

Bull trout reach maturity at sizes similar to resident trout but are fall spawners. Substrate is normally smaller, clean gravels in headwater reaches. Bull trout prefer sites with upwelling rather than the typical pool tail area of other salmonids. Preferred temperatures in these headwater streams are cooler with the optimum about 45 degrees F. Rearing habitats are similar but productivity is greater in habitats with an abundance of woody debris.

Although Bull Trout historically occurred throughout the John Day Subbasin, they were probably never as abundant as other salmonids in the subbasin. It is certain that they were more abundant and more widely distributed than they are today. The current distribution of bull trout is clearly fragmented (Howell and Buchanan 1992). In the winter of 2004, ODFW documented subadult bull trout movement in the mainstem John Day River down to the National Park Service Interpretive Center (RM 203) and in the Middle Fork to the hot springs at Ritter (RM 15). Recent survey work by Oregon Department of Fish and Wildlife ((Hemmingsen *et al* 2001) detected bull trout in the mainstem John Day River at river mile 170 near the town of Spray, downstream of the confluence with the North Fork John Day. Two bull trout were radio tagged and tracked upstream during the summer. (John Day Basin Revised Draft Plan 2005). Both fish entered the North Fork, one traveling 112 mile over a period of 77 days, the other 137 miles into the tributary of Granite Creek to mile 3.8. Presence of bull trout at Spray confirm there is a component of movement along the rivers to the local population in both the North Fork and mainstem John Day Rivers. These fish utilize the lower river segments as winter foraging habitat which include segments flowing through public lands.

## INTRODUCED SMALLMOUTH BASS AND CHANNEL CATFISH

The John Day River also supports an increasingly popular warm water sport fishery. A review of habitat requirements revealed the river exhibits good conditions for both smallmouth bass (*Micropterus dolomieu*) and channel catfish (*Ictalurus punctatus*). Upon assurance that warm water species predation on salmonids would be minimal, these species were introduced into the John Day River below Kimberly (RM 185) in the early 1970s (ODFW 1999). Smallmouth bass are distributed throughout the mainstem from the mouth to Picture Gorge (RM 205), the North Fork from the mouth to Desolation Creek (RM60, and the Middle Fork from the mouth to Big Creek (RM 39). This species appears to be increasing upstream distribution by adapting to marginal habitat conditions higher in the basin. Diet studies support the theory that smallmouth bass in the John Day are a minimal risk to migrating salmonids. Smallmouth bass have successfully filled a niche in the John Day River, which has developed into a nationally recognized sport fishery.

## TERRESTRIAL WILDLIFE

The John Day Basin contains a rich wildlife population. Wildlife within the basin utilize habitats that range from dense moist forest to dry shrub and grasslands. There are 378 terrestrial species that utilize the Blue Mountains. Fifty-one of these species migrate through or are occasional visitors in the Blue Mountains (Thomas, 1979). There is one Federally listed species with reproductive habitat, one Federally listed species with incidental and dispersal habitat, one formerly listed species, two candidates for Federal listing, 21 Bureau Sensitive Species, 6 Bureau Assessment Species, and 37 Bureau Tracking Species (Appendix B). Mule deer (*Odocoileus hemionus*) and elk (*Cervus elephus*) are considered locally important species. Additionally there are numerous neotropical migratory bird and upland game birds.

The John Day main-stem, North, and South Forks provide Bald Eagle (*Haliaeetus leucocephalus*) winter roosting habitat, potential peregrine falcon eerie habitat, California big horn sheep (*Ovis Canadensis californiana*) habitat, and neotropical migratory bird habitats. 285 of the 378 terrestrial species (over 75%) known to occur in the Blue Mountains are either directly dependent on riparian zones, or use them more than other habitats. Consequently, these riparian areas are the most critical wildlife habitats in the Blue Mountains (Thomas, 1979).

Neotropical migratory birds breed and raise young in the planning area in the spring and summer then migrate south to areas in Mexico and South America during the fall and winter. These birds range from small sparrows and warblers to large woodpeckers and raptors. All habitat types are utilized with riparian areas having the highest proportion of use.

Large ungulates, such as mule deer, elk and antelope (*Antilocapra americana*), are common year-round residents in the John Day Basin. Critical big game winter ranges occur in the North and South Fork of the John Day Rivers (Map 8 displays past RMP winter range designations). Many of the foothills along the John Day River are used as winter range by these species. The ODFW sets population and species management goals within the state. The BLM cooperates with ODFW in helping to meet these goals by providing an appropriate amount and quality of habitat on public land consistent with multiple-use management.

In 2005 ODF&W published “The Oregon Conservation Strategy”. The BLM and other management agencies have agreed to manage consistent with direction contained in this document. The Oregon Conservation Strategy identifies habitat values, Conservation Opportunity Areas (COAs), and suggests management considerations. See Map 3 for the location of COAs

## NORTH FORK JOHN DAY ACQUISITION LANDS

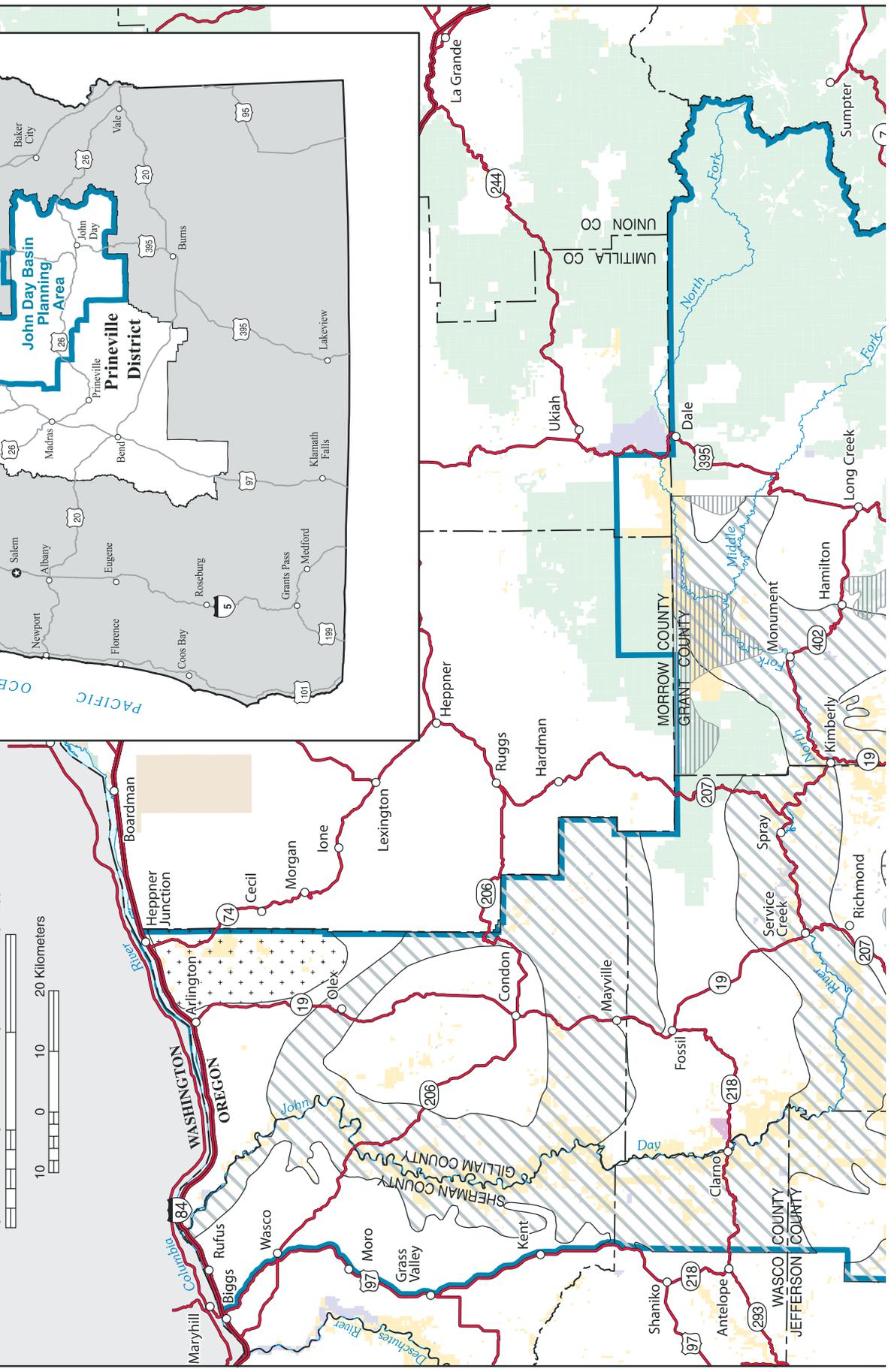
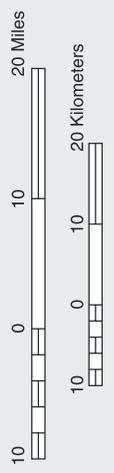
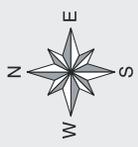
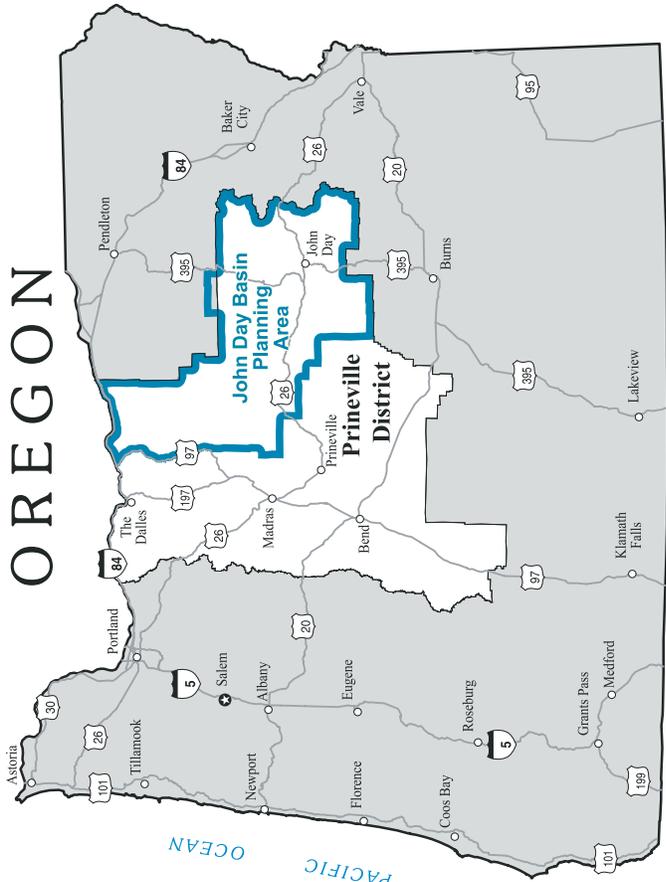
The wildlife habitat acquired in the John Day Basin contains representative coniferous forest, riparian, montane shrub, grassland, and western juniper habitat. The acquisition lands contain approximately 75 miles of riparian habitat.

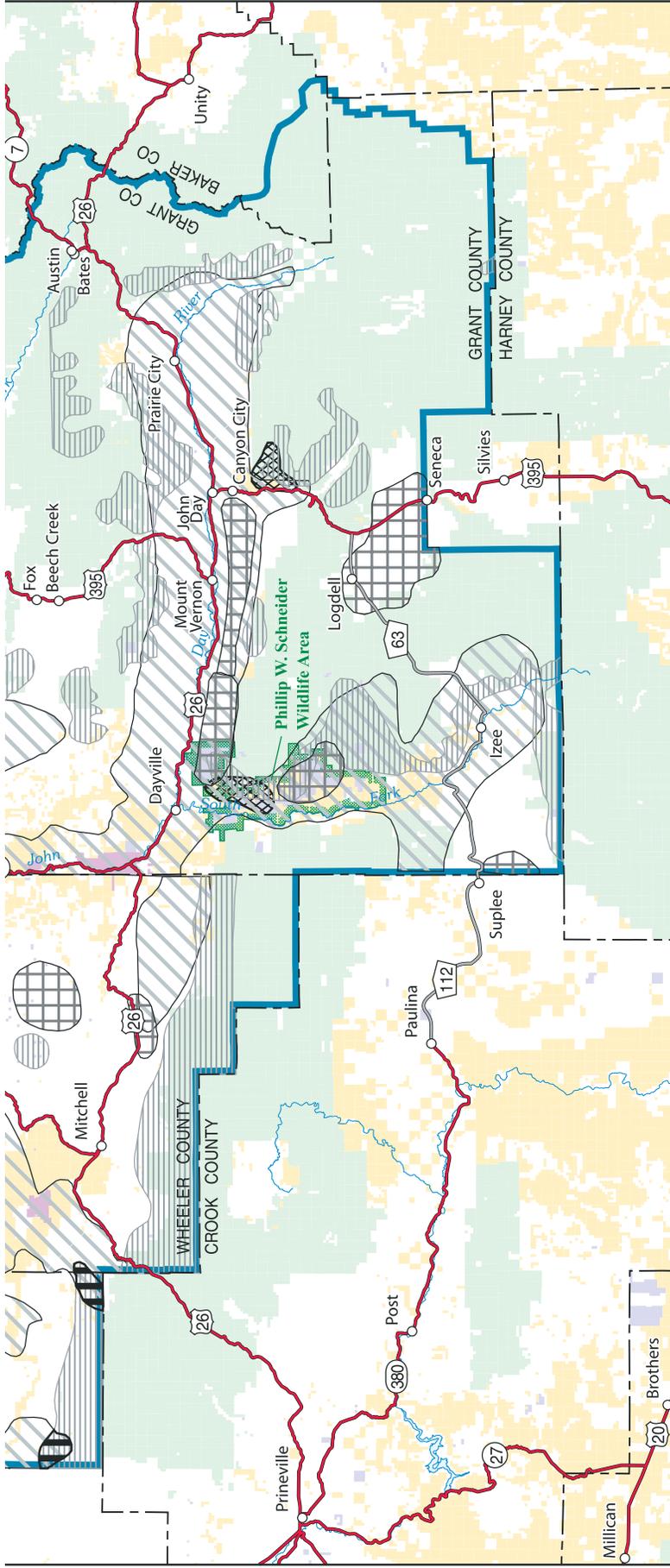
The North Fork acquisition lands contain some of the most diverse riparian and coniferous forest communities on BLM land in the basin. The north slopes providing refugia for many wildlife species due to wetter communities that stay green longer during the hot summer months. The drainages, north slopes, and higher elevations on the north side of the river contain coniferous forest communities. Some of these forest communities are in relatively large blocks and stringers, providing contiguous habitat that benefit wildlife species utilizing interiors of these habitats.

The southern aspects and ridge tops on the north side of the river are dryer habitat types that get more solar radiation in the winter and thus provide important mule deer and elk winter range providing habitat for 1,200 - 1,500 elk and 3,000 to 4,000 mule deer..

The North Fork provides important wintering habitat for the bald eagle a threatened species, a large nesting population of Lewis’ woodpeckers (*Melanerpes lewis*), and lies within historic California Bighorn Sheep habitat.

# OREGON





**LEGEND**

-  Antelope Winter Range
-  Deer Winter Range
-  Deer and Elk Winter Range
-  Elk Winter Range
-  Long Billed Curlew
-  Potential California Bighorn Sheep
-  Phillip W. Schneider Wildlife Area

-  Planning Area Boundary
- Administered Land**
-  Bureau of Land Management
  -  Forest Service
  -  John Day Fossil Beds National Monument
  -  Other Federal
  -  State
  -  Private or Other

U.S. DEPARTMENT OF THE INTERIOR  
Bureau of Land Management



**PRINEVILLE DISTRICT**  
**John Day Basin**  
**Resource Management Plan**

2006

**Map 8: Existing Management Designations for Wildlife**  
(Incomplete Coverage)

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# KEY HABITAT COMPONENTS

## FRAGMENTATION

Fragmentation occurs when human or natural activity creates breaks in what was formerly more or less a contiguous habitat type. Palouse prairie habitats are some of the most fragmented habitats within the planning area due to agricultural conversion. This occurs primarily on private lands. Shrub steppe habitats are becoming more fragmented due to the expansion of juniper into these habitats. Forested habitats on BLM lands have lower levels of fragmentation than surrounding private lands. Roads and fire may also create breaks in habitat. For the most part, however, many roads on BLM lands are two track that minimally contribute to fragmentation.

## CONNECTIVITY

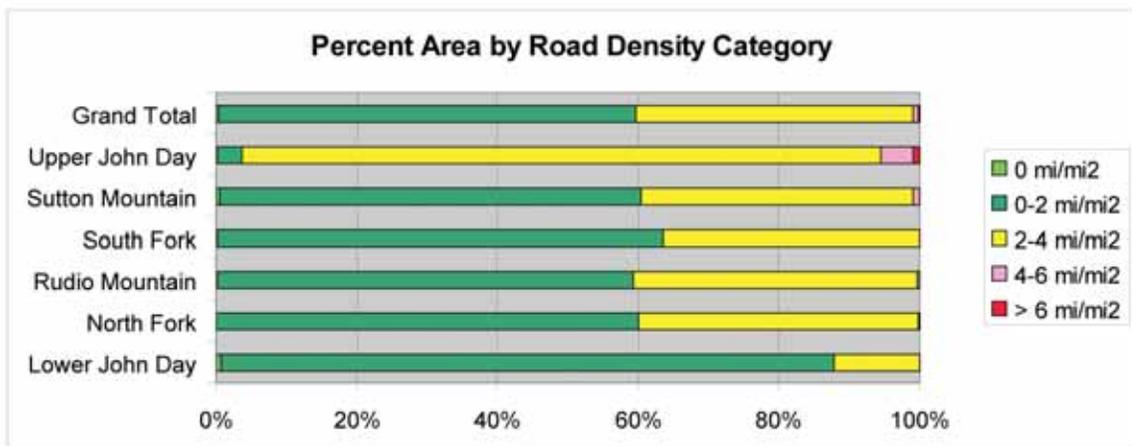
Connectivity at the landscape scale has not been analyzed. There are known local migration areas for big game moving to wintering grounds. It is also believed that portions of the planning area provide connectivity for species dispersal between the Blue Mountains, Ochoco Mountains, and the Cascade Range. Outside of fragmentation issues there are no known barriers within the planning area that would preclude habitats from being used as connectivity habitat

## ROAD DENSITY

Road density is a key element in determining the amount of habitat fragmentation within a given area. Road density analysis was completed previously utilizing a roving windows approach. This method assigns road density groupings to areas of land.

The following Figure 23 displays percent area of BLM land by given road density. In general most BLM lands are within the 0 – 2 or 2 – 4 miles per square mile range (m/m<sup>2</sup>) range. This analysis was base on a partial inventory of roads.

FIGURE 23: PERCENT AREA BY ROAD DENSITY CATEGORY



## THREATENED, ENDANGERED, AND SPECIAL STATUS WILDLIFE SPECIES

Since 2000 the Prineville BLM has participated in a Joint Programmatic Biological Assessment (JPBA) with the Deschutes and Ochoco National Forests for Federally Listed species. The JPBA established Project Design Criteria (PDC) that if followed have been determined to result in a Not Likely to Adversely Effect determination.

The John Day basin has a variety of special status species that are either known or thought to occur within its boundaries. For a list of special status species that are known to occur or may occur within the John Day basin, see Appendix B.

The bald eagle is listed as Threatened as described in the Endangered Species Act (ESA). On July 6, 1999, however, the U.S. Fish and Wildlife Service (USFWS) published a proposed rule to remove the bald eagle from the list of Endangered and Threatened Wildlife in the lower 48 states (50 CFR Part 17, Federal Register/Vol. 64, No. 128/ July 6, 1999/36454-36464). The action was proposed because the available data indicates that the bald eagle has met and exceeded recovery goals throughout Oregon.

This species is a winter inhabitant of the John Day basin, utilizing the John Day River corridor as a primary use area from November to March. Numerous roost areas, as well as a few known nest sites occur in the basin. There are no documented nests on BLM lands. Small tracts of BLM lands in the Rock Creek area are within a designated Bald Eagle Management Area (BEMA). The primary roosts are large cottonwood and conifer trees located throughout the river corridor. Most foraging occurs from Service Creek to the Blue Mountain Hot Springs on the mainstem John Day River, with the North Fork John Day also receiving significant use. Carrion, fish, ground squirrels and waterfowl are primary food sources of the bald eagle.

The Canada Lynx is currently listed as Threatened across the contiguous United States by the USFWS, pursuant to the Endangered Species Act of 1973, as amended (50 CFR Part 17, Federal Register/Vol. 63, No. 130/July 8, 1998/36993-37013). The analysis area is outside of designated lynx denning, foraging, or travel habitat. The planning area may be important in providing connectivity between Idaho and the Cascade Mountains Geographic Area, although the Snake River and Hells Canyon likely would impede lynx movements.

Peregrine falcon was formally de-listed in 1999; however, the peregrine will continue to be protected by the Migratory Bird Treaty Act. Peregrine falcons inhabit cliffs approximately 0.25 – 1 miles from some form of riparian habitat. In 2001 the Prineville District contracted a habitat analysis survey. The survey found no active sites but did identify 37 potential sites within the planning area. These sites had the following ratings for potential: 9 High, 3 High Historic, 17 Medium, and 8 Low (Pagel, 2001).

In addition, three wildlife species found in the John Day basin are federal candidate species, meaning that there is sufficient information on the biological vulnerability of and threats to these species to support proposals to list them as endangered or threatened. These species include the Columbia Spotted Frog, Yellow-billed cuckoo and the Washington ground squirrel.

Columbia Spotted Frog is currently considered a Bureau Tracking species and Federal Candidate by the USFWS. This species is found in the South Fork of the John Day and is suspected to occur in the North Fork and its tributaries. The typical habitat is large

wet meadows that remain damp during the summer months. No formal surveys have been conducted for this species; therefore the extent of the population range and size is unknown.

Yellow-billed cuckoo is currently considered a Sensitive species by the BLM, Critical species by the State, and Federal Candidate by the USFWS. This species occupies dense closed-canopy riparian areas with various species of willows (Csuti et al., 1997). Patches must be > 37 acres in size with >7 ac. of closed canopy. This species feeds primarily among cottonwoods. Although there are numerous cottonwood stands within the planning area, few approach the necessary patch size. Only one historic sighting in 1989 near Mt. Vernon exists in any district data base. No surveys have been conducted for this species; therefore the extent of the population range and size is unknown.

Washington ground squirrel is currently considered an Assessment species by the BLM and Federal Candidate by the USFWS. Palouse Prairie habitats around Horn Butte provide some of the only habitat for Washington ground squirrel in Oregon.

Washington ground squirrels inhabit grasslands and shrubsteppe habitat dominated by big sagebrush, bluebunch wheatgrass, needle-and-thread grass, Idaho fescue, and Indian ricegrass. These grassland and shrubsteppe habitats are considered some of the rarest ecosystems in the Oregon portion of the Columbia Plateau. Washington ground squirrels play a number of important roles in these ecosystems, as a prey species for raptors and other predators, by influencing plant community composition and structure through selective feeding, and in the creation and use of burrow habitats used by other species. Washington ground squirrels are a prey item for two state sensitive species, the ferruginous hawk and Swainson's hawk.

In 2002 the ODF&W completed a study of habitats and populations in the Horn Butte area. A total of seven Washington ground squirrel sites were confirmed – and all seven were located on the Fourmile Tract. Vegetation at detection sites was variable and most sites had a composite of grass and shrub communities present. 89% of the larger Horn Butte tract is comprised of Sagehill and to a lesser degree Warden soil, and since historical sightings were on this tract, it is significant that squirrels were not located here during this study (Morgan, 2002). In 2000 a wildfire burned a large portion of this area and thus much of the vegetation mapped was dominated by annual vegetation (Morgan, 2002). Observations indicated that squirrel abundance and activity was relatively low. However, this was a one year study with populations not being monitored during seasons of higher squirrel activity. Due to the duration of the study, the impacts of yearly precipitation on population numbers and distribution are not ascertainable.

The John Day Sub-basin draft plan (BPA, 2005) states that a number of terrestrial wildlife species have been extirpated from the John Day Subbasin, including the Columbia sharp-tailed grouse, the gray wolf, the grizzly bear and the California bighorn sheep. Columbia sharp-tailed grouse were extirpated from Oregon in the 1960s due to a combination of factors, including over-hunting in the mid- to late- 19th century, the conversion of native habitats to crop production and habitat degradation from livestock grazing (Hays et al. 1998, Crawford and Coggins, 2000). Sage grouse, a species dependent on shrub-steppe habitat, were extirpated from the John Day Subbasin by 1955 because of habitat conversion, overgrazing and over-hunting (Stinson et al., 2003). The gray wolf and grizzly bear were both extirpated from the subbasin by the 1940s, primarily due to predator control efforts. California bighorn sheep were extirpated from Oregon by 1915 due to over-hunting, unregulated domestic livestock grazing, and parasites and diseases carried by domestic livestock. However, these sheep have been successfully reintroduced in many areas of the John Day Subbasin (ODFW, 2003b).

“Historically, California bighorns were the most abundant wild, native sheep in Oregon (Toweill and Geist, 1999). They were found throughout the steeper terrain of southeast Oregon, and the non-timbered portions of the Deschutes and John Day River drainages, with the timbered regions of the Blue and Umatilla Mountains separating them from Rocky Mountain bighorn sheep. Similar to Rocky Mountain bighorn sheep, California bighorns were an important source of food and clothing for Native Americans, and were utilized heavily for food and trophies during the homesteading and early settlement periods of Oregon. Thousands of domestic sheep also were trailed across eastern Oregon, including most California bighorn habitats. This likely resulted in contact with bighorns which may have led to mortality as a result of livestock related diseases and parasites.

Attempts to protect California bighorn began as early as 1899 with regulated hunting, and in 1911 with full protection of bighorn sheep (Anonymous, 1911). The Steens Mountain Game Refuge was established in southeast Oregon around 1915 because the last California bighorns remaining by this time were reported there (Anonymous, 1915). Unfortunately this attempt failed and California bighorns were extirpated from Oregon by 1915. Indiscriminate hunting, unregulated grazing by domestic livestock, and parasites and diseases carried by domestic livestock all contributed to the eventual demise of Oregon’s native bighorns.”

Efforts to restore California bighorn sheep to Oregon began in 1954 and eventually moved to the John Day basin. A list of release sites and current population estimates is described in Table 10.

**Table 10: Bighorn Sheep Releases and Current Population Estimates in the John Day Basin**

Year	Location of Release	# of animals	Current Pop. Estimate
<b>Lower John Day River</b>			600-650
1989	Thirtymile Canyon	14	
1990	Horseshoe Bend	15	
1995	Jackknife Canyon	21	
1999	Little Ferry Canyon	15	
2004	Red Wall	19	
<b>Mainstem and South Fork John Day River</b>			
1971	Canyon Mtn	21	Non-viable
1978	Aldrich	14	100
1981	Aldrich	4	
1988	McClellan	15	120
1992	McClellan	7	
<b>North Fork John Day River</b>			
2003	Potamus	21	49-52

In Oregon, most California bighorn herds are non-migratory. Herd ranges generally provide contiguous summer and winter range and sheep are therefore year long residents not moving through areas of non-habitat. Thus dispersal and establishment of new populations in new habitats is limited. In general, California bighorn sheep prefer rugged, open habitats with high visibility of their surroundings. Survival is positively correlated with amount of cliffrock, rimrock, and rocky outcroppings. Rocky outcrops are particularly important for lambing and escape from predators.

ODFW works with federal land managers prior to any release to ensure habitat needs are met and any conflicts with domestic sheep are analyzed and adequately addressed. Transplant sites on private land must receive landowner approval prior to release of bighorn sheep. Cooperative agreements to ensure habitat integrity of release sites and reasonable public hunting access must be in place prior to release.

Substantial amounts of historic habitat are not currently suitable for California bighorns because of long-term habitat change. For example, urbanization occupies some historic ranges and others have been converted to other uses making these sites unsuitable for bighorn sheep. Fire suppression activities throughout the last 100 years have allowed woody plants and conifers to encroach upon once "open" habitat, decreasing their suitability for bighorns. Because bighorns rely on their vision as a way to avoid predators, dense stands of junipers or other conifers can reduce visibility and increase predator effectiveness. Further, junipers may compete for water and nutrients needed by forage plants on desert ranges and therefore can decrease forage quantity and quality as well as live water availability from springs and seeps. Some junipers can be beneficial by providing shade and escape cover in certain instances. However impacts of large dense stands are generally negative.

Some historic California bighorn sheep habitat along the John Day River is not currently inhabited. Concerns about domestic sheep, mainly mouflon, spreading disease to native herds of bighorns continues to be a factor. Where these concerns can be mitigated, and where habitat is suitable, the opportunity to reintroduce California bighorn sheep into native habitats remains an option. The ODFW Bighorn Sheep Management Plan (2003) has identified several areas in the basin where California bighorn sheep populations could be reintroduced or supplemented. The Prineville BLM in conjunction with ODF&W will be mapping existing and historic habitats; as well as identifying specific habitats for restoration.

Sage Grouse is currently considered a Sensitive species by the BLM, Vulnerable species by the State, and former Federal Candidate by the USFWS. The John Day Sub-basin draft plan (EAP, 2005) states that Sage grouse, a species dependent on shrub-steppe habitat, were extirpated from the John Day Subbasin by 1955 because of habitat conversion, overgrazing and over-hunting (Stinson et al., 2003). However, there have been reports of more recent sightings and the potential for occupied habitat in the sagebrush uplands along the South Fork John Day River and areas around Dayville. In 2005 the BLM contracted ODF&W to survey the South Fork John Day lands in an attempt to better determine sage-grouse use and abundance in this area. No, additional sightings were recorded. Additional surveys will be required to acquire better population and distribution data.

Sage-grouse historically inhabited much of the sagebrush-dominated ecosystems of North America. Today, sage-grouse population abundance and extent have declined throughout most of their historical range. Population dynamics of sage-grouse are marked by strong cyclic behavior; however, in the last 30 years, the peak in the cycle of bird numbers has declined. ODF&W allows a permit based harvest of 5% or less of sage grouse populations.

Habitat requirements for sage-grouse vary greatly depending on the season and life-history stage. Key habitat components include adequate canopy cover of tall grasses and medium height shrubs for nesting, abundant forbs and insects for brood rearing, and availability of herbaceous riparian species for late growing-season foraging.

## RESOURCE TRENDS

In general, both the quantity and quality of natural wildlife habitat in the John Day basin have declined since Euro-American settlement. Among the many causes for this decline was historic logging and grazing practices, wildfire suppression, drought, agricultural conversion, weed invasion, human expansion into rural areas, and recreational activities. Habitats are constantly changing with new disturbances, both natural and unnatural. Some species have increased with these disturbances; others have declined.

## REGIONAL CONTEXT

Habitat conditions and trends within the John Day Basin are consistent with the finding of The Interior Columbia Basin Ecosystem Management Plan (ICBEMP). That plan took a broad view of wildlife habitats across the entire Columbia Basin through the late 1990s and early 2000s. In 2005 the Bonneville Power Administration (BPA) did a tiered analysis at a finer scale focusing on the John Day Basin.

The BPA report made several observations: Reduction of cover and vigor of big sagebrush, antelope bitterbrush, and other shrubs, grasses, and forbs by juniper can have negative impacts on a multitude of wildlife species, including critical big game winter range. Western juniper can be an important element in the habitat for many wildlife species, but at densities that allow a healthy understory of shrubs and grasses (Miller, 2001). Once juniper becomes dominant on sites understory species cover and vigor declines. Increasing juniper dominance at both the community and landscape levels will result in a general decline in plant and community diversity, resulting in a decline of wildlife abundance and diversity (Miller et al., 2005). Reduction of cover and vigor of big sagebrush, antelope bitterbrush, and other shrubs, grasses, and forbs by juniper can have negative impacts on a multitude of wildlife species, including ground nesting migratory birds and critical big game winter range.

## UNIQUE OR KEY FEATURES

- Winter Range - Critical big game winter ranges exist on the North and South Forks of the John Day River.
- Caves – There are several caves that provide potential maternity and hibernacula habitat for bats along the South Fork and Main-stem John Day. Only the Wildhorse Point Cave has confirmed use by western big-eared bat.
- Cliffs – Steep cliffs along the North and South Forks and the Main-stem of the John Day provide potential habitat for nesting golden eagles, prairie falcons, and peregrine falcons.
- The Horn Butte ACEC was designated for its long-billed curlew (*Numenius americanus*) nesting habitat; a management plan was prepared in 1989 proposing land acquisition, livestock management, noxious weed control and closure of the area to OHVs. Since 1989 approximately 80% of the ACEC has been burned by wildfire.

- Palouse Prairie habitats around Horn Butte provide some of the only habitat for Washington ground squirrel in Oregon.
- Lewis' Woodpecker habitat on the North Fork of the John Day
- Wintering bald eagle habitats on the North Fork of the John Day

## WILD HORSES

The only wild horses in the planning area are located in the Murderer's Creek Herd Management Area. The herd management area spans 108,568 acres and is managed under the Wild Free-Roaming Horses and Burros Act of 1971 that mandates that these horses be managed in a thriving ecological balance with the land and as part of the natural landscape. The Bear Valley Ranger District of the Malheur National forest has primary responsibility for managing this herd and annually inventories the Murders Creek wild horse population with a ground census. The Appropriate Management Level (AML) for this herd management area ranges between 50-140 wild horses. The wild horse herd averages about 100 head.

The lineage of the Murderer's Creek horses is diverse. Part of the lineage of horses found in the area by early explorers can be linked to animals that escaped from Indian herds assembled from horses escaped from or released by Spanish Conquistadors. It is also likely that many of the Murderer's Creek horses are descendants of animals lost or turned loose by settlers and ranchers.

## HERD MANAGEMENT

Wild horse herds increase at a rate of 18% per year, so their populations, without controls, double about every 4 to 5 years. Wild horses have few natural predators, except for humans and mountain lions. Prior to the enactment of the Wild Free-Roaming Horse and Burro Act of 1971, wild horses were not federally protected species. Herd numbers were controlled by ranchers and by mustangers who hunted the horses or gathered them for sale. After the Act, the population control has been by mountain lions and the managing agencies, the Forest Service and Bureau of Land Management.

Mountain lions do an adequate job of controlling wild horse numbers in only a few locations. The size of most herds must be controlled by the managing agencies in order to protect the land from overgrazing and to protect the horses from eventual starvation due to overgrazing. It is for the health of the land and the health of the animals that "excess" wild horses are removed from their territories.

## VISUAL RESOURCES

The variety of landscapes across the John Day basin provides a visual smorgasbord for residents and visitors. The 13 subcoregions within the planning area provide scenery that ranges from broad vistas of rolling grassland to rugged canyons to mountain peaks flanked by forests. While much of the area appears to be relatively undisturbed, logging, grazing, fire suppression, road building, mineral extraction, and the creation of infrastructure such as roads and utilities have left an imprint on the land and on the overall scenic quality within