Terrestrial Wildlife

This section describes the terrestrial wildlife species found in the project area and the effects of the alternatives on these species. Rather than addressing all wildlife species, discussions focus on Forest Plan management indicator species (MIS), threatened, endangered and sensitive (TES) species, Forest Plan featured species, and landbirds (see individual species lists below). The existing condition is described for each species, group of species, or habitat. Direct, indirect and cumulative effects of alternatives are identified and discussed. Supporting wildlife documentation is located in the Egley Fire Wildlife Report and Biological Evaluation (BE) in the Project Record, and includes detailed data, methodologies, analyses, conclusions, maps, references and technical documentation used to reach conclusions in this environmental analysis.

Old Growth and Old Growth Dependent Species

Approximately 2,000 acres of old growth and 570 acres of Research Natural Area (RNA’s) burned during the Egley fire. RNA’s are included in old growth allocation in the Ochoco Forest Plan.

*Pileated Woodpecker*

Pileated woodpeckers are management indicator species for old growth habitat in the Malheur and Ochoco National Forest Plans. Prior to the Egley Fire, about 620 acres of old growth within the fire perimeter were considered habitat for pileated woodpeckers. The remaining old growth stands were located in drier ponderosa pine plant associations that were historically more open and did not contain the high density of mixed conifers needed for pileated woodpeckers. The old growth in Bear Canyon (322 acres) may still provide marginal habitat for pileated woodpeckers since it burned at a lower intensity.

*Pine Marten*

Pine martens are found in mesic conifer forests with a well-developed canopy and complex physical structure near the ground (Ruggiero et al. 1994). Prior to the fire, there was no probable marten habitat within the fire perimeter. The closest designated pine marten area is over 20 miles to the north. Since there is no habitat available for marten in the Egley burn, no further analysis for pine marten is necessary.

*Three-Toed Woodpecker*

Three-toed woodpeckers are MIS for old growth lodgepole pine on the Malheur National Forest. There are no designated habitat (lodgepole old growth) areas for three-toed woodpecker in the fire perimeter. Therefore, three-toed woodpecker occurrence in Egley fire area would be rare and if it did occur would be restricted to the more mesic areas at the northern portion of the burn.

*Northern Goshawk*

Goshawk is a species specifically identified in the Regional Forester’s Eastside Forest Plan Amendment #2. They utilize a wide range of mature and immature forest habitat types. In general, goshawks, nest in mature and old forest stands of relatively large trees with closed canopies (>50%) and an open understory. Four known goshawk territories
were burned at moderate to high intensities making the nest sites unsuitable for nesting. The surrounding foraging and post-fledging areas were also burned at high intensities. Nesting habitat may have been reduced, but foraging habitat likely increased. The high concentrations of snag habitat will provide prey for goshawks in the future.

**Late and Old Structure (LOS)**

Approximately 25,600 acres of LOS remain in the 15 subwatersheds within and adjacent to the Egley fire. Most LOS is dry ponderosa pine with the exception of a few mixed conifer stands in the upper Emigrant Creek watershed. Most multi-layer LOS stands within the fire perimeter burned at moderate to high severity converting most of the LOS to snag habitat. The largest reduction of LOS occurred in the Little Emigrant subwatershed.

LOS that burned at low severity created favorable habitat for wildlife preferring open ponderosa pine stands. Some of the multi-layered stands in the low burn severity areas were converted to single strata. This is preferred habitat for white-headed woodpecker, white-breasted nuthatch and cone eating birds like Cassin’s finch and crossbills. Squirrels will benefit from the increase in cone production; however the loss of cover will increase the probability of predation. Loss of downed logs in the open stands of LOS will also increase predation rates for some species of small mammals.

The 1990 wildfires also reduced large acres of LOS in the southern portion of Egley fire including the southwestern part of the Dairy Creek subwatershed. Pine Springs and Dairy Creek subwatersheds only have about 100 acres and 350 acres of LOS remaining respectively. These isolated LOS stands lack connectivity to other old structure stands.

**Connectivity**

Connectivity is linkage between LOS and old growth stands to allow movement for wildlife species. Connectivity is needed for dispersal of young mammals, birds, and reptiles. Within the fire perimeter, connectivity was fragmented in the moderate and high severity burned areas and maintained at various levels in the low severity burned areas.

Regional Foresters Amendment directs maintenance of connectivity between LOS and old growth with at least two corridors; however the amendment applies to unburned stands. Since the proposed actions would not reduce any remaining connectivity, no further analysis is needed.

**Management Indicator Species (MIS)**

MIS are species identified in the Forest Plans that are used to monitor the effects of activities on viable populations of wildlife and fish including those that are socially or economically important. The Egley fire created an abundance of habitat for some MIS woodpecker species but reduced habitat for other species. Woodpeckers that benefit from a stand replacement event includes black-backed, Lewis’, and hairy. Habitat declined for pileated woodpecker and sapsucker species. Other primary excavators had an increase in nesting habitat, but a decline in foraging habitat.
Black-backed Woodpeckers

Black-backed woodpeckers have declined in approximately 50% of the watersheds in the Blue Mountains due to the reduction in late-seral montane forests and loss of medium snags (9-21”dbh). Black-backed woodpeckers are dependent on bark beetle infestations and pulses of wood boring insect populations. Post fire habitat creates these conditions as insects invade the burned trees.

Saab and Dudley (1998) found black-backed woodpecker nesting was exclusively in unlogged stands with minimum snag densities of 57 snags per acre. Black-backed woodpecker habitat is limited in the Egley fire complex. The greatest potential for nesting habitat for black-backed is in the Delintment, Dodson, and Blue Creek drainages in burned old growth. Approximately 4200 acres of potential black-backed habitat is within the Egley fire based on the current snag densities presented in DecAid.

Hairy woodpeckers

Hairy woodpeckers are habitat generalists but take advantage of the abundance of bark beetles and insects associated after fires. Population numbers in Oregon are stable.

Nesting and foraging habitat exists throughout the Egley fire for hairy woodpeckers; in fact, several were sighted during the fall of 2007. There is estimated to be approximately 12,700 acres of reproductive habitat in Egley. There is additional reproductive habitat in adjacent subwatersheds.

Lewis’ woodpeckers

Lewis’ woodpecker an MIS has recently been added to the Region 6 Sensitive Species and is an Oregon state sensitive specie. Speculation for population declines are attributed to loss of oak woodlands, pesticides, and nest displacement by introduced European starling (Tobalske, 1997). Wisdom et. al. (2000) estimated an 85% decline in habitat for Lewis’ woodpecker in the Columbia Basin and 72% of the watersheds in the Blue Mountains of eastern Oregon had at least a 60% decline in habitat compared to historic conditions.

Saab and Dudley (1998) found the highest nest densities of Lewis’ woodpecker in recently burned forests where partial logging retained at least 24 snags per acre greater than 9 inch diameter, with 6 of those snags greater than 20 inch diameter. Nesting densities per mile were 1.7 in the logged compared to 0.8 per mile in the un-logged area.

Habitat for Lewis’ woodpecker consists of open ponderosa pine forests and cottonwood riparian. Lewis’ woodpecker need open habitat for foraging and clumps of large soft snags for nesting. Fire creates the open habitat, provides snag habitat, and enhances shrub production for insects. Lewis’ woodpecker usually occupy stand replacement fire habitat at lower elevations approximately five years following the fire post decay. They are light excavators and utilize cavities excavated by other woodpeckers such as flickers and hairy woodpeckers (Bock, 1970).

DECAID estimates approximately 14,700 acres of Lewis’ woodpecker habitat (at least 24 snags per acre greater than 9 inch diameter) within the Egley burn. When large snags are included in the habitat estimate, there is approximately 9,650 acres of suitable nesting habitat (at least 24 snags per acre greater than 9 inch diameter, with 6 of those snags
greater than 20 inch diameter) within the Egley burn. The most probable and suitable habitat would be near Green Butte where old growth ponderosa pine were present prior to the fire.

Lewis’ woodpeckers were frequently sighted in the old Pine Springs burn of 1990, portions of which re-burned in the Egley fire. Salvage logging and fire wood cutting removed most of the snags within the Pine Springs burn, nevertheless, Lewis’ woodpecker began occupying the Pine Springs burn approximately in 1995 (pers. obs.). Pine Springs burn contained dense populations of snowbrush (Ceanothus spp.) which produced substrate for insects and may have been a factor for the concentrations of Lewis’ woodpecker.

**White-headed woodpecker**

White-headed woodpecker an MIS has recently been added to the Region 6 Sensitive species list. ICBEMP found white-headed woodpecker was one of only eight species of the 97 analyzed that showed strong decline in habitat with declines > 60% from historic conditions.

Snag densities at white-headed woodpecker nest sites vary from an average of 52 snags per acre in burned forest to 1.8 large snags per acre in unburned dry ponderosa pine forests (DecAid). White-headed woodpecker tend to use moderate to light burn areas with open park-like understory adjacent to green trees for foraging. White-headed woodpecker forage on large ponderosa pine and eat seeds from cones in the winter and early spring prior to insect activity. Based on snag analysis within the Egley burn, there is approximately 27,100 acres of potential nesting habitat for white-headed woodpecker. Recruitment of snags along the fire perimeter and within clumps of green trees from delayed mortality will create additional habitat for white-headed woodpecker and other woodpeckers.

**Northern flicker**

Northern flickers are MIS on the Ochoco National Forest for old growth dependent species in juniper steppe habitat. Northern flickers are habitat generalists preferring open habitat. In Oregon, population statistics based on breeding bird data show a non-significant decrease of 0.6 percent from 1966 to 2000 (Sauer, 2001).

Northern flickers may be encountered in almost any terrestrial habitat, but generally most abundant in open forests and forest edges adjacent to open country (Marshall et al. 2003). Northern flickers nest in older forests in remnant large-diameter snags.

Post fire snag analysis for Northern flickers indicated approximately 11,000 acres of potential nesting habitat in the Egley burn. Since this woodpecker is a generalist and will nest in suitable habitat with large diameter soft snags it can be surmised there will be abundance of nesting habitat in the future as snag decay rates increase. Since Northern flickers forage primarily on the ground, snags are not as important for foraging habitat other than perches.

**Williamson’s sapsucker**

Wisdom et al. (2000) estimated an approximate 38% reduction in Williamson’s sapsucker habitat resulting from a loss of snag habitat in interior ponderosa pine forests and
hardwoods such as aspen, willow, and cottonwoods in riparian habitat. Population levels appear to be stable in Oregon however, Williamson’s sapsucker are on Oregon’s state sensitive list.

Williamson’s sapsuckers are weakly associated with stand replacement fires because the birds use sap wells from live trees for foraging. They are also weak excavators and need live or recently dead trees with advanced decay for nesting habitat.

Williamson’s sapsucker uses mature higher elevation mixed conifer, subalpine spruce forests, grand fir plant associates, lodgepole pine, and aspen. They prefer mixed open ponderosa pine forests with large diameter snags. On the Starkey Experimental Station in the Blue Mountains 86 nest sites averaged 27 inch dbh indicating a selection for old growth snags.

Nesting habitat within Egley is marginal for Williamson’s sapsucker due to high and moderate severity burn and the amount of mortality within the burn. Some foraging along the burn perimeter by Williamson’s sapsucker is expected and occasional nesting may occur in low severity burned areas in upper Bear Canyon or Spring Valley Creek areas. North of Delintment Lake and aspen stands in the upper Mutton Creek drainage may provide nesting habitat in the future for Williamson’s sapsucker.

**Snag Habitat**

Forest plan standards for snag habitat do not address post fire snag conditions. For MIS habitat assessment, guidelines presented in DecAID were applied to determine habitat for post fire woodpecker species based on nesting habitat snag densities. DecAID is considered the best synthesis of available science (Mellen et. al. 2006).

Snag numbers were estimated from over 900 stand exam plots within the Egley fire area and surrounding un-burned subwatersheds. Most Similar Neighbor analysis program was used to extrapolate snag numbers in stands not sampled and to the landscape level.

Compared to historic snag condition for ponderosa pine/Douglas fir plant associations, there are an abundance of snags in most of the snag classes especially the high concentrations of 10 inch plus diameter trees. The high concentrations of snags are a result of the Egley fire.

When snag data is extrapolated to approximately 167,000 acres of Hot Dry and Warm Dry Plant Association Groups (averaging burned with green forests snags) there are an abundance of snags in all most all of the snag classes. There are excessive large snags greater than 4 snags per acre in nearly all density classes in the Egley burn compared to HRV. These high snag pulses will provide an abundance of foraging and nesting habitat for primary excavating birds for a short period. Studies have indicated fall rates as high as 75% after 10 years post fire (Harrington, 1996). Smaller diameter snags tend to fall at a faster rate than the larger diameter snag. Snags with broken tops stay standing longer and are used more for nesting than snags with tops (Saab and Dudley, 1998).
## Table 3-3
Terrestrial Management Indicator Species (MIS) for the Malheur and Ochoco NF

<table>
<thead>
<tr>
<th>Species</th>
<th>Habitat preference</th>
<th>Probability of use in Egley Fire Forest use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mule deer</td>
<td>Forage, cover, spatial arrangements of cover, low road densities.</td>
<td>High for foraging, low for cover, depends on disturbance levels.</td>
</tr>
<tr>
<td>Rocky Mountain elk</td>
<td>Old growth mixed conifer for nesting</td>
<td>Low for nesting. Some foraging use on burn perimeter.</td>
</tr>
<tr>
<td>pileated woodpecker</td>
<td>Mesic conifer forests with a well-developed canopy and complex physical structure near the ground</td>
<td>Low denning and foraging in Egley.</td>
</tr>
<tr>
<td>pine marten</td>
<td>Lodgepole pine plant associations.</td>
<td>Low, may be found at higher elevations of Egley.</td>
</tr>
<tr>
<td>three-toed woodpecker</td>
<td>Found in habitat with &gt; 10”dbh snags &gt;24/acre. Usually arrives ~5 years post fire.</td>
<td>High association with fire.</td>
</tr>
<tr>
<td>Lewis woodpecker</td>
<td>Aspen-ponderosa pine.</td>
<td>Low association with fire. Forages on live trees.</td>
</tr>
<tr>
<td>Williamson’s woodpecker</td>
<td>Ponderosa pine, mixed conifer. Low association with fire. Forages on live trees.</td>
<td>Low association with fire.</td>
</tr>
<tr>
<td>downy woodpecker</td>
<td>Riparian hardwoods, aspen</td>
<td>Low association with fire.</td>
</tr>
<tr>
<td>Hairy woodpecker</td>
<td>Ponderosa pine, mixed conifer habitat generalist.</td>
<td>High association with foraging in fires.</td>
</tr>
<tr>
<td>black-backed woodpecker</td>
<td>Conifer forests w/ high snag densities from bark beetles &amp; fire kill.</td>
<td>High association with nesting and foraging on snags greater than 57 snags per acre.</td>
</tr>
<tr>
<td>northern flicker</td>
<td>Open forest edges, juniper Old Growth. Habitat generalist.</td>
<td>Moderately associated with fire with increase in nesting habitat.</td>
</tr>
<tr>
<td>Primary cavity excavator</td>
<td>Variable depending on specie.</td>
<td>High use for most species.</td>
</tr>
<tr>
<td>Golden eagle</td>
<td>Cliffs and sagebrush where jackrabbits are abundant</td>
<td>Use expected to be low.</td>
</tr>
<tr>
<td>Prairie falcon</td>
<td>Cliffs &amp; rimrock</td>
<td>Moderate use expected once ground squirrels are present.</td>
</tr>
<tr>
<td>Bald eagle</td>
<td>Potential nesting Emigrant &amp; Silver Creeks</td>
<td>One nest site in Egley.</td>
</tr>
</tbody>
</table>

**Rocky Mountain Elk and Mule Deer**

Rocky Mountain elk and mule deer are the big game species of concern due to their high public value. Rocky Mountain elk are MIS on the Malheur and Ochoco National Forests and mule deer area are MIS on the Ochoco NF. The project area is comprised of both winter and summer range. Species are considered widely distributed across the District, Forest and the Blue Mountain Region.

Habitat quality is evaluated in terms of forest cover, forage quality, and open road density. Habitat components are usually compared to an index, however since there will
be no change to big game cover from any of the alternatives, Habitat Effectiveness Index (HEI) will not be assessed in this document. Habitat will be assessed based on road densities because road treatments for resource protection will be proposed. While the HEI models were designed for elk, it can be assumed that if habitat is adequate for elk, the same would hold true for mule deer.

Rocky Mountain elk habitat consists of a mosaic of cover for bedding, loafing, shelter and security mixed with foraging habitat composed of grasses, forbs, and shrubs. The proper arrangement of cover and forage ratio of 40:60 is optimal for elk in the Blue Mountains (Thomas et al., 1979). Specialized habitat components such as water are seasonally important and may determine elk distribution and usage of habitat. Cover and forage have been considerably reduced as a result of the Egley fire.

Cover

In general, cover is defined as canopy cover greater than 40%. A moderate amount of cover remains within the fire perimeter. Some patches exist where the fire burned at low severity, but it is doubtful that many interior stands meet the minimum 40 percent canopy closure due to the high and very high fire severity. Little Emigrant creek, Cricket Creek and Dodson Creek subwatersheds all had a considerable reduction of cover from the Egley fire. Dick Miller Canyon, Pine Springs, and Rock Quarry Canyon subwatersheds burned in 1990 in the Pine Springs Basin fire and re-burned in 2007 further reducing the little available cover for big game.

Hiding cover or horizontal cover that hides big game, is not measured and evaluated in the cover analysis, however hiding cover can be a surrogate when canopy cover requirements are not met. Post-fire, very little hiding cover exists within the fire perimeter.

Although the fire greatly reduced security cover, the surrounding unburned areas provide sufficient cover to meet habitat needs. Elk and deer will likely forage in the burn area, primarily during the night, and retreat to security areas during the day. During the hunting season, elevated human use and hunting pressure in the cover-deficient burn area will likely force animals into adjacent unburned areas.

Forage

Post-burn forage is limited, but the new sprouts are nutrient-rich and highly palatable. Forage is expected to recover rapidly. Past fires such as the Summit Fire in 1996 improved forage and increased big game reproductive rates and subsequently, have increased populations (Schuetz, 2006). The most significant loss of forage for big game is the loss of shrubs, primarily bitterbrush (\textit{Purshia tridentata}) and mountain mahogany (\textit{Cercocarpus ledifolius}). Bitterbrush was abundant in the Little Emigrant Creek subwatershed in parts of the severely burned areas. Recovery of woody forage for big game will take years to become reestablished consequently reducing winter range conditions.

In the fire area along Emigrant Creek, aerial seeding conducted under BAER activities, combined with natural recovery of ground vegetation will increase forage habitat for elk.
Additional forage seeding is planned for 2008 to establish native forage plants for big game and to reduce the potential for noxious weeds. In the southern boundary of the fire there is concern noxious weeds may spread through fire suppression efforts and from populations of noxious weeds on adjacent lands. Noxious weeds have the potential to displace native forage for ungulates.

**Roads**

Road densities and subsequent motorized traffic associated with roads affect distribution of big game. Forest Plans require minimum road densities depending on the management area. Thirteen subwatersheds in winter range and two subwatersheds in summer range do not meet forest standards; road densities are higher then desired.

### Table 3-4. Road Densities

<table>
<thead>
<tr>
<th>Forest</th>
<th>Subwatershed</th>
<th>Road Density Winter Range*</th>
<th>Road Density Summer Range*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt Creek</td>
<td>2.5</td>
<td>1.8</td>
<td>2.6</td>
</tr>
<tr>
<td>Lower Claw Creek</td>
<td>1.3</td>
<td>1.7</td>
<td>1.3</td>
</tr>
<tr>
<td>Upper Claw Creek</td>
<td>2.6</td>
<td>2.1</td>
<td>2.8</td>
</tr>
<tr>
<td>Bear Canyon Creek</td>
<td>2.1</td>
<td>0.0</td>
<td>2.1</td>
</tr>
<tr>
<td>Cricket Creek</td>
<td>2.8</td>
<td>0.0</td>
<td>2.8</td>
</tr>
<tr>
<td>Crowsfoot Creek</td>
<td>3.3</td>
<td>0.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Dairy Creek</td>
<td>1.8</td>
<td>3.1</td>
<td>1.7</td>
</tr>
<tr>
<td>Delintment Creek</td>
<td>2.0</td>
<td>0.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Dodson Creek</td>
<td>2.5</td>
<td>5.8</td>
<td>2.5</td>
</tr>
<tr>
<td>Black Snag Creek</td>
<td>1.4</td>
<td>0.8</td>
<td>1.4</td>
</tr>
<tr>
<td>Lower Dick Miller Canyon</td>
<td>1.2</td>
<td>0.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Pine Spring Canyon</td>
<td>2.1</td>
<td>1.4</td>
<td>2.1</td>
</tr>
<tr>
<td>Rock Quarry Canyon Rsrv</td>
<td>1.3</td>
<td>0.2</td>
<td>1.5</td>
</tr>
<tr>
<td>Upper Dick Miller Canyon</td>
<td>1.8</td>
<td>1.2</td>
<td>2.1</td>
</tr>
<tr>
<td>East Willow Creek</td>
<td>2.5</td>
<td>0.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Upper Sage Hen</td>
<td>2.0</td>
<td>1.4</td>
<td>2.0</td>
</tr>
<tr>
<td>Yellowjacket Creek</td>
<td>2.7</td>
<td>0.0</td>
<td>2.7</td>
</tr>
<tr>
<td>Sawtooth Creek</td>
<td>3.0</td>
<td>4.7</td>
<td>3.0</td>
</tr>
<tr>
<td>Little Emigrant Creek</td>
<td>2.6</td>
<td>2.7</td>
<td>2.5</td>
</tr>
<tr>
<td>Whiskey Creek</td>
<td>3.6</td>
<td>6.3</td>
<td>3.6</td>
</tr>
</tbody>
</table>

*Hash marks indicate not meeting forest plan standards for road densities*
Water

Water is essential for big game and determines their seasonal distribution. Research has indicated elk use is reduced more than 0.5 miles from water during the summer months. Much of the southern half of the Egley fire is extremely dry and contains very little surface water with the exception of artificial water sources from developed springs, ponds, reservoirs, and guzzlers that collect winter precipitation.

Guzzlers are water collection structures designed to trap snow and rainfall from the winter storms to provide water for wildlife during the summer. Thirty-five guzzlers burned in Egley fire causing and estimated $30,000 damage. Ten guzzlers were repaired in the fall of 2007 following the Egley fire; however these structures are threatened by the snags around them that will fall and damage the structures and the fences protecting the structures.

Golden Eagle

Golden eagles are MIS in the Ochoco Forest Plan. Golden eagles are inhabitants of shrub steppe, grasslands, juniper, and open ponderosa pine. It forages in open shrub habitat where jackrabbits and ground squirrels are abundant. Golden eagles nest on rocky cliffs or large conifer trees. Nest trees are typically in large old growth ponderosa pine with sturdy open branching and diameters greater than 30 inches (Marshall et. al., 2003).

There are no known golden eagle nests in the Egley burn area. There have been no recent sightings of golden eagles in the burn area and a single sighting occurred in the Silver Creek watershed approximately five miles southwest of the western boundary of the fire in 2006.

Prairie Falcon

Nesting habitat for prairie falcons occurs in rimrock or rocky outcrops adjacent to open country similar to golden eagles. Cliffs are not always large and Denton (1976) found 59% of nests on cliffs less than 100 feet in height.

The Egley fire may have created habitat for prairie falcons, although there were no known nest sites in the area. However, in March 2008 a prairie falcon was sighted along Emigrant Creek within the fire perimeter. It is highly probable prairie falcon nesting may occur along Emigrant Creek due to high amount of rimrock and small cliffs. There is potential nesting habitat along the southern boundary of the fire in Silver Creek in addition to Blue Creek in the Emigrant Creek watershed.

Landbirds Including Neotropical Migratory Birds (NTMB)

Landbirds, including neotropical migratory birds (NTMB), were analyzed based on high priority habitats identified in the Oregon-Washington Chapter of Partners in Flight, Northern Rocky Mountains Bird Conservation Plan (Altman 2000). Neotropical migratory birds breed in temperate North America and spend the winter primarily south of the United States-Mexico border. Of the 225 migratory birds that are known to occur in the western hemisphere, about 102 are known to breed in Oregon. About 82 species are known to breed on the Malheur National Forest. They include a large group of species, including many raptors, cavity excavators, warblers and other songbirds, with diverse habitat needs spanning nearly all plant community types and successional stages.
Long-term population data on many of these birds indicate downward population trends although not all species populations are declining (Sharp 1996, Saab and Rich 1997, Altman 2000, USFWS 2002). Habitat loss is considered the primary factor in the decline of neotropical migratory birds.

Some neotropical migratory birds respond positively to fire, while others respond negatively. The Egley Fire caused conversion of a majority of mature and old growth stands in the project area to early successional stages. Approximately 47% of Egley fire area burned at a moderate to high intensity fire.

Overstory nesting species and foliage or crown feeders have likely disappeared within the severely burned areas, and decreased in the moderate burn areas. Local species negatively affected by the loss of habitat may include the pine siskin, golden-crowned kinglet, mountain chickadee, hermit thrush, ruby-crowned kinglet, dusky flycatcher, yellow-rumped warbler, and western tanager.

Local species that may benefit from the Egley fire include the Lewis’ woodpecker, olive-sided flycatcher, chipping sparrow, western-wood pewee, dark-eyed junco, Cassin’s finch, mountain and western bluebirds, evening grosbeak, and American robin.

**Old Growth Dry Forests**

The Conservation Strategy (Altman 2000) identifies four habitat components of the dry forest types that are important to landbirds; old forest single stratum (OFSS), OFSS with patches of regenerating pines, OFSS with grassy openings, and burned habitats. The old growth in Egley was classified as old forest multiple strata (OFMS) rather than old forest single stratum (OFSS).

**Riparian Woodlands and Shrublands**

The Conservation Strategy (Altman 2000) identifies three habitat components within the riparian woodlands and one within the riparian shrub habitats that are important to many landbirds. They include large snags, canopy foliage cover, understory shrub cover, and dense shrub patches. In addition, the Conservation Strategy identifies aspen and montane grasslands as unique habitats important to landbirds. In the Egley project area, many of these habitats are associated with riparian areas or ephemeral draws.

Fire severity maps display a variable burn severity in riparian areas. The fire likely improved habitats for species that use riparian snags, such as the Lewis’ woodpecker and downy woodpecker. Initially, the fire likely reduced habitat for species such as the red-eyed vireo, yellow warbler, and willow flycatcher; however, species are expected to recover rapidly as hardwood shrubs recover. Loss of riparian shrubs for nesting habitat is most apparent in the Little Emigrant and Emigrant Creek near the Bear Canyon Creek drainage.

**Shrub-steppe Habitats**

Shrub-steppe habitats are comprised primarily of dry woodlands, shrublands and grasslands. Dry shrublands/grasslands and juniper habitat comprise approximately 9,000 acres of the project area. Within the fire area, the shrub-steppe habitats burned in a mosaic pattern depending on vegetation patterns and fire behavior. Unburned islands of sagebrush can retain habitat features vital to species such as vesper and Brewer’s
sparrow. Substantial amount of shrub-steppe habitat burned in Egley, however most of the sagebrush was burned in 1990. Juniper snags will be utilized for perches and the bark will be used for cavities and nests by wrens and bluebirds.

**Featured Species**

Featured species of the Malheur National Forest are species of high public interest or demand. Bighorn sheep and upland sandpiper do not have habitat in the Egley burn. Sage grouse and bald eagles will be addressed in the Biological Evaluation since they are sensitive species.

**Pronghorn Antelope**

The Egley wildfire created open habitat from the stand replacement fires improving habitat for pronghorn antelope. As grasses, forbs, and young browse develop, an abundance of forage will be available to antelope. Prior to the fire, most of the area was too dense for antelope. Guzzler maintenance during the fall of 2007 may provide additional water for antelope in the future and better distribute antelope throughout the burn.

**Blue Grouse**

Blue grouse inhabit coniferous forests in a variety of habitats and forest edges. They also utilize regenerating clearcuts and deciduous riparian areas. Prior to Egley, blue grouse habitat may have existed in the upper Silver Creek watershed near Delintment Lake, Bear Canyon drainage in the riparian area, and in the upper Emigrant Creek watershed in the Foundation Creek drainage. No known winter roost sites were observed.

Post-fire, there is little or no habitat within the burn area considered suitable for winter roost habitats; however, nesting habitat will be available once a variety of grasses and forbs become established and seedlings/saplings are available for cover. Habitat will be more probable in the upper Emigrant Creek drainage due to the lower burn intensity.

**Osprey**

Osprey tend to nest in large old growth trees with dead tops or large snags, usually within 2 miles of water that have adequate fish populations. Silver Creek and Emigrant Creek watersheds are probable nesting sites for osprey.

One known osprey nest was burned in the fire along Emigrant Creek. A suspected nest may have existed in the Silver Creek drainage. Abundance of snags due to the fire exists in Silver and Emigrant watersheds creating future nesting habitat for osprey.

**Unique Habitats – Aspen/Riparian Shrubs**

Several aspen stands were known to exist within the fire perimeter, however no aspen inventories were conducted prior to or after the Egley fire. Future assessments will occur to determine recovery projects for aspen in the burn.

Enhanced suckering is anticipated in the light to moderate burned aspen stands. In severely burned areas where aspen mortality was high, suckering is unlikely and the aspen stand may need supplementary planting to continue aspen propagation in the area.
Willows were heavily burned in the riparian area along Emigrant Creek and Little Emigrant Creek. New growth of willow has occurred and caging of some of the plants will occur to prevent browsing by native big game.

Threatened, Endangered and Sensitive Species

Forest Service Manual 2672.4 requires the Forest Service to review all its planned, funded, executed or permitted programs and activities for possible effects on proposed, endangered, threatened or sensitive species. North American lynx, pacific fisher and American peregrine falcon are not documented or suspected to occur in the project area and therefore would not be affected by this project. The following TES species are documented or suspected to occur in the project area.

Gray Wolf – Endangered Species

Historically, wolves occupied all habitats on this Forest (Wisdom et al. 2000), but are currently considered extirpated. The Malheur, Wallowa-Whitman and Umatilla National Forests are probably suitable habitats for wolves. Wolves are limited by prey availability and are threatened by negative interactions with humans. Generally, land management activities are compatible with wolf protection and recovery, especially actions that manage ungulate populations. Habitat and disturbance effects are of concern in denning and rendezvous areas. No such habitat is currently occupied in Oregon.

Bald Eagle – Sensitive Species

Bald eagle nests are usually in multistoried, predominantly coniferous stands with old growth components near water bodies which support adequate food supply. One bald eagle nest exists in the Egley fire near Delintment Lake and was under burned during the fire. Flight routes were modified during suppression activities to avoid the nest tree. Successful nesting of two eaglets was recorded in 2007. This nest has been producing young since 2001.

There are no active winter roosts for bald eagles in the Egley fire. The 1990 Pine Springs fire burned two winter roosts. Active roosts have not been located for the past five years, likely due to loss of roost trees. The closest winter roost is on BLM at the southern boundary of the fire in Willow Canyon.

Wolverine – Sensitive Species

Wolverines were always rare in Oregon, although recent sightings, tracks, and collected remains document their continued presence at low densities in the state (Csuti et al. 1997). Current distribution appears to be restricted to isolated wilderness areas. Confirmed observations on the Malheur National Forest are from the Strawberry Mountain Wilderness and include a partial skeleton found in 1992, tracks, and a probable denning site found in 1997. Additional sightings of animals and tracks have occurred on the District, but none have been confirmed. The closest source habitat from Egley is approximately 35 miles north in the Strawberry Mountain Wilderness. Potential dispersal habitat may exist in the Silver Creek roadless area and other low severity burn areas in the Egley fire. The probability of occurrence for wolverine in the dry ponderosa pine forest within Egley would be low.
Pygmy Rabbit – Sensitive Species
Habitat for this specie of rabbit consists of tall dense stands of big sagebrush (over 30% cover) in deep loose soils. Burrows are found in deep loamy soils usually with minimum depth of 20 inches.

The Egley fire burned through approximately 12,000 acres of sagebrush habitat at varying intensities. The lack of ground cover within the sagebrush habitat due to the Egley burn is unsuitable for pygmy rabbits. Additionally, the soils on the forest lands are not conducive to pygmy rabbits due to shallow depths and high rock content. The closest known populations of pygmy rabbits are over six miles south of the Egley fire on BLM lands.

Western Sage Grouse – Sensitive Species
Sage grouse are obligate residents of sagebrush habitat, usually inhabiting sagebrush-grassland or juniper-sagebrush-grassland communities. There are no known leks, breeding areas, for sage grouse within the Egley burn area (Pers. comm., Garner, ODF&W, 08). The closest active sage grouse lek to the Egley burn is approximately 3 miles south on BLM (Pers. comm., Obradovich, BLM biologist, 08). Oregon Department of Fish and Wildlife conducts lek surveys on an annual basis to determined reproduction of sage grouse.

Upland Sandpiper – Sensitive Species
In the Blue Mountains, upland sandpiper habitat is composed of large flat or gently rolling expanses of grassland in mountain valleys and open uplands adjacent to small creek drainages and wet to dry meadows (Akenson and Schommer 1992). Logan Valley located over 30 miles northeast of Egley is the closest known population of upland sandpipers. There are no known sightings of sandpipers within the project area nor is there suitable habitat for upland sandpipers in the Egley fire area. Adjoining private lands contains meadow habitat, however grazing pressure is heavy and habitat for sandpipers is marginal on these lands.

Bobolink – Sensitive Species
Bobolinks are found in native and tame grasslands, hay fields, lightly to moderately grazed pastures, no-till cropland, small-grain fields, wet meadows, and planted cover (Dechant et al., 2001). There is no suitable bobolink meadow habitat within the Egley burn. There is potential habitat on private lands adjacent to the Egley burn.

White-Headed Woodpeckers – Sensitive Species
White-headed woodpecker an MIS has recently been added to the Region 6 Sensitive species list. ICBEMP found white-headed woodpecker was one of only eight species of the 97 analyzed that showed strong decline in habitat with declines > 60% from historic conditions.

Snag densities at white-headed woodpecker nest sites vary from an average of 52 snags per acre in burned forest to 1.8 large snags per acre in unburned dry ponderosa pine forests (DecAid). White-headed woodpecker tend to use moderate to light burn areas with open park-like understory adjacent to green trees for foraging. White-headed woodpecker forage on large ponderosa pine and eat seeds from cones in the winter and
early spring prior to insect activity. Based on snag analysis within the Egley burn, there is approximately 27,100 acres of potential nesting habitat for white-headed woodpecker. Recruitment of snags along the fire perimeter and within clumps of green trees from delayed mortality will create additional habitat for white-headed woodpecker and other woodpeckers.

**Lewis’ Woodpeckers – Sensitive Species**

Lewis’ woodpecker an MIS has recently been added to the Region 6 Sensitive Species and is an Oregon state sensitive specie. Speculation for population declines are attributed to loss of oak woodlands, pesticides, and nest displacement by introduced European starling (Tobalske, 1997). Wisdom et. al. (2000) estimated an 85% decline in habitat for Lewis’ woodpecker in the Columbia Basin and 72% of the watersheds in the Blue Mountains of eastern Oregon had at least a 60% decline in habitat compared to historic conditions.

Saab and Dudley (1998) found the highest nest densities of Lewis’ woodpecker in recently burned forests where partial logging retained at least 24 snags per acre greater than 9 inch diameter, with 6 of those snags greater than 20 inch diameter. Nesting densities per mile were 1.7 in the logged compared to 0.8 per mile in the un-logged area. Habitat for Lewis’ woodpecker consists of open ponderosa pine forests and cottonwood riparian. Lewis’ woodpecker need open habitat for foraging and clumps of large soft snags for nesting. Fire creates the open habitat, provides snag habitat, and enhances shrub production for insects. Lewis’ woodpecker usually occupy stand replacement fire habitat at lower elevations approximately five years following the fire post decay. They are light excavators and utilize cavities excavated by other woodpeckers such as flickers and hairy woodpeckers (Bock, 1970).

DECAID estimates approximately 14,700 acres of Lewis’ woodpecker habitat (at least 24 snags per acre greater than 9 inch diameter) within the Egley burn. When large snags are included in the habitat estimate, there is approximately 9,650 acres of suitable nesting habitat (at least 24 snags per acre greater than 9 inch diameter, with 6 of those snags greater than 20 inch diameter) within the Egley burn. The most probable and suitable habitat would be near Green Butte where old growth ponderosa pine were present prior to the fire.

Lewis’ woodpeckers were frequently sighted in the old Pine Springs burn of 1990, portions of which re-burned in the Egley fire. Salvage logging and fire wood cutting removed most of the snags within the Pine Springs burn, nevertheless, Lewis’ woodpecker began occupying the Pine Springs burn approximately in 1995 (pers. obs.). Pine Springs burn contained dense populations of snowbrush (Ceanothus spp.) which produced substrate for insects and may have been a factor for the concentrations of Lewis’ woodpecker.

**Tri-Colored Blackbird – Sensitive Species**

Tri-colored blackbirds breed in freshwater marshes with emergent vegetation such as cattails, bulrush, willows and blackberries. The distribution of these birds in Oregon is limited to Klamath, Jackson, Umatilla, Sherman, Wasco, Multnomah, and Lake counties. There have been no sightings of tri-colored blackbirds in Harney County.
Potential habitat for blackbird nesting in Egley is near Delintment Lake and possibly along the floodplain of Emigrant Creek and Little Emigrant Creek.

**Bufflehead – Sensitive Species**

Buffleheads are a diving duck foraging on invertebrates, physid snails, and seeds of smartweed, bulrush, and sago pondweed and secondary cavity nesters, nesting in cavities of old northern flicker or pileated woodpecker nests. In Oregon, nests have been found in high-elevation lakes in the central Cascades, in cottonwood snags in Linn County, and a lodgepole pine snag near Davis Lake.

Delintment Lake is the only large body of water within Egley that could provide habitat for bufflehead. Bufflehead have been present in Delintment Lake during migration. No sightings have been recorded during the breeding season.

**Silver Bordered Fritillary – Sensitive Species**

Habitat for this species of butterfly consists of wet meadows, bogs, and marshes that contain populations of composite plants such as goldenrod, black-eyed Susan, aster, and violets. Caterpillar hosts plants tend to be violets or asters. Flight of adults begins in June and July. The distribution of recorded sightings in Oregon is limited to Harney, Grant, Baker, and Malheur Counties. The closest known sighting is near the Grant/Harney County lines in the Silvies valley approximately 15 miles northeast of the Egley burn.

There are no wet meadows or bogs within the Egley fire. The floodplains along the creek bottoms are too dry to be suitable habitat for fritillaries.

**Johnson’s Hairstreak – Sensitive Species**

Habitat for this species of butterfly is late succession or old growth forest containing dwarf mistletoe of the genus *Arceuthobium*. Potential habitat exists where remnant old growth containing mistletoe occurs. Mistletoe is the host for the caterpillars.

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*Photo 3-2. Abundant Snags*
Effects to Terrestrial Wildlife

This section describes the effects on terrestrial wildlife and habitat from activities proposed by each of the alternatives. Proposed activities differ between alternatives and would have varying direct, indirect and cumulative effects on terrestrial wildlife species. The magnitude and timing of these combined activities, or lack of, determine the cumulative effects.

Direct and Indirect Effects Common to the Action Alternatives

Old Growth

Felling of danger trees in designated old growth stands will have minimal effects to snag densities and snag dependent wildlife because habitat adjacent to a primary travel route would not function as suitable habitat. High disturbance from vehicles and probability for roadside mortality exists. The population of pileated woodpeckers would not be reduced with the incidental felling of danger trees in the allocated/dedicated old growth. Felled danger trees would be left on the ground as down wood within the designated old growth, with the exception of danger trees that fall in the road prism.

Proposed road treatments in two old growth stands (OG-D4-12 and OG-D4-23) would eliminate vehicle traffic by decommissioning and closing roads, respectively. Danger trees along these roads would be felled and may be used as barriers to prevent vehicle traffic from causing damage to watershed and wildlife resources. Approximately 11 miles of roads are in or near 10 old growth stands. Road treatments would protect existing snag habitat in old growth by preventing firewood cutting and other future use of the snags.

Due to the amount of acres that may need reforestation, it is highly unlikely old growth stands would be planted. However, planting may enhance establishment of future old growth. If reforestation occurred, stocking rates would emulate natural tree densities for ponderosa pine plant groups.

Old Growth Dependent Species

There is limited to no habitat for pine marten and three-toed woodpecker. There would be no impacts from any of the alternatives on these species. The higher elevation potential stands for black backed woodpecker habitat could have an incidental three-toed woodpecker occurrence, but the probability is low.

Removal of the danger trees is not expected to negatively affect goshawk prey, since snags would be abundant and dispersed throughout the burn. Therefore the action alternatives are not expected to affect goshawk populations. The high intensity fire modified the four known nesting territories so nesting occupancy is not expected in these historic nesting territories. Nesting occupancy in the remainder of the burn is expected to be low. The proposed activities are expected to occur outside the nesting season, with the exception of reforestation, therefore no direct affects to any potential nesting goshawks on the fire boundary is anticipated.

Proposed road closures and decommissions would indirectly benefit in snag retention. Leaving smaller diameter trees around guzzlers and other water sources such as ponds will enhance goshawk prey. Leaving un-merchantable materials such as limbs, small
logs, and debris on site may provide some foraging areas for goshawk prey on road systems with minimal expected use.

Reforestation will create future stand structure conditions for goshawks considerably faster compared to No Action. Future nesting habitat will be enhanced with reforestation and foraging habitat may be improved within 30 years once seedlings become established.

**Late and Old Structure (LOS)**

Danger tree removal is expected to be low in the remaining LOS stands due to the low severity burning in the LOS stands. Snag numbers are expected to be low in these stands of ponderosa pine, since mortality is low. There would be no alteration to the stand structure from danger tree removal.

Proposed road closures and decommissions would assist in maintaining snag recruitment in LOS for future habitat. Reforestation would move stands towards LOS at a faster rate than natural regeneration in most areas.

**Snag Habitat**

The Action Alternatives would reduce snag habitat by about 15% for all the species. Snag analysis was based on worse case scenario employing 200 foot wide strips on each side of roads, trails and fences, therefore the impact may be overestimated.

**Management Indicator Species (MIS)**

The reduction in nesting and foraging habitat for black backed and hairy woodpeckers is not expected to affect woodpecker populations due to the high density of snags in Silver Creek and Emigrant Creek watersheds. Snag abundance in the 10 inch diameter or greater size classes will exceed 18% of the landscape with snag densities greater than 24 snags per acre once hazard tree removal is completed.

Danger tree removal would not create openings needed for Lewis’ woodpecker foraging. However, as small snags fall in 5-10 years, and where large snags are available and shrub development occurs, habitat will be favorable for Lewis’ woodpecker. Effects to Lewis’ woodpecker are further discussed in the sensitive species section.

Effects to downy and red-naped sapsucker habitat (riparian or aspen) would be small due to small percentage impacted. The reduction in nesting and foraging habitat for northern flicker and hairy woodpecker is not expected to affect these species because the abundance of snags retained in the interior part of the fire.

Black backed woodpecker requires high densities of trees for nesting and foraging. Snag analysis suggests about four percent of the Egley burn will provide nesting habitat at the 30% tolerance level (~57 snags >10 inch dbh per acre) and less than one percent provide habitat at the 50% tolerance level (82 snags per acre). Suitable habitat for this species is therefore limited and patchy in Egley, with the possible exception of the higher elevations of Silver Creek. The most probable negative impact would occur in the Mutton Creek/Dodson Creek and Blue Creek drainages where mixed conifers occurred prior to the fire. Due to the juxtaposition of the roads in relationship to the potential habitat for black backed woodpecker in the Mutton Creek drainage, proposed danger tree removal would fragment some of the habitat along the 4100-608 and 612 roads.
Due to the low suitability and the patchiness of the black backed woodpecker habitat, it is highly unlikely the action alternatives would reduce habitat to a degree affecting nesting. While the potential for displacement exists from the felling operations, the timing of the proposed project is expected to occur prior to nesting season of 2009.

**Rocky Mountain Elk and Mule Deer**

There would be no reduction in big game cover from the proposed action alternatives. There would be some disturbance and displacement of elk and deer during the felling of danger trees. But it would be in isolated areas along roads, trails and fences and the animals should not have to travel far. The felling of the hazard trees around guzzlers would occur outside the summer months when animals are most likely to use the water. Removal of snags threatening guzzlers indirectly affects big game. Danger tree removal along roads and at guzzler sites would allow maintenance, which is necessary for proper operations. These water developments will enhance big game distribution throughout the Egley fire.

Proposed road closures and decommissions would increase security for big game by approximately 2.5 times or roughly 8,900 acres compared to current conditions. ODF&W biologist, Ron Garner supports road closures for big game protection, since cover was burned by the wildfire.

As harassment and displacement from quality foraging areas in the Egley burn decrease because of reduced vehicle traffic, fawn and calf production would occur enhancing big game populations. Road densities would move towards or meet forest standards with the proposed project in most subwatersheds. However, Dairy subwatershed, which had very little fire from Egley, has minimal opportunity to close roads in the project area. More road closures would take place in future projects under other projects. The increase in road density in the Rock Quarry Canyon Reservoir subwatershed is a result of opening a road for BLM to access their adjoining lands for administrative purposes.

Reforestation would improve future cover for big game by enhancing tree growth. Without reforestation efforts, cover development could take decades longer before natural regeneration produces cover for big game. There would be minimal disturbance during the tree-planting period and during site preparation.

**Golden Eagle**

Because the Egley fire does not contain adequate Golden eagle habitat and since nesting would be rare in the burn at this time, proposed activities would have no affect on golden eagles.

**Prairie Falcon**

Proposed activities would have little effect to prairie falcons, which nest on cliffs or rimrocks. Some potential perches may be removed, but there is an abundance of perches outside the road prisms that would be left.
**Featured Species**

**Antelope**
Danger tree removal would have no affect on antelope habitat. The only impact may be disturbance during the fawning period, however, it is anticipated the majority of the work would occur in the fall outside the fawning period. Salvage of snags around the guzzlers could be beneficial by creating more openness around the water sources and reducing hiding cover for predators.

Reducing road densities would reduce vulnerability of antelope to hunters similar to other big game. Road treatments in the upper Silver Creek watershed is expected to have the least benefit compared to road treatments in the southern portion of the burn due to topography and vegetation structure.

Reforestation activities would be limited based on the scale of the fire. Long-term establishment of dense forests would not benefit an ungulate preferring openness. It would take at least twenty years for the plantations to reach a height less favorable for antelope. District Silviculturist has elected to omit planting of sites with sagebrush, therefore more patchiness is expected and pronghorns are expected to forage and reproduce in the Egley burn.

**Blue Grouse**
Since no blue grouse are expected to occur in the burn and there would be an abundance of downed logs once the snags fall near the perimeter of the fire, danger tree removal is expected to have minimal affects to blue grouse habitat. There would be no use of guzzlers by blue grouse, therefore no affects from any danger tree removal is expected around guzzlers. Planting of Douglas fir in the Dodson Creek or Delintment Creek subwatersheds in the future may provide long-term roosting habitat for blue grouse.

Since blue grouse are a hunted game bird, it could be speculated road treatments at the higher elevations of the burn in the mixed conifer areas could be beneficial to blue grouse. Due to the low use and lack of sightings of blue grouse in Egley burn area prior to the wildfire; benefits from road closures would be un-measurable.

**Osprey**
Danger tree abatement in RHCAs would cut down potential nesting habitat for osprey, but the slopes of the drainages outside the hazard tree influence would contain an abundance of snags and potential for osprey nesting. In RHCAs danger trees would be felled into the creeks where possible creating a potential improvement in fisheries habitat, which could improve foraging habitat for osprey.

Road treatments near Emigrant Creek and on the breaks of Silver Creek could benefit osprey by retaining snags and preventing loss to fuelwood cutting. Closure or decommissioning of riparian roads may reduce sediment consequently reducing impacts to potential fishery habitat and prey for osprey.
No reforestation is planned near riparian areas that have a high potential for osprey nesting in the near future. Long term reforestation efforts may occur along the slopes of Emigrant or Silver Creek(s) which could stabilize slopes and regeneration may provide long term nesting/perching habitat.

**Unique Habitats – Aspen/Riparian Shrubs**

Under the action alternatives danger trees would be felled and left as downed wood in the riparian areas. There would be no impacts to riparian shrub vegetation with the exception of incidental felling of conifers on the shrubs, however this is expected to be very low. Where conifers are posing a hazard in aspen stands, there could be incidental felling of aspen snags from conifers hitting the aspen during falling. Conifers felled in aspen stands would provide some protection from ungulate browsing and may benefit aspen sucker growth depending on placement of the conifers.

There would be no reforestation in aspen or riparian areas. Roads closures in drainages with aspen may benefit aspen by aiding in water retention and allowing drainages to recover.

**Landbirds Including Neotropical Migratory Birds (NTMB)**

Danger tree removal between late May to August, the primary nesting season, would present the highest risk to any neotropical migratory birds nesting in the area. However, due to the urgency to salvage the burnt trees prior to decay and staining, it is anticipated project implementation would occur in the fall of 2008 and should be completed prior to the nesting season for neo-tropical birds. Felling of danger trees would reduce some potential nesting substrate primarily for cavity nesting birds, both primary excavators and secondary cavity nesters such as bluebirds. Due to the abundance of snags within the Egley burn, danger tree removal would have minimal impacts to potential nesting habitat.

The greatest potential to affect nesting habitat may occur along roads in riparian areas. Riparian areas, due to water and close proximity to food resources, are high probability sites for migratory bird nesting. About 33% of the riparian areas in Egley could have danger trees cut down with the greatest impacts occurring along Emigrant Creek and Sawtooth Creek. This is the maximum expected and is probably an overestimation. Refer to the aquatics section for more specific information about RHCA activities. In addition, abundance of riparian nesting habitat would occur along the Silver Creek roadless area and associated drainages such as Delintment Creek and Dodson Creek where roads are not present. There is approximately 2200 acres of RHCA in the Silver Creek, Delintment, and Dodson Creek areas without road systems that would provide riparian snag habitat for birds and other wildlife. Due to high concentrations of snags in RHCA’s and surrounding areas, felling of hazard trees is not expected to affect any of the secondary cavity nesting bird populations or any of the other migratory birds.

The shrub-steppe habitat would be impacted very little since few hazard trees exist in the juniper/shrub-steppe habitat. Tree felling in this habitat type is expected to be minimal to non-existent since few conifers grow in this habitat type.

**Gray Wolf – Endangered Species**

There would be No Effect (NE) to Gray Wolf for the following reasons:
1. No populations currently occupy the Malheur National Forest.
2. No denning or rendezvous sites have been identified on the Malheur National Forest.
3. There is an abundance of prey on the Forest; therefore prey availability is not a limiting factor.

**Bald Eagle – Sensitive Species**

Human activities have the potential to disturb perching or roosting eagles (Spahr 1991; Steenhof 1978). Of these activities, vehicle traffic is the least disturbing, as long as the vehicle does not stop because eagles apparently become accustomed to traffic (Steenhof 1978). Log haul and associated danger tree removal along Forest Road 41 near Delintment Lake would occur outside the nesting season for bald eagles, therefore no disturbance to nesting bald eagles is expected. A No Impact (NI) determination is given for all the action alternatives.

**Wolverine – Sensitive Species**

Indirect effects to wolverine and its preferred habitat would be minimal, regardless of the alternative because there is no reproductive habitat and dispersal habitat is limited within the Egley burn. Human disturbance related to proposed activities might displace transient or dispersing wolverine from potential foraging habitat during the project. However, the likelihood of displacing a transient wolverine in the Egley burn would be rare, since the habitat is limited and the proposed activities are restricted to roadside or developed sites. Post-salvage road closures would help reduce the level of human disturbances as habitat conditions become more favorable to prey species. The action alternatives would improve big game habitat, indirectly improving wolverine habitat. Planting trees would accelerate recovery of hiding and thermal cover. The action alternatives may impact individuals or habitat, but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population (MIIH).

**Pygmy Rabbit – Sensitive Species**

The removal of danger trees would not occur in sagebrush habitat with the exception of a few trees that may be growing along the roads. Few trees would be removed in any potential habitat for rabbits. It can be speculated that removal of potential raptor perches would benefit prey specie by reducing hunting opportunities for the predator. There would be no reforestation within potential sagebrush areas. Since there is no habitat for pygmy rabbits in Egley, a No Impact (NI) determination is given for all the action alternatives.

**Western Sage Grouse – Sensitive Species**

Juniper woodland, shrub-steppe and grassland habitats would not be treated under the action alternatives with the exception of an occasional snag removed next to roads. There would be no planting of conifers in any sagebrush habitat therefore no impacts to future sagebrush habitat. It is unlikely that sage grouse would be in the Egley burn. Therefore there would be no direct or indirect affects to sage grouse or sage grouse habitat. A No Impact (NI) determination is given for all the action alternatives.
**Upland Sandpiper – Sensitive Species**

The proposed activities will not enter meadow habitats; therefore, no impacts to upland sandpipers would be expected. A No Impact (NI) determination is given for all the action alternatives.

**Bobolink – Sensitive Species**

The proposed activities would not enter meadow habitats; therefore, no impacts to bobolinks would be expected. A No Impact (NI) determination is given for all the action alternatives.

**White-Headed Woodpeckers – Sensitive Species**

The two action alternatives would reduce approximately 15% of the potential nesting habitat for white-headed woodpeckers. There would be no removal of healthy old growth ponderosa pine. Seed producing foraging habitat for white-headed woodpeckers would not be impacted from the action alternatives. Potential foraging habitat may be reduced in the low to moderately severe burned areas. The impacts are expected to be minimal and the abundance of gleaning opportunity on snags for white-headed woodpeckers and other woodpeckers would remain in untreated areas of the Egley burn. Danger tree removal is not expected to reduce potential nesting habitat to a magnitude that would affect reproduction for this species. The 15% reduction in white-headed woodpeckers habitat with the action alternatives may impact individuals or habitat, but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population (MIIH).

The action alternatives provide safety along roads proposed for restoration activities. Reforestation enhances establishment of conifers and accelerates the recruitment of ponderosa pine, which would benefit long-term habitat for white-headed woodpeckers. Reforestation would reduce the time gap where snags would be vacant from the landscape.

**Lewis’ Woodpeckers – Sensitive Species**

Direct effects to Lewis’ woodpecker are unlikely as these woodpeckers will not occupy the burned areas for at least two years following the burn. The action alternatives reduce potential snag habitat by approximately 15%. Science suggests moderate logging leaving patches of high-density snags provides the best or immediate habitat for Lewis’ woodpecker. Snag patches or single snags for perches along roadways are not recommended due to safety factors; however snags not posing danger to roads or structures would be left.

While some logging can be beneficial for Lewis’ woodpecker, linear logging along roadways is not expected to be beneficial. It does not emulate a mosaic of clumps of snags intermixed with scattered snags, as would be created with unitized salvage prescription. The salvage prescription applied on Saab’s research most beneficial to Lewis’ woodpecker harvested approximately 50% of the snags, leaving at least 24 snags per acre. The 15% reduction in Lewis’ woodpeckers habitat with the action alternatives may impact individuals or habitat, but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population (MIIH).
Closing roads aids in short to mid-term snag retention. Closed roads reduce the disturbance factor associated with vehicles. The area closure requirements within the burn would aid in snag retention and secure snags for Lewis’ woodpecker. Limiting vehicle access complies with landbird management plans for ponderosa pine forests, Malheur and Ochoco LRMP, and Wisdom et. al (2000) Interior Columbia basin assessment.

The logging equipment from the Proposed Action is not expected to move very far from the roads, therefore the potential to reduce shrub growth from soil compaction or displacement is unlikely. High shrub production benefits Lewis’ woodpecker by providing substrate for insects. For more information on soils, refer to soils section.

**Tri-Colored Blackbird – Sensitive Species**

The proposed action alternatives do not impact riparian vegetation therefore no disturbance of blackbirds occurs and no effect to potential habitat is expected. A No Impact (NI) determination is given for all the action alternatives.

**Bufflehead – Sensitive Species**

The proposed activities would reduce potential snag habitat for bufflehead along Forest Service Road 41 potentially reducing snag habitat by approximately 7% or 35 acres on the south side of the lake. It is highly unlikely nesting would occur on the south side of the lake due to the disturbance and activities associated with the campground.

There would be no road closures in any potential nesting habitat for bufflehead. Since the fire burned at a lower severity around the lake, no reforestation is expected, therefore no impacts to future long-term recruitment snag habitat from the proposed actions.

Proposed action alternatives may Impact Individuals or Habitat, but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population (MIIH). This is a conservative determination due to the low probability of bufflehead nesting on the south side of Delintment Lake.

**Silver Bordered Fritillary – Sensitive Species**

There is no potential habitat for silver-bordered fritillary in the Egley burn. Cutting of hazard trees would not affect primary reproductive habitat for these butterflies. Salvaging of danger trees occurs outside the flight period, therefore no incidental mortality from operations ie. log hauling results. Silver bordered fritillary habitat is not affected by proposed reforestation activities. A No Impact (NI) determination is given for all the action alternatives.

**Johnson’s Hairstreak – Sensitive Species**

There are no known populations of this butterfly on the former Snow Mountain District of the Ochoco National Forest. Since the proposed project is tiered towards danger tree removal, the likelihood is extremely rare of removal of a mistletoe infested old growth trees that could contain Johnson’s hairstreak butterfly caterpillars. The Egley project is not expected to negatively impact old growth trees and the nectar producing flowers therefore no indirect effects to potential habitat is expected.
Summary of Effects to Terrestrial TES Species

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<td>HD/N</td>
<td>Action Alternatives: NE</td>
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<td>T</td>
<td>HN/N</td>
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<tr>
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<td>Haliaeetus leucocephalus</td>
<td>S</td>
<td>HD/D</td>
<td>NI</td>
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<tr>
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<td>Gulo gulo</td>
<td>S</td>
<td>HD/S</td>
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<td>HD/N</td>
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<td>Boloria selene</td>
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E = Endangered, T = Threatened, S = Sensitive
NE = No Effect, NLAA = May Effect, Not Likely to Adversely Affect,
LAA = May Effect, Likely to Adversely Affect, BE = Beneficial Effect, BI = Beneficial Impact,
NI = No Impact, MIIH = May Impact Individuals or Habitat, but Will Not Likely Contribute to a Trend Towards Federal Listing or Cause a Loss of Viability to the Population or Species

Direct and Indirect Effects of the No Action Alternative

Old Growth

Under this alternative snag levels and snag retention would remain at existing levels. No road closures or decommissions would occur. Long-term regeneration and recruitment of future old growth would be dependent on natural regeneration.

Old Growth Dependent Species

Under this alternative snag levels and snag retention would remain at existing levels. This alternative would be favorable for goshawks along the fire perimeter where fire intensity was low and tree mortality is low.

Due to safety issues, repair of the guzzlers would not occur; therefore, water may not be available for potential prey species for goshawks. The negative affects would be most apparent where guzzlers area located near low burn severity areas such as the guzzler near Bear Canyon.

Establishment of future goshawk nesting and foraging habitat would rely on natural regeneration and may be delayed or not occur in some areas depending on seed sources.

Late and Old Structure (LOS)

Under No Action, snag levels and retention in LOS would not be affected. Snag habitat, which is currently not limiting, would improve habitat for cavity dependent species, but
would not be favorable for white-breasted and pygmy nuthatches, warblers, and other foliage gleaning birds. Establishment of future LOS would rely on natural regeneration and could be delayed in areas that lack ponderosa pine seed sources.

**Snag Habitat**

Under No Action, snags would remain at existing levels.

**Management Indicator Species (MIS)**

Nesting habitat for woodpeckers would not be reduced. Long-term recruitment of snags would be delayed due to the lack of reforestation. Guzzlers would not be maintained due to danger trees.

**Rocky Mountain Elk and Mule Deer**

Since the Egley fire perimeter is currently under an area closure, not removing the hazards would increase the security area for big game. The displacement factor to big game from motorized traffic would diminish, allowing animals to forage in preferred areas for more time. There would be no reforestation efforts improving future big game cover. Big game cover development would be delayed and areas without a viable conifer seed sources may not regenerate for some time. Access to the guzzlers and other developed water sites would be delayed until hazard trees were cut down. Lack of guzzler maintenance would indirectly affect fawning/calving areas, since water is limited on the southern portion of Egley.

**Golden Eagle**

Under the No Action alternative no affect on golden eagles is expected. The lack of reforestation with this alternative may slow the recovery of the forest and potential future nesting habitat for golden eagles in the long term.

**Prairie Falcon**

Under the No Action alternative availability of perches for falcons would be slightly higher, however perches are not limiting. There would be no potential for disturbance to any incidental falcon that may be in the area because no activities would occur. Lack of reforestation may leave some areas more open which may be favorable for species preferring open habitat.

**Featured Species**

**Antelope**

No Action would have no impacts to Antelope. The current area closure would remain in effect but some disturbance and displacement of antelope would likely occur from motorized traffic. There would be no improvement to guzzlers due to the risk of hazard trees and the potential loss of water structures is inevitable. Absence of guzzlers would negatively affect antelope distribution due to limited water resources in the burn.

Lack of reforestation would benefit antelope in the long-term since natural regeneration may not occur. Lack of trees would benefit ungulate preferring sagebrush and few trees.
Blue Grouse
No Action would have no effects to blue grouse. It is unknown at this time if suitable habitat for blue grouse would develop from natural reforestation in the most probable sites such as the upper Silver Creek drainages.

Osprey
Snags would be retained as a result of no removal for hazards. Potential nests site for osprey would exist along the 4120 road near Emigrant Creek. Since snag availability for osprey nests is abundant in the Silver Creek and Emigrant Creek watersheds, this alternative would not benefit osprey much more than any of the action alternatives.

Unique Habitats – Aspen/Riparian Shrubs
There would be higher snag retention in riparian habitat with this alternative and no incidental removal of aspen snags would occur. There would be slightly more woodpecker habitat since there would be more snags. This alternative may be more beneficial for riparian species like downy and red-naped sapsuckers depending on the location and burn severity.

Landbirds Including Neotropical Migratory Birds (NTMB)
Snag densities would remain at existing levels. While snag densities are not limiting, this alternative would leave more snag habitat and potential foraging perches for flycatchers and other insectivore birds.

Reforestation would occur thru natural regeneration. If seed sources were not available, many acres of ponderosa pine stands that once provided nesting and foraging habitat for insectivores, gleaners, and foliage nesting birds may be brush fields or grasslands in the future.

Guzzlers provide water for nesting birds during June and July. Future repairs to guzzlers may not occur due to the danger and probability of falling snags.

Gray Wolf – Endangered Species
There would be No Effect (NE) to Gray Wolf for the following reasons:

1. No populations currently occupy the Malheur National Forest.
2. No denning or rendezvous sites have been identified on the Malheur National Forest.
3. There is an abundance of prey on the Forest; therefore prey availability is not a limiting factor.

Bald Eagle – Sensitive Species
Under the No Action Alternative, there would be no new management activities; therefore, there would be no direct, indirect or cumulative effects to bald eagles or their habitat. A No Impact (NI) determination is given for the No Action alternative.

Wolverine – Sensitive Species
The No Action Alternative would have no direct effects to wolverine or potential habitat. Indirect effects result from potential changes in habitat for wolverine prey. Overall
habitat effectiveness for deer and elk would be expected to improve over time as forage recovers and cover develops. Big game population numbers are expected to remain stable. Distribution and use may change initially as a result of improved forage and reduced cover. By relying on natural regeneration for reforestation, recovery of trees would be slower. Cover/forage habitat for small mammals is expected to increase as vegetation recovers and snags fall and provide down log habitat. A No Impact (NI) determination is given for the No Action alternative.

**Pygmy Rabbit – Sensitive Species**

There would be no impacts to sagebrush habitat with this alternative. Since no restoration activities are currently planned in sagebrush habitat, this alternative is similar to the action alternatives. Since there is no habitat for pygmy rabbits in Egley, a No Impact (NI) determination is given for all the action alternatives.

**Western Sage Grouse – Sensitive Species**

Under the No Action Alternative, there would be no new management activities; therefore, there should be no direct/indirect effects to sage grouse or their habitat. A No Impact (NI) determination is given for the No Action alternative.

**Upland Sandpiper – Sensitive Species**

Under the No Action Alternative, there would be no new management activities; therefore, there should be no direct or indirect effects to upland sandpipers or their habitat. A No Impact (NI) determination is given for the No Action alternative.

**Bobolink – Sensitive Species**

Under the No Action Alternative, there would be no new management activities; therefore, there should be no direct or indirect effects to bobolinks or their habitat. A No Impact (NI) determination is given for the No Action alternative.

**White-Headed Woodpeckers – Sensitive Species**

The No Action Alternative would not cut down the danger trees along road systems, therefore the snag densities would remain at existing levels. There would be no reduction in the potential nesting habitat for white-headed woodpecker along the road systems. There would be no improvement in the artificial water collectors for birds due to the hazards from existing snags. There would be no reforestation, causing the long term recruitment of future snags to be delayed and restricted to areas where conifer seed sources were present, which would negatively affect white-headed woodpecker. Over time, as snags fall, nesting habitat would decline. However, large diameter snags can persist for 30 years or more. As new stands regenerate and develop into large trees, they would eventually provide future snags. A No Impact (NI) determination is given for the No Action alternative.

**Lewis’ Woodpeckers – Sensitive Species**

High snag density nesting habitat is retained in the fire area at the existing levels. Since moderate logging has been discovered to enhance habitat for Lewis’ woodpecker, no improvement to habitat occurs from this alternative. Lack of artificial reforestation reduces long-term recruitment of future nesting habitat for this species and other snag
dependent wildlife. A No Impact (NI) determination is given for the No Action alternative.

**Tri-Colored Blackbird – Sensitive Species**

Under the No Action Alternative, there would be no new management activities; therefore, there should be no direct or indirect effects to tri-colored blackbird or their habitat. A No Impact (NI) determination is given for the No Action alternative.

**Bufflehead – Sensitive Species**

The No Action does not affect snag habitat. Additional snag habitat may be available around Delintment Lake area with this alternative; however, the most probable nesting habitat is north of the lake on the opposite side of the road. A No Impact (NI) determination is given for the No Action alternative.

**Silver Bordered Fritillary – Sensitive Species**

There would be no direct or indirect effects to habitat with this alternative. A No Impact (NI) determination is given for the No Action alternative.

**Johnson’s Hairstreak – Sensitive Species**

There would be no impact to hairstreak habitat. A No Impact (NI) determination is given for the No Action alternative.

**Cumulative Effects Common to All Alternatives**

**Old Growth**

No cumulative effects to old growth habitat and wildlife that utilize snag habitat is expected. Danger tree removal would have un-measurable effects to snag habitat due to the abundance of snags within the interior old growth stand. Reallocation of old growth to stands that are more suitable may occur in the future.

**Old Growth Dependent Species**

On the Malheur and Ochoco National Forests, nesting habitat is typically the limiting factor for goshawk. Past timber harvest has reduced mature and old growth habitat preferred for nesting and roosting (See Appendix B for a full listing of potential cumulative actions). Since 1993, the Forest Plans as amended has directed the National Forests to conduct timber sales in a manner that moves stands towards OFMS or OFSS structural stages, and timber sales planned since that time should not have contributed to a loss of mature and old growth forest. Goshawks are highly sensitive to disturbance during the breeding season. Since 1990, seasonal restrictions on activities have been regularly used in the vicinity of occupied nests.

Firewood cutting has impacted snag densities in some areas where road densities are high and snags are readily available. However, due to the Egley wildfire, snags densities are abundant for goshawks in the subwatersheds affected by the fire. The BAER restoration activities had little impact to goshawks since most of the activities were associated with the severely burned areas, which are not likely potential goshawk habitat now. Road closures in the low severity areas and in the future Green Ant Planning Area may protect snag habitat and would enhance goshawk foraging habitat.
The Egley wildfire had the most significant impact to goshawk nesting habitat by reducing canopy cover. The Egley project is not expected to reduce snag habitat in the low burn severity areas and therefore would have no affect to goshawk prey. The Action Alternatives or No Action are not expected to cumulatively affect goshawk foraging or nesting habitat and would not impact goshawk populations.

**Late and Old Structure (LOS)**

Since LOS stands would receive minimal reduction of snag habitat because of the low intensity fire through the stands, cumulative affects to LOS habitat is expected to be un-measurable. Small stands of LOS remain on private land on the eastern boundary of the burn. Fire removed LOS on BLM lands in Emigrant Creek watershed. Future road closures in the proposed Green Ant project would reduce the potential for snag removal in LOS stands. Continued reforestation would accelerate the recruitment of future LOS. Thinning projects in the proposed Green Ant project would help maintain LOS and reduce the risk of another large fire.

**Snag Habitat**

Cumulative effects to snag densities would be minimal because large blocks of snag habitat in the burn will be left untreated. There are also other smaller fires in the Egley complex along the Silvies River totaling approximately 610 acres that would remain untreated and would provide an abundance of snags.

Imminent danger trees were felled during suppression and BAER activities within the Egley fire for worker safety. Some of those felled danger trees along roads were salvaged in the spring of 2008 under the Egley Danger Tree Removal Categorical Exclusion. The effects to snag habitat were un-measurable on the landscape. Salvaging logging occurred on less than 20% of the approximate 1000 acres of private lands adjacent to the national forest on Emigrant Creek. BLM harvested approximately 125 acres leaving approximately three large snags per acre in the logged unit(s). Due to the high densities of snags created from the Egley fire and natural mortality in the Emigrant watershed, the salvaging on BLM and private lands had un-measurable effects to snag densities.

Fuelwood cutting is not expected to be allowed in the Egley fire due to resource protection. The current Area closure within the Egley fire perimeter may enhance future retention of snags but enforcement will be necessary for compliance. Because of the size of the Egley fire, the surrounding subwatersheds may receive an increase in firewood cutting further reducing snag numbers in some subwatersheds.

There will be a large gap in the snag recruitment potential in the Egley burn following the demise of the existing snags in moderate and high burn severity areas. Due to low growing potential on most of the Egley area, it will take centuries to replenish the snags loss from the fire.

**Management Indicator Species (MIS)**

Imminent danger trees felled during suppression and BAER activities, and salvage on private land and BLM lands had little impact to snag habitat for MIS woodpeckers. Additionally, smaller fires in the Egley complex along the Silvies River totaling approximately 610 acres would remain untreated and would provide an abundance of snags for MIS woodpeckers in an adjacent watershed.
The proposed Green Ant project would affect snag recruitment in the long term in the Whiskey subwatershed by understory thinning most of the higher elevation stands of which some contain mixed conifers. This would affect pileated woodpeckers the most of any MIS woodpeckers. Thinning stands will also reduce the stand replacement fire potential lowering the probability for future black backed woodpecker habitat. The proposed vegetation treatment in Green Ant would favor habitat for MIS woodpeckers preferring open stands like white headed woodpecker. Because of the fire severity and lack of cover created from Egley, some proposed thinning units in the Green Ant were omitted from any thinning treatments allowing accelerated snag recruitment due to conifer overstocking.

**Rocky Mountain Elk and Mule Deer**

The Egley fire modified big game cover on over 140,000 acres. In addition past timber harvesting and silviculture practices have changed cover conditions. Past road construction for timber management and fire suppression has reduced the effectiveness of big game habitat. There would be no cumulative effects to big game cover. Proposed road closures and decommissions in Egley, and proposed road treatments in Beaver Rock, W2, Mineral, and in the near future Green Ant Planning Areas would benefit elk by reducing harassment. Road treatments on approximately 15 miles of road primarily in Mineral would be implemented in 2008 increasing big game security and reducing harassment potential. Road closures would provide positive cumulative effects and reforestation would accelerate development of future cover.

**Golden Eagle**

Danger tree removal activities would have no cumulative effects to golden eagles. It is highly unlikely this eagle would occur in the burn with the exception of incidental occurrences.

**Prairie Falcon**

No cumulative effects to prairie falcons and their habitat is expected from the proposed activities because danger tree removal would not create openings.

**Featured Species**

**Antelope**

Suppression and associated restoration activities with the BAER team had little effect on pronghorn habitat, since the fire burned at high intensities reducing forest cover (See Appendix B for a full listing of potential cumulative actions). Fire line construction in scab flats and in sagebrush habitat reduced some antelope foraging habitat. Burnouts in low sagebrush reduced some forage, but overall had minimal impacts. Area closures were favorable for antelope during the hunting seasons limiting motorized access and potential disturbance.

Future restrictions for off road use would enhance antelope habitat and reduce harassment and may improve buck escapement. Future tree thinning in the adjacent Whiskey Creek subwatershed with the proposed Green Ant project may expand the use of the Egley fire for antelope. Maintenance of guzzlers would provide a water source and better distribute
antelope throughout the burn. Guzzler use by lactating does is expected to be high near good foraging areas.

**Blue Grouse**

Fire suppression and BAER restoration activities occurred in the most part in drier habitat than what is suitable for blue grouse (See Appendix B for a full listing of potential cumulative actions). It is doubtful any of the suppression activities in the upper Silver Creek watershed negatively affected blue grouse habitat. Proposed vegetation treatments and associated road closures in the Whiskey Creek subwatershed may improve blue grouse habitat in the future, if the proposed Green Ant project is implemented.

Since blue grouse use of the Egley burn would be incidental and the proposed projects would not impact suitable grouse habitat, there would be no cumulative effects from the proposed actions or the No Action alternatives to blue grouse populations or their habitat.

**Osprey**

No measurable cumulative effects to osprey nesting habitat is expected from the proposed treatments.

Restoration activities associated with Egley BAER team may have prevented degradation of fisheries habitat, which could indirectly affect osprey (See Appendix B for a full listing of potential cumulative actions). Stream and road stabilization projects reduce sedimentation into Emigrant Creek therefore reducing the potential to fill in pool habitat and reducing fisheries resources for osprey and other birds that prey on fish (ie. kingfishers).

Salvage logging on the 125 acres of BLM land and the adjacent logging on private lands reduced a small percentage of snag habitat on lower Emigrant Creek that could be potential nest trees for osprey. However, large snags at approximately three per acre were retained on BLM. Most of the private lands adjacent to the forest and riparian along Emigrant Creek were un-harvested leaving an abundance of snags for osprey nesting habitat.

**Unique Habitats – Aspen/Riparian Shrubs**

Effective fire suppression and early road construction have affected riparian shrubs. With the absence of fire, conifer expansion in the riparian areas has displaced some of the riparian shrubs by shading. Road construction in riparian areas has changed the hydrologic functions adversely affecting species like aspen. The Egley fire reduced competition for shrubs by removing conifers. Future livestock grazing would be regulated to maintain riparian shrub development. Livestock grazing in the Little Emigrant and Bear Canyon drainages have shown to have no affect to riparian shrubs based on personal observations. Future monitoring would be necessary to determine if protection and or supplemental plantings should occur.

The cumulative affects from the action alternatives and No Action would not affect riparian shrubs. Felling of snags in the riparian shrub habitat would be limited and no salvage of the snags would occur.
Landbirds Including Neotropical Migratory Birds (NTMB)

Since the action alternatives are limited to danger tree removal, the old growth ponderosa pine guild of birds would be impacted very little. Snag habitat for secondary cavity nesters would be available throughout the burn. Reforestation may reduce the recovery time but there would be a long period where pine snags would be limiting for some birds.

There would be no cumulative effects to riparian dependent birds from any of the action alternatives. The riparian shrub component would not be altered from any of the alternatives and the BAER projects did not affect riparian shrubs. Riparian projects within the Blue Creek drainage may improve nesting habitat in the mid-term (15-25 years) if riparian shrubs become established.

The action alternatives would not affect shrub-steppe habitat; therefore no cumulative effects to sagebrush nesting neo-tropical birds is expected. Reforestation efforts would not occur in this habitat, therefore no long-term impacts is expected.

Gray Wolf – Endangered Species

There would be no cumulative effects to Gray Wolf from any alternative.

Bald Eagle – Sensitive Species

Because there would be NO IMPACT (NI) to bald eagles or their habitat under the No Action alternative or any of the action alternatives there would be no cumulative effects. The felling and salvage of danger trees near the bald eagle nest would occur outside the nesting season of March 1 to August 15. Removal of hazard trees is not expected to contribute adverse effects to bald eagle perching, loafing, or primary hunting perches.

Continued recreation and associated activities is expected to occur at Delintment Lake. With all the recreation activities and last year’s fire suppression activities that occurred with Egley, this pair of bald eagles at Delintment Lake were still able to successfully nest. This pair has a high tolerance level to disturbance.

Wolverine – Sensitive Species

Reducing road densities may benefit potential dispersal habitat for wolverine. Thinning of vegetation in the Whiskey Creek subwatershed (Green Ant project) at the northern boundary of Egley would reduce the potential for another stand replacement fire that could further affect long-term dispersal habitat.

Reforestation coupled with effective road closures would improve big game habitat consequently improving dispersal habitat for wolverine. There have been no recorded sightings of wolverine at any of the developed water structures. It is probable that wolverine could utilize the water sources during the summer months if they were in the area.

BAER activities had little to no affect to dispersal habitat. Road closures and piling debris in the dozen lines may reduce future off road use. Seeding would provide vegetation for rodents, which could provide prey to wolverine.

Timber salvaging on BLM and private lands would have no cumulative effects on wolverine because it is not suitable wolverine habitat.
**Pygmy Rabbit – Sensitive Species**

There would be no cumulative affects from any of the action alternatives and the no action would not change the conditions created by the fire. Soil types and connectivity to viable populations is still limiting.

**Western Sage Grouse – Sensitive Species**

Since there are no direct or indirect affects from the action alternatives, no cumulative effects are expected.

**Upland Sandpiper – Sensitive Species**

Because there are no direct or indirect effects to sandpipers or upland sandpiper habitat, there are no cumulative effects.

**Bobolink – Sensitive Species**

Since there are direct or indirect affects to bobolinks or bobolink habitat, there are no cumulative effects.

**White-Headed Woodpeckers – Sensitive Species**

The primary concern for white-headed woodpecker and other species that require large ponderosa pine snags is the continued removal of snags for firewood. The current firewood cutting policy on the Malheur NF coupled with high road densities would continue to reduce ponderosa pine snag habitat for white-headed woodpecker along open roads.

The Egley Fire created an abundance of snags where habitat for white-headed woodpecker didn’t exist prior to the fire. A reduction of 15% of white-headed woodpecker habitat would have little impact on snags within the subwatersheds around the Egley burn because a landscape snag analysis on approximately 167,000 acres indicated an abundance of snags in all size classes.

The BAER projects (See Appendix B for a full listing of potential cumulative actions) did not affect any potential nesting habitat for white-headed woodpecker. There was some felling of small diameter trees in the Stinger Creek drainage to prevent erosion but it was unlikely these snags would have been used by white-headed woodpecker since it was in the high severity burn areas. Imminent roadside danger tree removal felled approximately 400 snags along primary roads, however on the subwatershed level it did not reduce white-headed woodpecker nesting habitat by a measurable amount.

Forest thinning projects favoring enhancement of large ponderosa pine have positive impacts to white-headed woodpecker habitat and reduce the potential for a large stand replacement fire such as Egley. Understory thinning prior to the Egley burn where treatment of slash occurred resulted in a lower fire severity level. The Green Ant proposed project in the Whiskey Creek subwatershed meets the landbird strategies for white-headed woodpecker habitat as suggested by Altman (2000) for restoring old structure open ponderosa pine ecosystems.

Water structure maintenance provides water for white-headed woodpecker and other birds nesting in Egley area. The action alternatives would remove hazards around these
structures so maintenance could occur. The No Action Alternative would not remove the hazards and maintenance would be delayed until hazard trees fell naturally.

**Lewis’ Woodpeckers – Sensitive Species**

Like the previous woodpecker specie, the same cumulative impacts occur from firewood cutting of large ponderosa pine. The Pine Springs burn of 1990 created habitat for this specie, however due to the close proximity of this burn to town, snags were readily cut for firewood, reducing nesting potential. No population estimates were taken of Lewis’ woodpecker in Pine Springs burn, but many birds were observed from approximately 1995 to the present. Salvage logging after the Pine Springs burn left approximately 5 snags per acre but very few are currently standing. The Egley fire burned some of the remnant soft snags that were nesting habitat for Lewis’ woodpecker.

Artificial nest boxes for Lewis’ woodpecker are currently being installed along the perimeter of Egley where shrubs did not burn. Nest boxes have been installed in a fire area near the city of Bend Oregon with some success. These boxes may provide surrogate nesting habitat until snags in the Egley burn become soft enough for excavation.

The BAER activities and cutting of danger trees on primary roads affect Lewis’ woodpecker similarly to white-headed woodpecker. The abundance of snags within the interior portion of the burn is expected to exceed the needs for available nesting and perching habitat. Enforcement of the area closure within the Egley burn prevents off road use and reduces the loss of snags from firewood cutters.

Continued fire suppression produces cumulative effects on snag recruitment habitat that is needed for this specie of woodpecker. Prescribed fires provide some burned habitat, however stand replacement mortality is usually low. Fire was reintroduced in the Claw Creek subwatershed adjacent to the Egley burn but has not been monitored for snag creation and assessment for woodpecker habitat.

Due to high densities of snags throughout the Egley burn, danger tree removal is not expected to have cumulative effects detrimental to Lewis’ woodpecker populations or breeding habitat.

Salvage logging occurred on approximately 125 acres of BLM land and private lands adjacent to the national forest. Large snags were left at three per acre (Pers. comm. Newkirk, 08).

**Tri-Colored Blackbird – Sensitive Species**

Since there are no direct or indirect affects to tri-colored blackbirds or blackbird habitat, there would be no cumulative effects.

**Bufflehead – Sensitive Species**

Reduction of snag habitat has occurred frequently in the Delintment Lake campground area for public safety and would continue to occur in the future. At least 60% of the lake shore would continue to provide habitat for cavity nesting birds including secondary cavity nesters such as bufflehead.
Silver Bordered Fritillary – Sensitive Species

No cumulative effect to silver-bordered fritillaries or their habitat from past, present, or foreseeable management activities is expected within the Egley analysis area because this area does not contain moist meadow habitat needed for this species of butterfly.

Johnson’s Hairstreak – Sensitive Species

Since there are no direct or indirect effects, there would be no cumulative effects from the proposed project.

Photo 3-3. Emigrant Creek