apply to this project.
5. Are there other site specific concerns which need to be discussed for this project related to gray wolf habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document.)	5. No mitigation measures are needed.
6. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	6. At the current time little or no effects, including cumulative effects, are expected due to the project because no wolf packs are in the area. Because the project area has homesites with pet dogs, wolf attacks on dogs are expected in the future. This would be a foreseeable future effect in that APHIS or permit holders will need to kill offending wolves. This is already

	occurring and is permitted under the new March 2008 IDFG management rules.
7. Determination of effects.	**7. Gray Wolf: It is determined that the proposed action to treat 273 acres will have "No Impact" on gray wolves.**

Citations in the reference section provide information about gray wolf biology, habitat requirements, population, distribution, and management direction in the Revised Forest Plan:

Wolverine (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

During the past decade wolverines have been studied intensively in east Idaho, western Wyoming and southern Montana by the Wildlife Conservation Society (WCS) (Inman 2006 and prior). Most of the work has been done by implanting radios in wolverines for tracking. Detailed information can be found at the WCS website: http://www.wcs.org/international/northamerica/401875/wolverine.

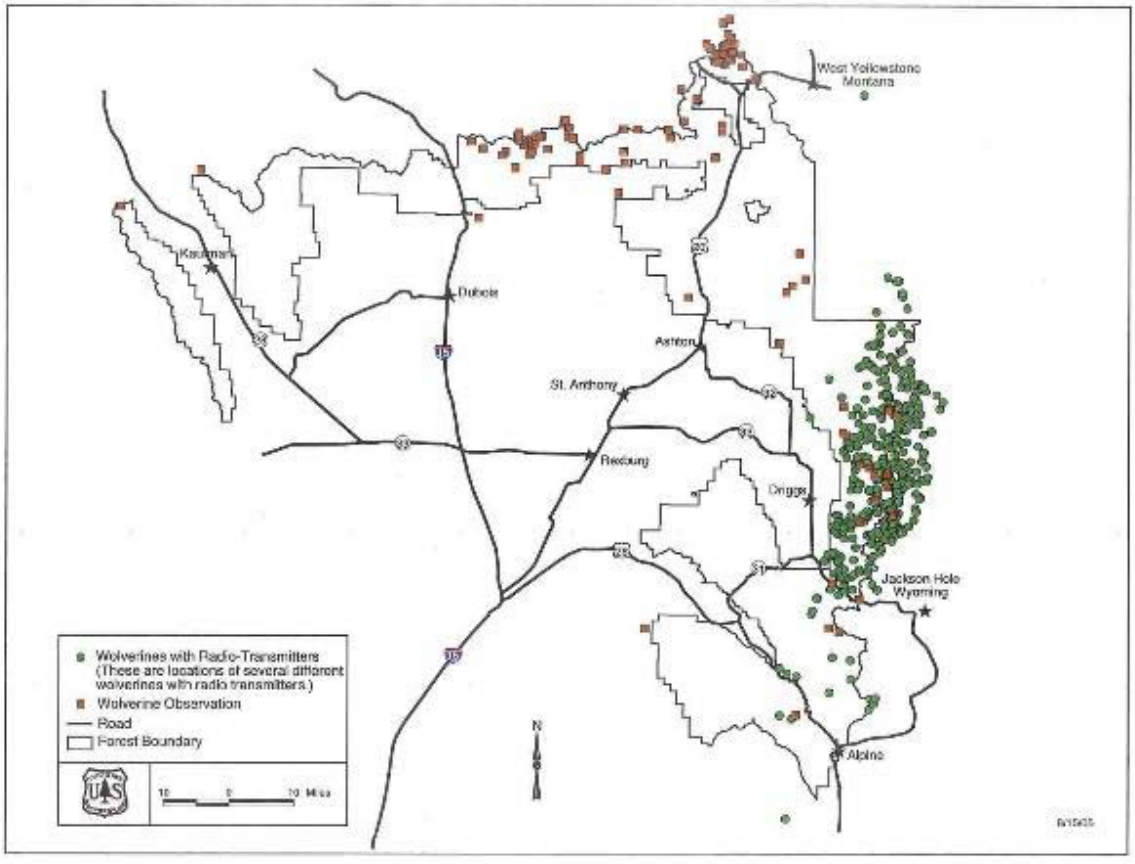


Figure 10. Wolverine data in the Greater Yellowstone Ecosystem. Note observations near the Calamity project area at Palisades Dam (USDA 2008; GIS database).

The Proposed Action to treat 273 acres in the Calamity area in relation to the Wolverine Standards and Guides in Revised Targhee Forest Plan (USDA 1997).

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
1. Does suitable wolverine habitat exist in the project area? (Until more information becomes available, habitat management prescriptions that successfully provide for the life needs of species such as the marten, fisher, and lynx and their prey will also provide for the needs of wolverines (USDA Forest Service 1994).	1. Yes, habitat exists for traveling wolverine, but there is no denning habitat in the immediate area. Potential denning habitat is mapped within 5 miles away (USDA 2008; GIS database) in both the Big Holes and Caribou Subsections.
2. If suitable wolverine habitat exists, have surveys been done to document wolverine presence? (current survey work, any previous survey work, any documentation of historical records (see Process Paper D), etc.)	2. Radio marked animals have been tracked near here in recent years (Inman 2005) and data is available. Records show wolverine on the Palisades District in 1997, 2002, 2004, 2005. A radio marked male was less than 1 mile to the project in 2002 (Inman 2005; unpubl. map). See figures for more details. Potential denning habitat has been mapped on the District about 4 miles from the project, but denning wolverine have been found.

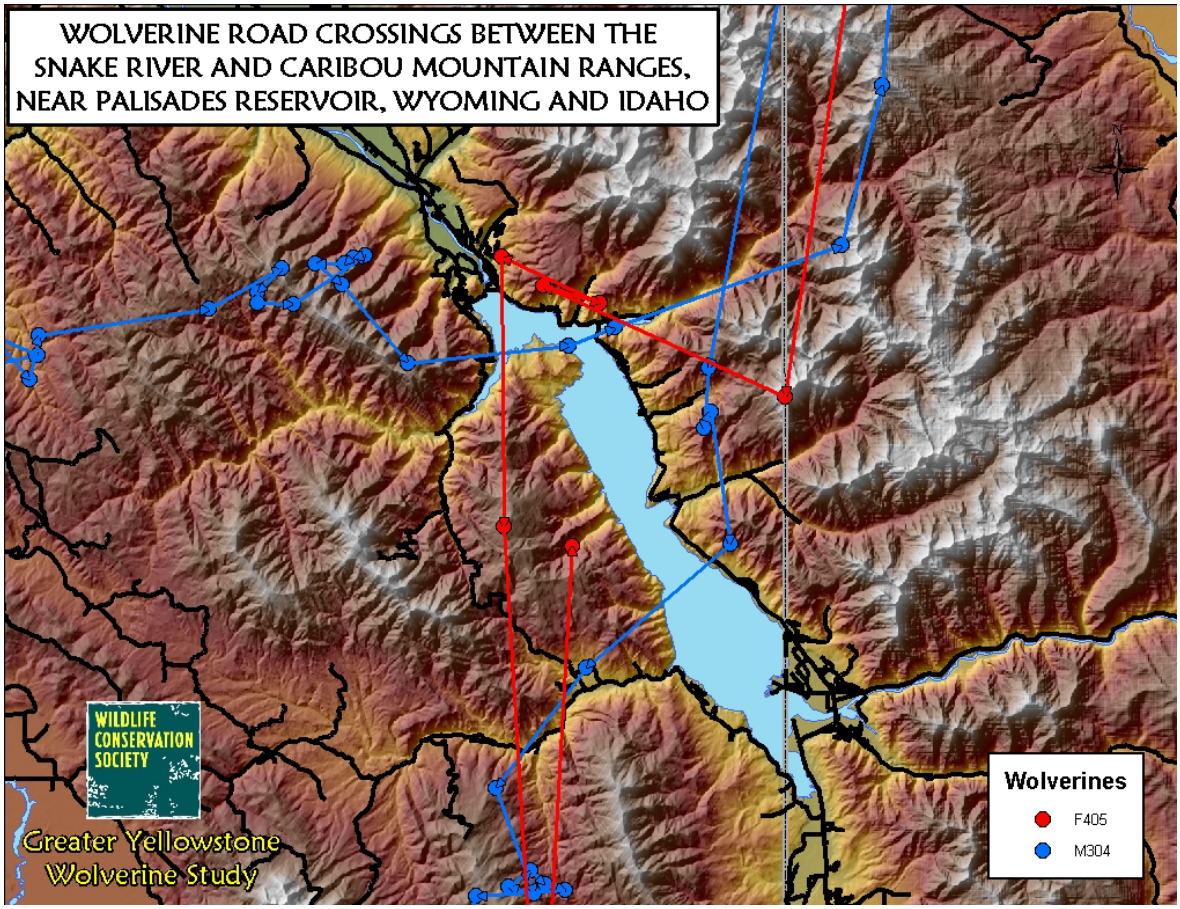


Figure 11. Woverine data on road crossings in the Palisades Ranger District Area from 2002 to 2005 using either satellite or aerial telemetry. Permission give by Greater Yellowstone Wolverine Study, Wildlife Cons. Society (WCS), B. Inman, Ennis, Mt.

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
3. Will the project maintain the quantity and distribution of mature, late-successional and old growth forest habitat as directed in the Revised Forest Plan? (see the following in the Revised Forest Plan: pages III-12, III-13, III-61, III-64, and numerous Rx's in the 1.x.x series, 2.x.x series, 3.x.x series, and 5.x.x series)	3. Yes, on a landscape basis. The project does not have old growth based on the FS Region 4 definition. In the immediate project area 273 forested acres will be brought to a mix of early, mid and late seral stages of forest habitat more reflective of historical conditions. Some Douglas-fir will be removed including old relict trees. But increased growth of Douglas-fir trees will occur in the future leading to potential DF old growth conditions.
4. Will the project maintain desired vegetation conditions in aquatic influence zones? (see Rx 2.8.3 in the Revised Forest Plan)	4. Yes, no riparian habitat or AIZ will be affected by this project. All decking and logging will be kept out of the designated AIZs.
5. Will OROMTRD standards in the Revised Forest Plan be maintained? (see individual Rx's in the Revised Forest Plan)	5. Yes. Forest plan direction will be met. There is no new roading with this project.
6. Are there other site specific concerns which need to be discussed for this project related to wolverine habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document.)	6. No concerns. Forest plan direction will be met. Mitigation such as the placement of water guzzlers as funding opportunities (e.g. KV) occur will benefit this species by improving prey species.
7. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	7. None. There will be no impact to denning wolverines and animals traveling through the area, even during logging operations, are not expected to be adversely affected.
8. Determination of effects.	**8. No Impact**

Fisher (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
1. Does suitable fisher habitat exist in the project area? (mature, late-successional, and old growth forests)	1. Yes.
2. If suitable fisher habitat exists, have surveys been done to document fisher presence? (current survey work, any previous survey work, any documentation of historical records (see Process Paper D), etc.)	2. No surveys have been done in the immediate project area, and there are no known specific historical records except Webster 1974 which is a general statement of their presence on the Caribou NF. Idaho Conservation Data Center (CDC) also has a fisher recorded about 18 miles north of the project near the Forest boundary on the Teton Basin Ranger District. There are a rare few other records in the Greater Yellowstone Ecosystem.

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
3. Will the project maintain the quantity and distribution of mature, late-successional and old growth forest habitat as directed in the Revised Forest Plan? (see the following in the Revised Forest Plan: pages III-12, III-13, III-61, III-64, and numerous Rx's in the 1.x.x series, 2.x.x series, 3.x.x series, and 5.x.x series)	3. Yes, on a landscape basis. The project does not have old growth based on the FS Region 4 definition. In the immediate project area 273 forested acres will be brought to a mix of early, mid and late seral stages of forest habitat more reflective of historical conditions. Some Douglas-fir will be removed including old relict trees. But increased growth of Douglas-fir trees will occur in the future leading to potential DF old growth conditions. For a period of time, fisher habitat will be modified in this relatively small area.
4. Will the project maintain desired vegetation conditions in aquatic influence zones? (see Rx 2.8.3 in the Revised Forest Plan)	4. Yes, no riparian habitat or AIZ will be affected by this project. All decking and logging will be kept out of the designated AIZs.
5. Will OROMTRD standards in the Revised Forest Plan be maintained? (see individual Rx's in the Revised Forest Plan)	5. Yes. There is no new roading with this project.
6. Are there other site specific concerns which need to be discussed for this project related to fisher habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document.)	6. No.
7. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	7. None. There will be a local impact to potential fisher habitat, but because of their rarity minimal negative effect is expected.
8. Determination of effects.	**8. 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.**

Pygmy Rabbit (Sensitive) - Direct, Indirect and Cumulative Effects

No animals or habitat is known or suspected on the Palisades Ranger District. Closest population is about 50 miles from project area to the northwest (west of Rexburg, Id.; Roberts (2003 and 2004; USDI, BLM). There are no data of pygmy rabbits in the Swan Valley area so **"no impact"** from this alternative is expected.

Spotted Frog (Sensitive, MIS) - Direct, Indirect and Cumulative Effects

QUESTION/STANDARDS & GUIDELINES	EXPLANATION & DISCUSSION
1. Does suitable spotted frog habitat exist in the project area?	1. Only in the riparian AIZ areas in the general area and these are not locations of impact by this project. No logging or decking will be done in the

	potential frog habitat.
2. Have surveys been done to document the presence of spotted frogs? (current survey work, any previous survey work, any documentation of historical records (see Process Paper D), etc.)	2. No specific surveys have been done in the project area. The only positive record is on the north end of the Palisades Ranger District in the Big Hole Mtns (Parkin and Stricklan 2002).
3. Will riparian vegetation be maintained in desired vegetation condition? (see page III-22 and Rx 2.8.3 (pages III-106 to 112) of the Revised Forest Plan)	3. Yes. No riparian AIZ vegetation will be in the impact zone of this project.
4. Are there other site specific concerns which need to be discussed for this project related to spotted frog habitat? Include additional mitigation measures (any additional mitigation measures should also be included in the NEPA document.)	4. No.
5. Any other items not included in the above? (Include discussion of cumulative effects if pertinent and not covered in the above.)	5. No. Any undiscovered spotted frogs will be protected with this alternative.
6. Determination of effects.	**6. No Impact**

Yellowstone Cutthroat Trout (Sensitive, MIS)

The Yellowstone cutthroat trout is present in the South Fork of the Snake River about 1 mile away and in adjacent Palisades Reservoir. Please refer to the fisheries biological evaluation, analysis and determination by J. Capurso (2008) available at the Palisades Ranger District.

Sensitive Plants

Refer to the separate botanical biological evaluation, analysis and determination by R. Lehman (2008) available at the Palisades Ranger District.

Red Squirrel and Pine Marten Habitat (MIS) – Affected Environment

Forest Data and Natural History: These MIS species represent mature, late seral and old growth (relict) conifer forests. Squirrels are associated with conifer that is of sufficient age to produce cones (USDA, FS 1997; paper D) and squirrels are a primary prey for marten. The conifer in the project has both species the red squirrel and pine marten. Squirrels are common in the pines and mixed edge habitat (Alford 2008). Based on habitat relationship information pine marten will be here also. The Calamity furbearer transect within the project area boundary has similar habitat and marten are regularly found on these data counts as are red squirrel. Red squirrel is a regular on most all furbearer transects on the District (USDA, FS 2008; furbearer data).

All of the Palisades Ranger District furbearer transects have been good monitoring tools for red squirrel trends on the District. The Calamity tracking survey has been done in the immediate project area. Both species need snags and down dead wood in the conifer forest. Squirrels compete

with secondary cavity nesters for cavities. Martens use woody material for dens and for hunting prey items (e.g. red squirrel) in subnevian habitat created by the woody material. It has been observed on District transects that pine marten will often use open thinned forested areas and will cross open spaces between conifer patches (Alford 2008; USDA, FS 2008; furbearer data). However, it is observed that down woody material in the openings (e.g. both slash piles and scattered wood) is used as traveling and hunting routes with martens going both above and below the snow on the route. In the Moody transect they use both late seral lodgepole pine and 46 year old clearcuts (with a mix of conifer re-growth, aspen and brush) to take advantage of the abundant snowshoe hare, rabbit and squirrel prey items found there (Alford 2008; USDA, FS 2008; furbearer data).

Management Direction: There is no specific direction in the RTFP (USDA 1997) for pine marten and red squirrel for this location other than that listed for down dead woody material (page III-15) and snags (page III-16 & 17). The direction for woody material can be complex, but generally says that on at least 60 percent of forested acres of each analysis area an average of 21 - 42 logs per acre should be left consisting of logs in various decomposition classes and less logs may be left if the fuel loading exceeds 25 tons per acre. For a discussion of snag direction refer to the woodpecker/ cavity nester section above.

Red Squirrel and Pine Marten (MIS) - Direct, Indirect and Cumulative Effects

Late seral forests, old growth trees and standing/ down dead woody habitat represented by these species would be impacted to a degree by this project to mechanically treat 273 acres. Based on the FS Region 4 guidelines, there are currently no known old growth stands in the project area which meet the definition, so this would not be a problem. The cone crop for squirrels in the immediate sale areas will be reduced. Target tree species for harvest and reduction include late seral Douglas-fir, lodgepole pine and subalpine fir as well as hazardous fuels (standing dead/dying and down woody material). The project partially mitigates for this habitat loss for squirrel and marten by leaving some dead woody material in portions of the project away from the summer homes. Some standing dead and living snags, down dead woody material (particularly logs and slash piles) are favored habitat for both species. There will be a negative effect on them in the immediate project area such as prescription 4.2 and to a less extent in prescription 5.1.3b. On the landscape level there will be populations of both species which will re-colonize the project area as it ages.

As prey items (i.e. hares, etc) increase over time (i.e. 20 years or more) in the treated areas, predators such as the pine marten will benefit, particularly in the adjacent late seral untreated forest. This has been illustrated in the old timber sales (46 years old) of Fish Creek in the Big Hole Mountains on the Targhee National Forest where marten are now benefiting by high levels of prey density (USDA 2008; furbearer transect data; see lynx above). Directly, there will be a negative effect on these species. Indirectly and cumulatively over time there will be an improvement in the wildlife habitat edge diversity and thus diversity of wildlife prey species. The determination for red squirrel and marten is that there will be a local negative effect for a period of time, but improved habitat over the long term.

Big Game (Elk MIS) – Affected Environment and Direct, Indirect and Cumulative Effects

The proposed treatment area is elk and deer spring-summer-fall range. Forage consumed here provides body fat for winter survival. Moose use the area year-round also. All are local all year. Producing a balance of forage and cover for elk, deer and moose is a desired outcome here. Prescriptions 4.2 and 5.1.3b have no special emphasis or direction for big game in the RTFP (USDA 1997). Elk is a MIS species on the Targhee Forest (USDA, FS 1997; process paper D). Currently, the 273 acres of forested habitat proposed for treatment is an opportunity to improve forage for game. With treatment there will be a degree of reduction in game hiding cover and thus in elk habitat effectiveness (EHE), but the benefit of forage increase will out-weight the loss of cover.

Thermal Cover: Thermal cover for elk has received a lot of research attention in the past 30 years. It was once thought that thermal cover was very important for elk survival and health (Thomas 1979). More recent research by Cook et al. (1998) has indicated that thermal cover for elk, particularly in cool weather, is not as necessary as once thought. The research indicates that forage is a more important habitat feature (WFPA 2003). Based on these findings the proposed Calamity treatment (which would reduce coniferous thermal cover) would have little negative effect on elk thermal needs.

Forest Data and Natural History: Historically, the dominant ungulate species on the landscape in this area were bison and bighorn sheep. They along with elk fit into the unroaded ecological scene of the time which was driven by fire. The former species are not now managed in this particular area by the Idaho Department of Fish and Game (IDFG 1990; BH Mgmt. Plan). Currently the project area provides big game security and forage for elk, deer and moose in scattered parcels of forest habitat. The IDFG identifies this area as part of hunt unit 66. The main vegetation includes mixed conifer of lodgepole pine, Douglas-fir and subalpine fir, quaking aspen, sagebrush, snowberry and larger mountain shrub (maple). All of the forested areas are about 90 percent old or mature class. A lack of natural wildfire during the past century has resulted in this old and decadent condition. Aspen clones which are important for elk, deer and moose are being suppressed by conifers (Alford 2008), and need more solar radiation to rejuvenate (Murphy 2005).

Motorized Road and Trail Densities: In prescription 4.2 there is no motor route density standard, but vehicles must stay on designated routes in summer. In prescription 5.1.3b the motor route standard is 3 miles per sq. mile or less. Any change in elk vulnerability (EV) in the fall hunting season due to this proposed project is too small to be measured because EV is calculated on the larger hunt unit basis. The same is true for the EHE measurement due to the higher level of motorized access. No new roading will be built for this project and road/ trail density stays the same.

Aspen and Other Forage: Fuels will be reduced with this project and this will reduce the likelihood of root damaging catastrophic fire events in the immediate area of any aspen clones. Logging will result in sunlight being allowed to enter where there is now closed forest canopy. Therefore the opportunity for future aspen regeneration and restoration is high. There is a greater opportunity for increasing the sprouting of aspen and other forage browse for big game. Cover for big game would be reduced with this alternative in the short term, but the need is for better forage for transitional game and this will help improve herd health throughout the spring-summer-fall season. This will also assist animals entry into the stressful winter season with better fat reserves on their bodies.

Construction of water guzzlers would benefit big game as well as other wildlife as funds are available (e.g. KV). Overall, the project treatment of 273 forested acres will have a short term negative effect on big game hiding cover, but a positive effect on game forage. There will be a positive benefit for aspen clones. In the long term the habitat will be improved and diversified for big game and other wildlife over the existing ecological condition which is becoming stagnant and decadent. The future ecological condition will move toward what was natural under the historical fire regime.

Neotropical Migratory Birds – Affected Environment

According to the Cornell Lab of Ornithology (CLO and USDA FS, 2008) there has been a growing concern among experts about declining trends in many North American bird populations for over a decade. Initially, the greatest concern was Neotropical migrant birds that breed in North America and migrate to the New World tropics to spend the winter. This group includes species that are dependent on native grassland and shrub habitats as well as those that require large tracts of mature forest for breeding. Evidence of population declines comes primarily from the Breeding Bird Survey (BBS), a program administered by the Biological Resources Division of the U.S. Geological Survey and the Canadian Wildlife Service. The BBS is a bird-counting effort conducted each June by about 2,500 volunteer birders in the United States and Canada (CLO/USDA 2008).

Several factors are expected to be responsible for species declines, including loss of habitat on tropical wintering grounds or along migratory corridors, particularly coastlines. But considering that many of the declining species are forest specialists, attention has also focused on habitat changes in North American forests (such as this vegetation project). BBS data show trends in numbers and distributions and projects such as "Birds in Forested Landscapes" (BFL) being conducted by CLO and USDA, Forest Service can examine the habitat needs of forest birds. Understanding habitat requirements helps determine potential reasons for the declines so as to formulate management recommendations to maintain populations (CLO/USDA 2008).

Forest Data and Natural History: Neotropical migratory birds (NTMB) use all habitats within the Calamity project area during the breeding season. The project area has nesting habitat for both forest and rangeland birds which winter south of the border in Mexico and beyond. A major percentage of Idaho's 243 breeding bird species are in the project area (Idaho Partners In Flight 2000; Id. Bird Cons. Plan). Of the 119 species of neotropical migrant birds in Idaho, it is estimated that at least 65-70 percent are found there. A study in similar habitats on the Palisades Ranger District found 78 species (Kiene 1998). The northern goshawk and flammulated owl are two neotropical migrants which are treated in detail above because they are also FS Sensitive Species as well as Targhee Forest MIS Species. No monitoring of neotropical bird species numbers or diversity has been conducted within the project area, therefore local population trends are unknown. However, by habitat relationship data (Idaho PIF 2000) it is determined which species are here.

Idaho Bird Conservation Plan Habitats and Species

Lodgepole Forests: The Idaho PIF Bird Conservation Plan (2000) has not identified any high priority species using lodgepole pine as their primary breeding habitat. However, 31 species breed in lodgepole and 5 species use it as their primary breeding habitat. Many species with the highest percent population scores (Idaho PIF 2000; appendices 2 and 3) breed in lodgepole and therefore land resource managers within Idaho have a responsibility to maintain or improve the quality of this

habitat. Seral lodgepole is one of the tree species targeted by this vegetation project.

Mountain Brush: This habitat is found scattered among other conifer and aspen types in and around the project area. The mountain brush habitat identified by PIF includes mesic upland deciduous shrub communities which occur in northern Idaho and warm mesic shrubs which are upland shrublands that occur naturally or are initiated by fire or timber cutting. The warm mesic shrublands include alder, serviceberry, Oregon grape, snowberry, ceanothus, ninebark, chokecherry, rose, currant, willow, elderberry, and spirea. There may also be mountain big sagebrush. This type occurs throughout Idaho. No high priority species use the mountain brush habitat as their primary breeding habitat. However, the Sharp-tailed Grouse (non NTMB) is dependent upon this type for wintering habitat.

Sagebrush Habitat: This is a high priority habitat for management of birds in Idaho. It is not a target habitat of the project, but it is present on the edges in a limited amount. There are 13 high priority and target bird species for management in sagebrush and those of most concern are the sage obligate species. There are 9 species which use sagebrush as their primary breeding habitat. Many of these are migratory.

Aspen Forest: Clones are scattered in the project and are experiencing conifer encroachment which is altering species abundance and biodiversity. The current insect epidemic is working to impede this encroachment by causing heavy conifer mortality in many of these areas. The reduction in competition will assist decadent and suppressed aspen stands to release and expand back into historically occupied habitats. Over 30 bird species breed in aspen forests in Idaho, but there are no bird species that occur only in aspen stands. However, some species, for example the Red-naped Sapsucker, Warbling Vireo, Orange-crowned Warbler, Northern Waterthrush, Cordilleran Flycatcher, Blue Grouse, and Ruffed Grouse are particularly attracted to aspen stands for at least part of the year. Goshawk commonly nest in aspen stands and the flammulated owls typically nest in aspen snag cavities (Alford 2008; Bandolin 2000 Id. PIF pers. comm.). Aspen provides a deciduous component within coniferous or shrub steppe habitats, increasing plant and animal species diversity. Aspen trees are especially important for cavity nesters because of their susceptibility to heart rot. Thirteen cavity nester species are associated with aspen. The diverse, and often moist understory attracts insects that are important to the insectivores. Suppressed aspen clones are a target in the project area so as to increase clone vigor and increase fire resistance to local homes and buildings located there.

Riparian Habitat: This is a high priority bird habitat in Idaho and it is present near the project area but not in the impact zones. Thirteen high priority bird species use riparian as a primary breeding habitat. Of the 243 bird species breeding in Idaho, 113 or 46 percent use riparian for nesting. Many of the other 130 species also use riparian habitat as a source of water, as migratory corridors, or for other purposes. Of the 119 NTMB 68 or 57 percent use riparian habitat.

Low Elevation Mixed Conifer Forest: This is a broad category PIF habitat which includes Douglas-fir as well as other conifer species. It is found in the project area and the primary habitat targeted for fuels reduction here. Idaho PIF lists 83 bird species that use this habitat as breeding habitat, of which 35 use it as a primary breeding habitat. Nine high priority bird species use this habitat as their primary breeding habitat. In Idaho these include Lewis' Woodpecker, Williamson's Sapsucker, Dusky Flycatcher, Varied Thrush, Townsend's Warbler, Northern Goshawk, Western Tanager, Sharp-shinned Hawk, and Brown Creeper. In addition, many of the species with the highest percent population scores (Idaho PIF 2000; appendices 2 and 3) breed in this habitat.

Targhee Revised Forest Plan Management Direction: Migratory birds are not listed as a group in the RTFP (USDA 1997) for analysis, and only a few are federally listed by the FWS or as a FS Sensitive Species. However, because of federal direction and the Migratory Bird Treaty Act protections they are discussed.

Executive Order (EO) 13186: This order was signed January 10, 2001, lists several responsibilities of federal agencies to protect migratory birds. Direction includes:

> 1) Support the conservation intent of the migratory bird conventions by integrating bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions.
>
> 2) Ensure that environmental analyses of Federal actions required by the NEPA or other established environmental review processes to evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern.
>
> 3) Identify where unintentional take reasonably attributable to agency actions is having, or is likely to have, a measurable negative effect on migratory bird populations, focusing first on species of concern, priority habitats, and key risk factors. With respect to those actions so identified, the agency shall develop and use principles, standards, and practices that will lessen the amount of unintentional take, developing any such conservation efforts in cooperation with the Service. These principles, standards, and practices shall be regularly evaluated and revised to ensure that they are effective in lessening the detrimental effect of agency actions on migratory bird populations. The agency also shall inventory and monitor bird habitat and populations within the agency's capabilities and authorities to the extent feasible to facilitate decisions about the need for, and effectiveness of, conservation efforts.

Memorandum of Understanding: Additional direction comes from the Memorandum of Understanding (MOU) between USDA Forest Service and USDI Fish and Wildlife Service, signed January 17, 2001. The purpose of this MOU is to strengthen migratory bird conservation through enhanced collaboration between the FS and FWS, in coordination with state, tribal and local governments. The MOU identifies specific activities for bird conservation, pursuant to EO 13186 and includes:

1. Strive to protect, restore, enhance, and manage habitat of migratory birds, and prevent the further loss or degradation of remaining habitats on National Forest System Lands. This includes:

> a. Identifying management practices that impact populations of high priority migratory bird species, including nesting, migration, or over-wintering habitats, on National Forest System Lands, and developing management objectives or recommendations that avoid or minimize these impacts. This will help inform future specific protocols called for in an MOU implementing the Executive Order.

Migratory Bird Treaty Act: This act provides for the protection for birds which migrate across international boundaries with Mexico and Canada. As with any vegetation manipulation project unintentional take of individual birds, nests and nestlings may occur. As referenced by the 2001 Executive Order above agencies are to identify where unintentional take on migratory birds is

occurring due to agency actions, particularly species of concern, priority habitats and identify key risk factors. The agencies are to use practices which will lessen the unintentional take. This effort is covered by the 2001 MOU between the Forest Service and US Fish and Wildlife Service as described here. For this particular project mitigation is stipulated which will lessen the impact on migratory birds.

Neotropical Migratory Birds – Direct, Indirect and Cumulative Effects

The Calamity fuels project will impact NTMB birds directly, indirectly and cumulatively. Upwards to 273 acres of nesting forest habitat will be altered. This is a cumulative effect of new acreage being impacted in addition to that forest type which was removed or altered during the past decades due to urban development as well as roads, campgrounds and Palisades Dam construction and inundation.

Lodgepole Habitat: Most of the new direct and indirect impact will be in mature coniferous forested habitat as well as aspen. Lodgepole pine is not considered a priority habitat for NTMB and currently no priority breeding bird species use lodgepole pine as their primary breeding habitat. However, 31 species of birds are known to nest in lodgepole and 5 species use it as their primary breeding habitat. It is estimated that about 90 percent of the current lodgepole type will be altered within the project area.

Sagebrush Habitat: Little or no impact is expected on sagebrush dependent NTMB species.

Mountain Brush: Mountain brush habitat will be impacted, but mountain brush is expected to increase and resprout with the opening up of forest canopy to more sunlight. This diversification and new growth of mountain brush will benefit a diversity of NTMB bird species in the longer term. Some brush would be altered. No high priority bird species use the mountain brush habitat as their primary breeding habitat so no critical effects on NTMB are expected.

Aspen Habitat: Aspen habitat will be impacted. For aspen in the prescription areas it is also difficult to quantify the exact impact on acreage. Aspen like brush is scattered in the project area. Aspen also is expected to increase and resprout with the opening up of forest canopy to more sunlight. The over abundance of mature class aspen would decrease some and the more open forest canopy after treatment will benefit the production of younger aspen age classes. This diversification of the aspen type will benefit a diversity of NTMB bird species in the longer term. The aspen type which is actually declining due to old age and encroachment by conifer will be rejuvenated by the treatments (e.g. mechanical and burning). For a period of time, some of the 30 species plus, which are potentially nesting in aspen will be negatively impacted by this alternative, but in the long term aspen associated species will benefit. The mitigation measure to restrict treatment activity during the nesting season March 16 until July 10 will help prevent the direct mortality of birds in the nest and young fledglings still unable to fly. Other projects and design features identified will benefit birds such as temporary nesting structures and water guzzlers. Goshawks on the Palisades RD have actually been attracted into a treated timber sale area by a guzzler and flammulated owls in an aspen snag have been cut down by a firewood cutter during the nest season (Alford 2008; Kerner 2004; Merrill 1997).

Riparian Habitat: The project area is not in riparian habitat. Birds nesting in riparian habitat nearby will not be affected.

Low Elevation Mixed Conifer Forest: For the mixed conifer forest such as Douglas-fir, alpine fir, spruce mixed with lodgepole the project will impact NTMB birds directly, indirectly and cumulatively. Upwards to 273 acres of nesting habitat will be altered. This is a cumulative effect of new acreage in addition to that removed or altered already by urban development, roading, campgrounds and dam construction. Most of the new direct and indirect impact will be in mature conifer forest and aspen. Mitigation and design features will help soften the impact on the 9 high priority birds which use this type as their primary breeding habitat as well as the other 74 breeding birds here. Thirty-five of these species use this forest type as a primary breeding habitat (Idaho PIF 2000). However, the intensity of the impact from habitat change and direct mortality will be softened by leaving some of the standing snags and down woody material/ wood piles away from the houses and buildings in the project area, and by delaying the treatment activity until after July 10 (March 16 to July 10). The treatment will impact a percentage of this type, but the plan is to leave a portion of the Douglas-fir type including old relict trees which have high value for neotropical song birds (RTFP Caribou subsection direction, USDA 1997).

In the broader landscape view of the whole Caribou subsection, most of the coniferous cover type acres are predominately late seral and mature/ over mature forest in roadless areas where little future timber harvest will occur (USDA, FS 1997; RTFP; USDA, FS 2008; GIS database). This broad expanse of mixed conifer forest habitat is available to NTMB birds for nesting. With this perspective the Calamity Summer Home Fuels Project will have a minimal effect on neotropical songbirds in this type on the Palisades Ranger District and Caribou Subsection landscape.

This alternative to treat the vegetation and fuels in this area is compliant with the EO 13186 because the analysis meets the Forest Service obligation as defined under the January 16, 2001 MOU between the USDA-FS and USDI-FWS designed to complement EO 13186 and Migratory Treaty Act. As required under this MOU, this alternative: 1) Identifies management practices that may affect high priority species as defined in the MOU and Partners in Flight, and 2) Develops conservation measures to avoid or minimize impacts to migratory birds. Overall, the negative effect on birds will occur for a period of time and composition will change as vegetation composition and structure changes.