



10 CFR 70.5

May 14, 2010

AES-O-NRC-10-00349-0

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

AREVA Enrichment Services LLC
Eagle Rock Enrichment Facility
NRC Docket No: 70-7015

Subject: AREVA Enrichment Services LLC - Eagle Rock Enrichment Facility, Supplemental Sage Grouse Survey Report

AREVA Enrichment Services (AES) hereby submits a supplemental survey report to Revision 2 of the Eagle Rock Enrichment Facility (EREF) License Application (Reference 1) to provide the results of the April 2010 sage grouse field study. This information is provided in the form of markups to the EREF Environmental Report (Enclosure 1) and a copy of the Sage Grouse Survey Report (Enclosure 2).

The EREF License Application will be revised to include the markup pages of the Environmental Report as presented in Enclosure 1 in Revision 3 of the EREF License Application.

If you have any questions regarding this submittal, please contact me at (508) 573-6554.

Respectfully,


James A. Kay
Licensing Manager

Reference:

- 1) J. Kay (AES) Letter to the U.S. Nuclear Regulatory Commission, Eagle Rock Enrichment Facility License Application Revision 2 and Quality Assurance Program Description Revision 3, dated April 30, 2010.

Enclosures:

- 1) Markup Pages for the EREF Environmental Report
- 2) Sage Grouse Survey Report

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Commitment:

The EREF License Application will be revised to include the markup pages of the Environmental Report as presented in Enclosure 1 in Revision 3 of the EREF License Application.

cc:

Breda Reilly, U.S. NRC Senior Project Manager
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AREVA Enrichment Services LLC
Eagle Rock Enrichment Facility
AES-O-NRC-10-00349-0

Enclosure 1

Markup Pages for the EREF Environmental Report

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3.1.6 Ecological Use

Wildlife observed on and near the proposed site during field visits in May 2008, June 2008, October 2008, January 2009 and April 2009 were species common to the area. Mammals observed included Pronghorn (*Antilocapra americana*), jack rabbit (*Lepus spp.*), and coyote (*Canis latrans*).

Common bird species observed included horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), Brewer's sparrow (*Spizella breweri*), sage thrasher (*Oreoscoptes montanus*), northern harrier (*Circus cyaneus*), mourning dove (*Zenaidura macroura*), killdeer (*Charadrius vociferus*), brown-headed cowbird (*Molothrus ater*), crow (*Corvus brachyrhynchos*), and long-billed curlew (*Numenius americanus*). A single greater sage grouse (*Centrocercus urophasianus*) was observed in May 2008 about 1.6 km (1 mi) north of the proposed site, and ~~multiple roost sites were observed in three areas of the proposed site during June 2008 surveys.~~ *Insert*

See Section 3.5, Ecological Resources, for a detailed discussion of other animals that may be found near the site.

3.1.7 Water Resources

Known sources of water in the vicinity of the proposed site include Mud Lake, Market Lake WMA, the Snake River, Camas NWR, and American Falls Reservoir (American Falls Chamber of Commerce, 2008) (IFG, 2008) (USFWS, 2008b). Both Mud Lake and Market Lake are designated as Wildlife Management Areas dedicated to primary uses such as big game, waterfowl, fishing and general public use (IFG, 2008).

The Snake River is located 32 km (20 mi) east of the proposed site and runs north to south through the town of Idaho Falls and is used for recreational activities as well as providing wildlife habitat along its extensive corridor in the surrounding area (Idaho Falls Chamber of Commerce, 2008). Camas NWR located 44 km (27 mi) to the north of the proposed site is comprised of over 4,050 ha (10,000 ac) of marshes, meadows, and uplands used for wildlife observation, waterfowl, and upland game bird hunting (USFWS, 2008b).

American Falls Reservoir, located 68 km (42 mi) southwest of the proposed site is the largest reservoir on the Snake River and is used for a variety of outdoor sporting and recreational activities (RecreationGov, 2008). Although commercial fishing for some species is permitted at Mud Lake and along designated reaches of the Snake River, there are no commercial fishing operations on or near the proposed site.

3.1.8 Agricultural Use

Various crops are grown in Bonneville, Bingham and Jefferson Counties. About 389 ha (962 ac) of irrigated land on the proposed site are used to grow potatoes and grains. The crop land stubble is grazed in the winter and the remainder of the property is grazed in the spring. Within the vicinity of the proposed site, agricultural activity is comprised mainly of corn, wheat, oats, barley, potato, and hay farms; small dairy and feedlot operations, and; cattle and sheep grazing. See Table 3.1-2, USDA Agriculture Census, Crop, and Livestock Information (USDA, 2008a). No leafy vegetable crops are grown within 8 km (5 mi) of the proposed site. Potato production in the area loses approximately 6 to 8% of the crop to disease damage, with the remaining portion going to direct consumption, processing, or as future seed source. For grazing animals in the vicinity of the proposed site, the fraction of daily intake from pasture varies by the animal as noted in Table 3-1.3, Estimated Fraction of Daily Intake from Pasture.

3.5 ECOLOGICAL RESOURCES

This section describes the terrestrial communities of the proposed Eagle Rock Enrichment Facility (EREF) and provides a baseline characterization of the proposed site's ecology prior to any disturbances associated with construction or operation of the proposed plant. Prior environmental disturbances (e.g., roads) not associated with the proposed plant are considered when describing the baseline condition.

The proposed site is within the Intermountain Semi-Desert Province (Bailey, 1995). The primary natural community is sagebrush steppe. The plant and animal species associated with this major community are identified and their distributions are discussed. Those species that are considered important to the ecology of the proposed site are described in detail. Once the important species are identified, their interrelationship with the environment is described. These descriptions include discussions of the species' habitat requirements, life history, and population dynamics. As part of the evaluation of important species at the proposed site, pre-existing environmental conditions that may have impacted the ecological integrity of the proposed site are considered. Unless otherwise indicated, the information provided in this section is based on surveys conducted by AREVA.

3.5.1 Maps

Ecological field surveys at the proposed site were conducted in May 2008, June 2008, October 2008, January 2009, and April 2009. Wildlife and vegetation transects were used to obtain information on vegetation cover, mammals, birds, reptiles, and amphibians occurring on the site. The locations of the transects and data collection points for the June 2008 and October 2008 surveys are shown in Figure 3.5-1, June and October 2008 Vegetation and Animal Survey Transect Locations and Habitat Map. The locations of the transects and data collection points for the January 2009 surveys are shown in Figure 3.5-2, January 2009 Animal Survey Transect Locations and Habitat Map. The locations of the transects and data collection points for the April 2009 surveys are shown in Figure 3.5-3, April 2009 Animal Survey Transect Locations and Habitat Map. THE APRIL 2010 SAGE GROUSE SEARCH POINTS ARE SHOWN IN FIGURE 3.5-4, APRIL 2010 SAGE GROUSE SURVEY POINT LOCATIONS.

3.5.2 General Ecological Conditions of the Site

Bonneville County is located in the eastern portion of the Snake River Plain geologic province. The Snake River Plain is a crescent shaped area of topographic depression that is bounded on three sides by mountain ranges and extends across much of the southern portion of Idaho, covering about 40,400 km² (15,600 mi²). The geology of the Snake River Plain has experienced extensive volcanism that has deposited a thick sequence of rhyolitic and basaltic rocks, ranging up to 1,676 m (5,500 ft) thick. On-site soils are primarily of the Pancheri series. These soils consist of deep silt loams. On-site soils are common to areas used for crops, rangeland, and wildlife habitat. Refer to Section 3.3, Geology and Soils, for further discussion on the Snake River Plain.

The topography of the 1,700-ha (4,200-acre) proposed site has an average slope of about 1.4%. The elevation varies from about 1,556 m (5,106 ft) near U.S. Highway 20 to about 1,600 m (5,250 ft) in a small area at the eastern edge of the property. No major defined drainage features are evident on the proposed site. There is a minor drainage feature that runs from near the center of the proposed site toward the southwest portion of the site.

Soils in the Eastern Snake River Plain are variable, ranging from non-existent in areas of recent volcanism to tens of meters in thickness in areas of wind-blown loess derived from exposed lava

SUPPLEMENTAL SAGE GROUSE LEK SEARCHES WERE PERFORMED IN APRIL 2010.

Potentially Using the Proposed Eagle Rock Enrichment Facility Site, lists the bird species that may occur on the proposed site along with their migratory and nesting status. All waterfowl and water birds have been excluded from this list due to the lack of suitable water-related habitat on the proposed site. The 62 species listed were identified as those likely to live in or visit the region. Of these, approximately 13 species are likely to be summer breeder residents, many of which may nest on the proposed site. These species are denoted with the letter "C" under the column "Summer Breeder" in Table 3.5-2. Approximately two of the species are probable winter residents of the proposed site. A site-specific avian survey was conducted on the proposed site in June 2008, October 2008, January 2009, and April 2009 using wildlife transects and point count techniques, and supplemental sage grouse surveys were conducted in April 2010.

Reptile species that may be present on the proposed site include the western rattlesnake (*Crotalus viridis*), gopher snake (*Pituophis catenifer*), short-horned lizard (*Phrynosoma douglassi*), and sagebrush lizard (*Sceloporus graciosus*) (Stoller, 2001). Amphibians and reptiles (herptiles) potentially occurring on the proposed site are listed in Table 3.5-3, Amphibians/Reptiles Potentially Using the Proposed Eagle Rock Enrichment Facility Site. Table 3.5-3 also lists the general habitat requirements for each amphibian or reptile species potentially occurring at the proposed site as well its probable occurrence. Because the occurrence of amphibian species is closely related to water and the proposed site contains no permanent water, there are very few associated amphibian species.

3.5.3 Description of Important Wildlife and Plant Species

Based on information from the Idaho Department of Fish and Game (IDFG), the U.S. Fish and Wildlife Service (USFWS), and the Bureau of Land Management - Upper Snake Field Office (BLM), the proposed site is located within the known range of four sensitive species: greater sage grouse (*Centrocercus urophasianus*) (IDFG, 2005), ferruginous hawk (*Buteo regalis*) (IDFG, 2005), pygmy rabbit (*Brachylagus idahoensis*) (IDFG, 2005), and Ute ladies'-tresses (*Spiranthes diluvialis*) (IDFG, 2005). The greater sage grouse is listed as a BLM sensitive species (Type 2 Rangewide/Globally Imperiled Species) (IDFG, 2005). The USFWS began a 12-month review in February 2008 to determine if listing of the greater sage grouse is appropriate (USFWS, 2008e) (USFWS, 2008f). However, IDFG maintained a hunting season for the species in 2007 and 2008. The nearest known breeding area or "lek" is located between 6.4 km and 8 km (4 mi and 5 mi) from the proposed site to the northwest. Field surveys of the proposed site in May 2008 did not locate any leks. Greater sage grouse use the sagebrush habitat on the proposed site and have been observed in large flocks moving west in the late fall. They likely use the proposed site throughout the year. The pygmy rabbit has been listed by the BLM as a species of concern and the USFWS initiated a status review in January 2008 to determine if the species should be listed as threatened or endangered. Field surveys of the proposed site in June 2008, October 2008, January 2009, and April 2009 did not record the presence of any pygmy rabbits or signs of their presence. In Idaho, pygmy rabbits are listed as a species of concern.

The sensitive species that may be present on the proposed site are discussed below in detail based on their special status and potential proximity to the proposed site. Other species are selected for discussion based on their importance for recreation or commercial value. The remaining species listed in Tables 3.5-1 through 3.5-3 are considered less important in terms of protected status, recreation, or commercial value. A complete list of sensitive species that potentially occur in the area surrounding the proposed site is presented in Table 3.5-4, Sensitive Species Potentially Present in the Area of the Proposed Eagle Rock Enrichment Facility Site.

main stem is often branched at or near ground level. Persistent leaves are narrowly cuneate to cuneate with the margins curved outward, and exhibit a strong, pungent odor when crushed. Wyoming big sagebrush is technically an evergreen but is semi-deciduous in habit. It develops 2 types of leaves: large ephemeral leaves and smaller, perennial leaves produced from ephemeral leaf axes. The inflorescence is an open, many-flowered spike. The fruit is a small, easily shattered cypsela. The plants flower from late July to September, and seed maturation occurs in October and November (Monsen, 2000).

Wyoming big sagebrush is the preferred browse for wild ungulates, and Wyoming big sagebrush communities are important winter ranges for big game (Howard, 1995). Pronghorn usually browse Wyoming big sagebrush heavily (Howard, 1999). Sagebrush also provides cover (nesting, resting, and escape) for a wide variety of game and non-game species.

Habitat. Of the three subspecies, Wyoming big sagebrush is most adapted to poor, infertile sites. Wyoming big sagebrush is intolerant of alkaline soils. In Idaho, it typically grows on dry, gravelly, shallow sites ranging from 700-1,980 m (2,500 to 6,500 ft) (Howard, 1999). Wyoming big sagebrush is most common on foothills, undulating terraces, slopes, and plateaus, but also occurs in basins and valley bottoms. Aspect varies, but shrubs are most common on south- to west-facing slopes.

Life History. Wyoming big sagebrush reproduces from seed; it does not sprout or layer (Howard, 1999). Twig elongation for Wyoming big sagebrush begins in mid-April and lasts until late June. Flowers of this species appear in late August, but flower bud development can last from mid-June until early September (Whitson, 2006). Wyoming big sagebrush forms and sheds seeds between October and December (Whitson, 2006). Seeds remain viable in the soil for one year (Whitson, 2006). Seeds may be transported by wind, water, or animals, but most seeds typically remain near parent plants.

3.5.4 Rare, Threatened or Endangered Species Known or Potentially Occurring in the Project Area

Based on field surveys and contacts with state and federal agency personnel, no currently listed rare, threatened, or endangered species have been found or are known to occur on the proposed site. However, USFWS initiated a status review in January 2008 for the pygmy rabbit (USFWS, 2008d) and in February 2008 for the greater sage grouse (USFWS, 2008e) (USFWS, 2008f) to determine if listing of either species is warranted. Life history and habitat requirements for both species are discussed in Section 3.5.3, Description of Important Wildlife and Plant Species. Insert A

Habitat is present on the proposed site for pygmy rabbits but is isolated to the western portion of the proposed site. However, no sign (e.g., pellets, burrows) of pygmy rabbits were observed during field surveys of the proposed site in June 2008, October 2008, January 2009, and April 2009. Pygmy rabbits have been found during surveys conducted by BLM in 2005 and 2006 on BLM lands (Crooked Creek and Medicine Creek) north of Market and Mudd lakes. No surveys have been conducted on BLM lands near the proposed site. Similarly, pygmy rabbits have also been found on the INL property during winter surveys conducted by DOE in 2006 and 2007. These surveys were conducted on the INL property at two locations within 3.2 km (2 mi) of the proposed site and at seven other locations within 8 km (5 mi) of the proposed site.

Habitat is present on the proposed site for greater sage grouse. Habitat is primarily isolated to the western portion of the proposed site. No birds were observed or heard during June 2-7, 2008 field surveys on the proposed site. However, greater sage grouse sign (e.g., feathers, and pellets) were observed during the June field surveys. One bird was observed about 1.6 km (1

mi) north of the proposed site and two birds were heard some distance from the proposed site during road point counts in May 2008. There are several leks within 16 km (10 mi) of the proposed site. No sign or sightings of greater sage grouse were observed during the October 2008 field surveys.

During the January 2009 field surveys, several sets of sage grouse tracks were found in a small portion of the sagebrush community in the northwest portion of the site, in a location where sage grouse activity was previously documented during summer surveys. In addition, a single set of sage grouse tracks was found in the irrigated crop portion of the site, far from any standing vegetation.

During the April 2009 field surveys, three areas containing grouse feathers were found along the northern border of the property with adjacent BLM land to the immediate north. One of these feather sets contained wing primaries, perhaps indicative of a raptor kill. No scat could be found in the vicinity of the feathers, and no other indications of sage grouse was found on the site during this spring survey.

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3.5.5 Major Vegetarian Characteristics

The general vegetation community that the proposed site is located in is classified as sagebrush steppe. However, present and historic land use at the site has also modified portions of this general vegetation community. As such, vegetation at the site has been stratified into three classes, which better represent current vegetation as influenced by recent and ongoing land uses. These three classes are: sagebrush, non-irrigated seeded pasture, and agriculture (center-pivot irrigation). As the agricultural land use class represents a complete modification of native vegetation, it will not be described further.

Cover data from the proposed site was collected during field studies on June 3-6, 2008. A total of 34 species were observed in cover transects in the sagebrush community, while 17 species were observed in sampling the non-irrigated seeded pasture. Species present in all cover transects consisted of the following life forms: 24 forb species, 8 grass species, 5 shrub species, and one species of cactus. See Figure 3.5-1, Vegetation Types and Survey Locations, for location of the transects and Table 3.5-6, Vegetation Cover on the Proposed Eagle Rock Enrichment Facility Site—Rangeland Type, and Table 3.5-7, Vegetation Cover on the Proposed Eagle Rock Enrichment Facility Site—Non-Irrigated Seeded Pasture Type, for a summary of the plant cover data. Shrub density data from the proposed site was collected during field studies on October 21 to 23, 2008. See Figure 3.5-1, Vegetation Types and Survey Locations, for location of the transects.

3.5.5.1 Sagebrush Community

The sagebrush community of the proposed site is characterized by the presence of significant amounts of the indicator species Wyoming big sagebrush (16% cover) and dwarf goldenbush (*Ericameria nana*) (17% cover) (Table 3.5-6). The community is further characterized by the presence of forbs, shrubs, and grasses that are adapted to the soils of the sagebrush steppe in southeastern Idaho. The sagebrush community type is typical for the region and the species encountered during the on-site survey are highly ubiquitous. The natural vegetation of the region typically consists of an overstory of shrubs and an understory of grasses and forbs. Wyoming big sagebrush and dwarf goldenbush are two of the most common shrubs but more than forty other species of shrubs have been recorded on adjacent lands. Perennial and annual grasses and forbs found on the site commonly occur in sagebrush dominated communities in the region (Anderson, 1996a).

Identified in the sagebrush community during the January 2009 survey. These species include the northern harrier, red-tailed hawk, horned lark, American crow, and greater sage grouse. During the January 2009 surveys, several sets of sage grouse tracks were found in a small portion of the sagebrush community in the northwest portion of the site, in a location where sage grouse activity was previously documented during summer surveys. A total of 10 bird species were positively identified in the sagebrush community during the April 2009 survey. The most common bird species encountered in the sagebrush community during the April 2009 surveys were the horned lark and western meadowlark. Other bird species encountered include the Brewer's sparrow, sage sparrow, and sage thrasher. Raptors encountered during this survey include the red-tailed hawk and prairie falcon. Greater sage grouse feathers were found in three discrete locations along the northern edge of the property in the sagebrush habitat. No scat was found, however, and no birds were either seen or heard during the survey period.

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The most common species encountered in the non-irrigated seeded pasture community during the June 2008 avian transect surveys include the horned lark (68.2% of the total number of birds observed), Brewer's sparrow (12.9% of the total number of birds observed), and western meadowlark (9.4% of the total number of birds observed) (Table 3.5-8b, Avian Transect Survey Data Summary for the Proposed Eagle Rock Enrichment Facility Site-Non-Irrigated Seeded Pasture Area). The only other bird species commonly encountered was the vesper sparrow. A total of 9 bird species were positively identified in the non-irrigated seeded pasture community in June 2008. The only commonly observed bird species encountered in the non-irrigated seeded pasture community during the October 2008 surveys was the horned lark (74.4% of the total number of birds observed). A total of 5 bird species were positively identified in this community during the fall survey. During the January 2009 surveys, cattle were concentrated on the non-irrigated seeded pasture portion of the site and were fed via tractor on most mornings. As such, this area was avoided during winter surveys, as wildlife occurrence would be reduced by the livestock occupation and associated feeding activities. A total of 5 bird species were positively identified in the seeded crested wheatgrass vegetation type during the April 2009 surveys. The most common bird species encountered was the horned lark. Western meadowlarks, Brewer's sparrows, an American crow, and a black-billed magpie were also observed.

The most common species encountered in the agriculture (center-pivot) community during June 2008 avian point-count surveys include the horned lark (54.8% of the total number of birds observed), meadowlark (12.9% of the total number of birds observed), northern harrier (12.9% of the total number of birds observed), and long-billed curlew (*Numenius americanus*) (12.9% of the total number of birds observed) (Table 3.5-8c, Avian Transect Survey Data Summary for the Proposed Eagle Rock Enrichment Facility Site-Crop Area). The only other bird species encountered was the mourning dove. A total of 5 bird species were positively identified in the non-irrigated seeded pasture community in the June 2008 survey. The only commonly observed bird species encountered in the agriculture community during the October 2008 surveys was the horned lark (82% of the total number of birds observed). A total of 5 bird species were positively identified in this community during the fall survey. A total of 3 bird species (or their sign) were positively identified in the irrigated crop vegetation type during the January 2009 surveys. These species include the horned lark, American crow, and greater sage grouse. During the January 2009 surveys, a single set of sage grouse tracks was found in the irrigated crop portion of the site, far from any standing vegetation. A total of 5 bird species were positively identified in the irrigated crop vegetation type during the April 2009 surveys. Species observed included the horned lark, western meadowlark, Brewer's sparrow, sage sparrow, and American crow.

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Mammalian species encountered via direct observation, sign, or vocalization on the site included coyote, pronghorn, badger, black-tailed jackrabbit, white-tailed deer (*Odocoileus*

virginianus), Least chipmunk (*Tamias minimus*), Townsend's ground squirrel (*Spermophilus townsendii*) and deer mouse (*Peromyscus maniculatus*).

3.5.7 Location of Important Travel Corridors

The proposed site is within BLM-designated crucial winter-spring range of pronghorn. Pronghorn use the area through the spring and then move to summer range. Elk, white-tailed deer, and mule deer are known to be incidental visitors to the area. Elk have been observed by the current landowner in late fall and winter. Two deer were observed just north of the proposed site in May 2008.

Field surveys conducted on the site in May 2008, June 2008, October 2008, January 2009, and April 2009 identified a limited number of migratory bird species present on the proposed site. The closest migratory bird route is located on the INL property approximately 24-32 km (15-20 mi) west of the site (Stoller, 2007). Studies conducted on the INL property indicate that migratory bird populations have increased along the Tractor Flats Route along the eastern portion of the sagebrush steppe. Although migratory birds utilize the property on a limited basis, the site has not been identified as an important travel corridor for migratory bird species.

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The proposed site also provides limited habitat for the greater sage grouse. Field surveys for the greater sage grouse that were conducted in May 2008, June 2008, January 2009, and April 2009 indicated that the species may use the northwestern portion of the proposed site for roosting. No greater sage grouse were identified on the property during the May 2008, June 2008, October 2008, January 2009, and April 2009 field surveys; and, although the site has sagebrush densities that meet the requirements for greater sage grouse habitat, the site has not been identified as an important travel corridor for this species.

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3.5.8 Important Ecological Systems

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The proposed site contains fair to poor quality wildlife habitat. The sagebrush steppe vegetation community is an important ecological system in the region. On the proposed site and throughout the region, this community has been impacted by past land use practices. While it is susceptible to change, it is not especially vulnerable compared to other ecosystem types. General threats include conversion to other land uses and wildfire (ISGAC, 2006).

As discussed in Section 3.5.4, about one-third of the proposed EREF site is sagebrush steppe vegetation, while the remaining area is in crop land and seeded crested wheatgrass.

The proposed EREF site does not contain any breeding, nursery, feeding, or resting areas for any sensitive, rare, or protected species. The proposed site is within a general area considered crucial winter-spring pronghorn habitat by the BLM. While pronghorn use the site, pronghorn are not known to concentrate on the limited sagebrush steppe vegetation found on the proposed site.

Field observations indicate that greater sage grouse do use the sagebrush community on the proposed site as roosting habitat, but no leks were found on the site or known to exist on the site. The nearest known greater sage grouse lek is between 6.4 and 8 km (4 and 5 mi) to the northwest of the proposed site on Idaho National Laboratory (INL) land. There are no reported observations of ferruginous hawks or pygmy rabbits occupying the proposed site.

vegetation community, which is a late-seral community that has been established in southeastern Idaho for an extended period. A large portion of the proposed site has been altered from a sagebrush community for purposes of agriculture. Portions of the site are grazed by cattle.

The sagebrush steppe landscape is a mosaic of shrub-dominated and herbaceous-dominated communities. Big sagebrush communities are critical habitat for greater sage grouse and other sagebrush obligate species. Historically, fire was the principal disturbance within this vegetation type; other disturbances included insects, periods of drought and wet cycles, and shifts in climate (return interval of 100 years). Intervals between natural wildfires varied between 25 years and 100+ years (West, 2000).

Wyoming big sagebrush is a mid- to late-seral species (Howard, 1999). Disturbed sagebrush communities are mostly populated with associated grasses. Wyoming big sagebrush may lose dominance in areas that have not experienced fire or other stand-replacing events for half a century or more (Howard, 1999).

3.5.15 Description of Ecological Studies

A vegetation survey of the proposed site was conducted in early June 2008. Plant cover by species on the proposed site was obtained through a series of 100-m (328-ft) transects. Twenty-one transects were located on a map of the property before the survey was conducted in the sagebrush community, and 11 transects were located in the non-irrigated seeded pasture community. The transects were then positioned on the ground (See Figure 3.5-1, Vegetation and Animal Survey Transect Locations and Habitat Map).

Sampling locations were determined by placing a grid over the site showing the communities to be sampled. Two 50-m (164-ft) tapes, one oriented south from the sampling point, the other oriented east from the sampling point, were then placed in the field. Point-intercept measurements were recorded at each 0.5-m (1.64-ft) interval of each transect, for a total of 100 samples points. The sampler traversed each transect, and at each 0.5-m (1.64-ft) interval, recorded the plant species found directly below the point on the transect. The sampler considered only those plants or seedlings touched by the line or lying under it. If a plant was not encountered at a sample point, either litter, bare ground, or rock was recorded.

This point-intercept survey method provides objective and accurate results. Sampling error is reduced since the survey results are based on actual measurements of the plants growing in randomly located and clearly defined sampling units. The survey method results are accurate in mixed plant communities and suited for measuring low vegetation. By direct measurement of small samples, the method allows estimates of known reliability to be obtained concerning the vegetation, its composition, and ecological structure.

Several sampling methods were used to identify animals using the proposed site. Incidental animal sightings were noted during field reconnaissance visits in May 2008. Wildlife transects and avian point survey techniques were used during June 2008, October 2008, January 2009, and April 2009 surveys. Linear transects parallel and immediately adjacent to the vegetation transects in the sagebrush community were walked in the mornings from about 30 minutes before sunrise to two hours after sunrise. Avian point surveys were also conducted during the mornings in the agricultural areas. Trapping or capture and release sampling was not conducted during the June 2008, October 2008, January 2009, and April 2009 surveys.

Many habitat studies have been conducted on the sagebrush steppe areas because of its association with greater sage grouse habitat. Supplemental studies specific to the proposed

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ER SECTION
3.5.15

- This series of 14 papers summarizes current knowledge and research gaps in sagebrush taxonomy and ecology, seasonal greater sage grouse habitat requirements, approaches to community and landscape restoration, and currently available plant materials and revegetation technology to provide a basis for designing and implementing effective management prescriptions.

3.5.16 Information on Rare, Threatened, and Endangered Sightings

A number of rare, threatened, or endangered species could potentially occur on the proposed site based on a literature review (Table 3.5-4). However, habitat types on the proposed site limit the number of these species that may occur. Based on field surveys, a review of habitat requirements, and contacts with state and federal agency personnel, only three sensitive species would likely use the proposed site. These species are the greater sage grouse, pygmy rabbit, and Townsend's big-eared bat (*Corynorhinus townsendii*). The USFWS initiated a status review in January 2008 for the pygmy rabbit (USFWS, 2008d) and in February 2008 for the greater sage grouse (USFWS, 2008e) (USFWS, 2008f) to determine if listing of either species is warranted. In addition, Townsend's big-eared bat was formerly a Candidate 2 (C2) species under the Endangered Species Act and is now considered a Species of Concern (non-statutory ranking) by the USFWS (Gruver, 2006).

Information from spring surveys conducted between March and May, 2008 by state and federal agencies indicates that the closest population of greater sage grouse has been sighted in an area approximately 8 km (5 mi) northwest of the proposed site. ^{and April 2010} A field survey for ~~the~~ greater sage grouse that was conducted in May 2008 indicated that the species was not found on the proposed site. ~~However, signs that greater sage grouse had roosting sites on the site were found, although no leks were located on the site.~~ ^{← Insert A} No sign or sightings of greater sage grouse were observed during the October 2008 survey. During January 2009 surveys, several sets of sage grouse tracks were found in a small portion of the sagebrush community in the northwest portion of the site, in a location where sage grouse activity was previously documented during summer surveys. In addition, a single set of sage grouse tracks was found in the irrigated crop portion of the site, far from any standing vegetation. During the April 2009 survey, three areas containing grouse feathers were found along the northern border of the property with adjacent BLM land to the immediate north. One of these feather sets contained wing primaries, perhaps indicative of a raptor kill. No scat could be found in the vicinity of the feathers, and no other indication of grouse use was found on the site during this spring survey. ^{← Insert B}

Pygmy rabbit populations have been well documented by the INL (Wilde, 1978) and several dens have been identified throughout the INL property. Pygmy rabbits have also been documented by the Snake River BLM staff to the north at Mudd Lake. Wildlife surveys conducted in June and October of 2008 did not identify any pygmy rabbits on the proposed site, although other species of rabbits were observed. The closest known population of the pygmy rabbit is on the eastern area of the INL about 8.8 km (5.5 mi) west of the proposed site. No indication of pygmy rabbits were found on the proposed site including tracks, pellets, burrows, or direct sightings of the animals themselves during the January 2009 and April 2009 surveys.

Townsend's big-eared bat caves are located south of the proposed site in the lava flow area. Habitat at the proposed facility is comprised of sagebrush, agriculture and non-irrigated seeded pasture and does not meet habitat requirements for the Townsend's big-eared bat.

**Table 3.5-4 Sensitive Species Potentially Present in the Area of the Proposed Eagle Rock Enrichment Facility Site
(Page 3 of 8)**

Common Name	Scientific Name	Status ¹	Habitat Association	Probable Occurrence at EREF Site	Eliminated from Detailed Analysis	Reference
Greater Sage Grouse	<i>Centrocercus urophasianus</i>	BLM Type 2; USFS R4 S	This species is entirely dependent on sagebrush-dominated habitats. Breeding habitat is characterized by sagebrush canopy coverage of 15–25% with a healthy grass and forb understory. During summer, sage grouse may use a variety of habitats but are generally found in areas with succulent forbs and insects. Winter habitat consists of relatively large areas of sagebrush with 10–25% canopy cover.	Yes. This species is widely distributed throughout sagebrush-dominated habitats of southern Idaho. Sign of species observed on-site during June 2008, January 2009, and April 2009 surveys. No sightings of species were observed on-site during the June 2008, October 2008, January 2009, and April 2009 surveys. <i>and April 2010</i>	No. Suitable habitat present within the proposed site. Surveys conducted and signs of species found	IDFG, 2005; NatureServe, 2008. <i>USFWS, 2010</i>
Columbian Sharp-tailed Grouse	<i>Tympanuchus phasianellus columbianus</i>	BLM Type 3; USFS R4 S	Columbian sharp-tailed grouse occupy a variety of habitats generally characterized by dense stands of herbaceous cover and a mixture of shrubs.	Low likelihood In southeastern Idaho, Columbian sharp-tailed grouse are reasonably widespread in shrub and grass habitats adjacent to or in mountainous foothills. Nearest mountain are over 80 km (50 mi)	Yes. There is no suitable habitat present for this species within the proposed site.	IDFG, 2005; NatureServe, 2008.
Ferruginous Hawk	<i>Buteo regalis</i>	BLM Type 3	This species inhabits flat and rolling terrain in grassland or shrub steppe regions, typically avoiding high elevation, forest interior, and narrow canyons. In Idaho, becomes locally abundant at the interface between piñon-juniper and shrubsteppe environments.	Yes.	No. Suitable habitat present within the proposed site. No animals observed during surveys.	IDFG, 2005; NatureServe, 2008.

Table 3.5-8a Avian Transect Survey Data Summary for the Proposed Eagle Rock Enrichment Facility Site - Rangeland Area
(Page 2 of 2)

Species		January 2009	April 2009	April 2010
		Observed*	Observed*	Observed*
Horned Lark	<i>Eremophila alpestris</i>	X	X	
Western Meadowlark	<i>Sturnella neglecta</i>		X	
Sage Thrasher	<i>Oreoscoptes montanus</i>		X	
Northern Harrier	<i>Circus cyaneus</i>	X		
Brewer's Sparrow	<i>Spizella breweri</i>		X	
Chipping Sparrow	<i>Spizella passerina</i>			
Sage Sparrow	<i>Amphispiza belli</i>		X	
Vesper Sparrow	<i>Poocetes gramineus</i>			
Grasshopper Sparrow	<i>Ammodramus savannarum</i>			
Mourning Dove	<i>Zenaida macroura</i>			
Kildeer	<i>Charadrius vociferus</i>			
Brown-headed Cowbird	<i>Molothrus ater</i>			
American Crow	<i>Corvus brachyrhynchos</i>	X	X	
Short-eared Owl	<i>Asio flammeus</i>			
Red-tailed Hawk	<i>Buteo jamaicensis</i>	X	X	
Greater Sage Grouse	<i>Centrocercus urophasianus</i>	X	X	X
Long-billed Curlew	<i>Numenius americanus</i>			
Black-billed Magpie	<i>Pica hudsonia</i>			
Prairie Falcon	<i>Falco mexicanus</i>		X	
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>		X	
Unknown				

*Note: Includes birds observed, heard, or sign observed (e.g., tracks, scat, etc.)

Table 3.5-8b Avian Transect Survey Data Summary for the Proposed Eagle Rock Enrichment Facility Site - Non-irrigated Seeded Pasture Area

(Page 2 of 2)

Species		January 2009	April 2009	April 2010
		Observed**	Observed*	Observed**
Homed Lark	<i>Eremophila alpestris</i>	**	X	
Western Meadowlark	<i>Sturnella neglecta</i>	**	X	
Sage Thrasher	<i>Oreoscoptes montanus</i>	**		
Northern Harrier	<i>Circus cyaneus</i>	**		
Brewer's Sparrow	<i>Spizella breweri</i>	**	X	
Chipping Sparrow	<i>Spizella passerina</i>	**		
Sage Sparrow	<i>Amphispiza belli</i>	**		
Vesper Sparrow	<i>Poocetes gramineus</i>	**		
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	**		
Mourning Dove	<i>Zenaida macroura</i>	**		
Killdeer	<i>Charadrius vociferus</i>	**		
Brown-headed Cowbird	<i>Molothrus ater</i>	**		
American Crow	<i>Corvus brachyrhynchos</i>	**	X	
Short-eared Owl	<i>Asio flammeus</i>	**		
Red-tailed Hawk	<i>Buteo jamaicensis</i>	**		
Greater Sage Grouse	<i>Centrocercus urophasianus</i>	**		***
Long-billed Curlew	<i>Numenius americanus</i>	**		
Black-billed Magpie	<i>Pica hudsonia</i>	**	X	
Unknown		**		

*Note: Includes birds observed, heard, or sign observed (e.g., tracks, scat, etc.)

**Note: During the January 2009 surveys, cattle were concentrated on the non-irrigated seeded pasture portion of the site and were fed via tractor on most mornings. As such, this area was avoided during winter surveys, as wildlife occurrence would be reduced by the livestock occupation and associated feeding activities.

***NOTE: THE APRIL 2010 SURVEYS WERE ONLY CONDUCTED FOR GREATER SAGE GROUSE. NO BIRDS WERE OBSERVED OR HEARD, AND NO SIGN OBSERVED (e.g. TRACKS, SCAT, ETC.).

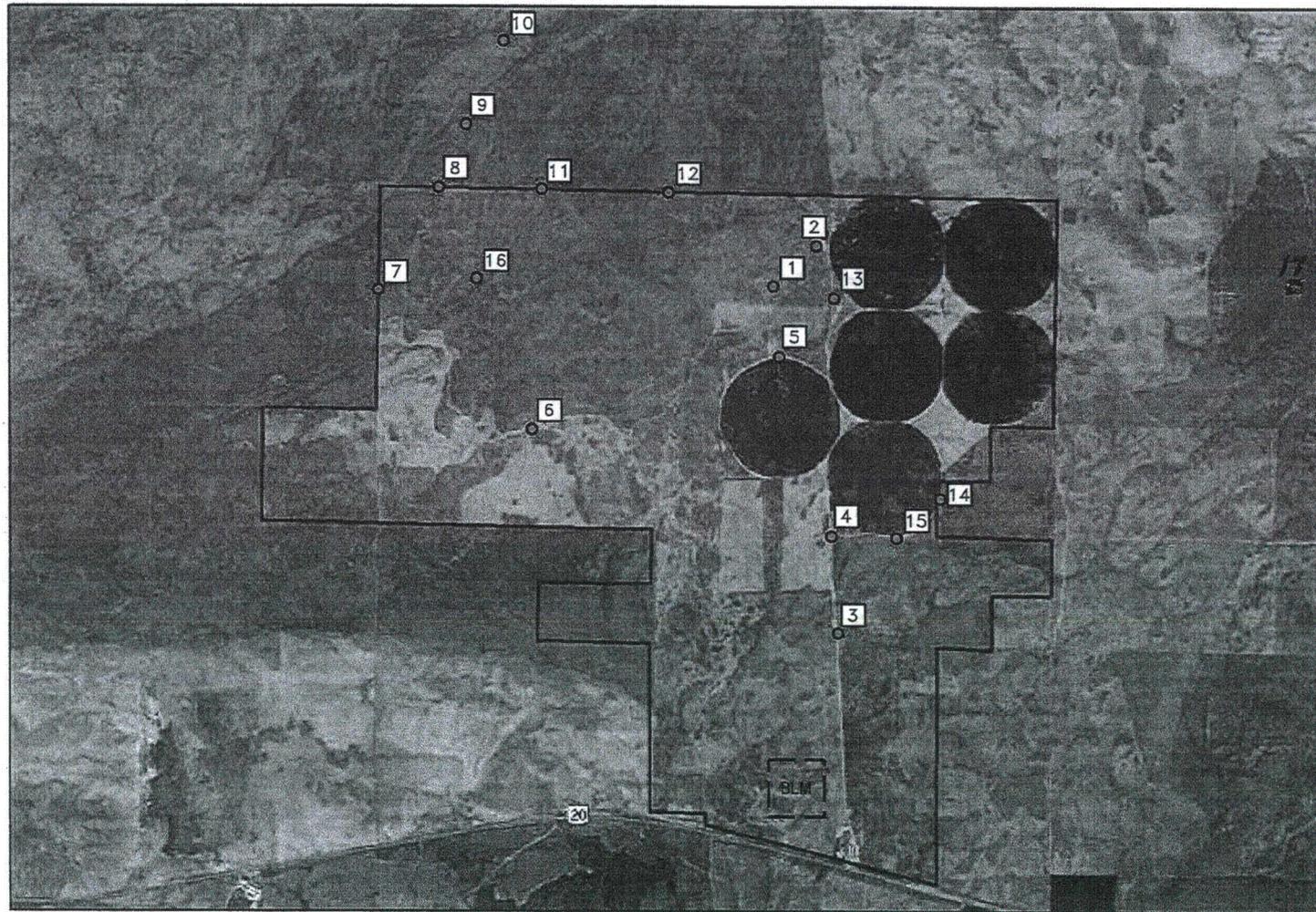
Table 3.5-8c Avian Point Survey Data Summary for the Proposed Eagle Rock Enrichment Facility Site- Crop Area
(Page 2 of 2)

Species		January 2009					April 2009								
		Total*	% Observed	Pt 1	Pt 2	Pt 3	Pt 4	Pt 5	Total*	% Observed	Pt 1	Pt 2	Pt 3	Pt 4	Pt 5
Horned Lark	<i>Eremophila alpestris</i>	1	33.3		1				33	71.7	7	4	3	11	8
Western Meadowlark	<i>Sturnella neglecta</i>	0	0.0						7	15.2	2				5
Sage Thrasher	<i>Oreoscoptes montanus</i>	0	0.0						0	0.0					
Northern Harrier	<i>Circus cyaneus</i>	0	0.0						0	0.0					
Brewer's Sparrow	<i>Spizella breweri</i>	0	0.0						3	6.6	2				1
Chipping Sparrow	<i>Spizella passerine</i>	0	0.0						0	0.0					
Sage Sparrow	<i>Amphispiza belli</i>	0	0.0						2	4.3					2
Vesper Sparrow	<i>Pooecetes gramineus</i>	0	0.0						0	0.0					
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	0	0.0						0	0.0					
Mourning Dove	<i>Zenaida macroura</i>	0	0.0						0	0.0					
Killdeer	<i>Charadrius vociferous</i>	0	0.0						0	0.0					
Brown-headed Cowbird	<i>Molothrus ater</i>	0	0.0						0	0.0					
American Crow	<i>Corvus brachyrhynchos</i>	1	33.3		1				1	2.2			1		
Short-eared Owl	<i>Asio flammeus</i>	0	0.0						0	0.0					
Red-tailed Hawk	<i>Buteo jamaicensis</i>	0	0.0						0	0.0					
Greater Sage Grouse	<i>Centrocercus urophasianus</i>	1**	33.3		1**				0	0.0					
Long-billed Curlew	<i>Numenius americanus</i>	0	0.0						0	0.0					
Black-billed magpie	<i>Pica hudsonia</i>	0	0.0						0	0.0					
Unknown		0	0.0						0	0.0					
Total		3	100		3				46	100	11	4	4	11	16

*Note: Includes animals seen, heard, or sign observed (e.g., tracks, scat, etc.)

**Note: Tracks of greater sage grouse present at point location, no individuals seen.

***Note: The April 2010 surveys were only conducted for greater sage grouse. No birds were observed or heard, and no sign observed (e.g., tracks, scat, etc.) at search points 5, 14 and 15.



Legend

- 1 Sage Grouse Search Points
- EREF Property Line

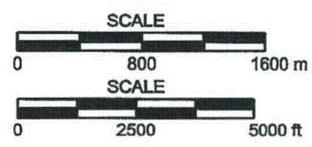


Figure 3.5-4 **Rev. 3**

April 2010
Sage Grouse Survey Point Locations

**EAGLE ROCK ENRICHMENT
FACILITY ENVIRONMENTAL REPORT**

- Improve the existing boundary fence by using smooth wire on the bottom wire and maintaining a minimum distance of about 40 cm (16 in) between the bottom wire and the ground.
- Continue seasonal monitoring of habitat to confirm habitat use by sensitive species.
- To protect migratory birds during the construction and decommissioning of the EREF, the following measures will be taken:
 - Clearing or removal of habitat (e.g., sagebrush), including buffer zones, will be performed outside of the breeding and nesting season for migratory birds.
 - If additional areas are to be disturbed or impacted that have not been cleared outside of breeding and nesting season, surveys will be performed to identify active nests during breeding and nesting season for migratory birds. Activities in areas containing active nests for migratory birds will be avoided.
 - AES will consult with the United States Fish and Wildlife Service to determine the appropriate actions to take a migratory bird, if needed.
- The use of low maintenance landscaping in and around the stormwater detention basin.
- The management of unused open areas (i.e. leave undisturbed), including areas of native grasses and shrubs for the benefit of wildlife.
- Eliminate livestock grazing on the property, when the plant becomes operational.
- Re-seed cropland areas on the property with native species, when the plant becomes operational.

IN MARCH 2010, THE USFWS ANNOUNCED THAT LISTING OF THE GREATER SAGE GROUSE AS AN ENDANGERED SPECIES IS WARRANTED, BUT LISTING PRECLUDED BY HIGHER LISTING PRIORITIES (USFWS, 2010).

4.5.10 Coordination with Federal and State Agencies

Currently, no listed rare, threatened, or endangered species or habitats are known to occur on the proposed site. However, the sagebrush community isolated to the northwestern one-third of the proposed site has the potential to provide habitat for the pygmy rabbit and is used by the greater sage grouse. In January 2008, the USFWS initiated a status review for the pygmy rabbit (USFWS, 2008d) and in February 2008 for the greater sage grouse (USFWS, 2008e) (USFWS, 2008f) to determine if listing of either species is warranted. In addition, multiple agencies, including IDFG, published an updated sage grouse conservation plan (ISGAC, 2006). The life history and habitat requirements for both species are discussed in Section 3.5.3, Description of Important Wildlife and Plant Species. By letter dated June 30, 2008, the USFWS notified AES of its determination that Endangered Species Act consultation is not needed.

AREVA met with the Idaho Department of Fish and Game (IDFG) and the U.S. Fish and Wildlife Service (USFWS). AREVA, IDFG, and USFWS agreed to continue discussions as the proposed project planning evolves and, as appropriate, develop mitigations to minimize impacts to ecological resources. Section 4.5.9, Practices and Procedures to Minimize Adverse Impacts, provides the current mitigations identified by AREVA. AREVA, if needed, will consult with the USFWS to determine appropriate actions for taking of migratory birds. In addition, AREVA will continue to work with USFWS and IDFG if either the greater sage grouse or pygmy rabbit are listed as threatened or endangered.

CONNELLY, 2003. MONITORING OF GREATER SAGE-GROUSE HABITATS AND POPULATIONS. COLLEGE OF NATURAL RESOURCES EXPERIMENT STATION, COLLEGE OF NATURAL RESOURCES, UNIVERSITY OF IDAHO, J.W. CONNELLY, K.P. REESE, AND M.A. SCHROEDER, 2003.

CFR, 2008tt. Title 40, Code of Federal Regulations, Part 61, National Emission Standards for Hazardous Air Pollutants, 2008.

CFR, 2008uu. Title 40, Code of Federal Regulations, Part 122, NPDES: Regulations Addressing Cooling Water Intake Structures for New Facilities, 2008.

CFR, 2008vv. Title 40, Code of Federal Regulations, Part 129, Toxic Pollutant Effluent Standards, 2008.

Champion, 2002. Accumulation and subsidence of late Pleistocene basaltic lava flows of the eastern Snake River Plain, Idaho, in P.K. Link and L.L. Mink, eds., *Geology, Hydrology, and Environmental Remediation: Idaho National Engineering and Environmental Laboratory, Eastern Snake River Plain, Idaho*, Geol. Soc. Amer. Spec. Pap. 353, D.E. Champion, M.A. Lanphere, S.R. Anderson, and M.A. Kuntz, 2002.

Christiansen, 1987a. Rhyolite-basalt volcanism of the Yellowstone Plateau and hydrothermal activity of Yellowstone National Park, Wyoming, *Geological Society of American Centennial Field Guide – Rocky Mountain Section, 2*: 165-172, R.L. Christiansen and R.A. Hutchinson, 1987.

Christiansen, 1987b. Island Park, Idaho: Transition from rhyolites of the Yellowstone Plateau to basalts of the Snake River Plain, *Geological Society of American Centennial Field Guide – Rocky Mountain Section, 2*: 103-108, R.L. Christiansen and G.F. Embree, 1987.

Christiansen, 2000. The Quaternary and Pliocene Yellowstone Plateau Volcanic Field of Wyoming, Idaho, and Montana, U.S. Geol. Surv. Prof. Paper 729-G. R.L. Christiansen, 2000.

City of Rigby, 2009. Draft Comprehensive Plan, Website:
<http://rigby.govoffice.com/vertical/Sites/%7BF3C07D10-1EC1-42DE-904E-03702BEFEB4B%7D/uploads/%7BE8072DA4-4888-4C97-A01F-43346E398FDC%7D.PDF>.
Date accessed: February 24, 2009,

Clark, 1987. *A Field Guide to Hawks North in America*, Houghton Mifflin Company, Boston, New York, W. Clark, 1987.

Clark, 1989. Rare, sensitive, and threatened species of the Greater Yellowstone Ecosystem, Jackson, WY: Northern Rockies Conservation Cooperative, Montana Natural Heritage Program, The Nature Conservancy, Mountain West Environmental Services, T. W. Clark, A. H. Harvey, R. D. Dorn, D. L. Genter, C. Groves, eds., 1989.

Connelly, 2004. Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats, Western Association of Fish and Wildlife Agencies, Unpublished Report, J. W. Connelly, S. T. Knick, M. A. Schroeder, and S. J. Stiver, Cheyenne, Wyoming, 2004.

Connelly, 2007. Study I: Greater Sage-grouse (*Centrocercus urophasianus*) Habitat and Population Trends in Southern Idaho, July 1, 2006 to June 30, 2007, Idaho Department of Fish and Game Project W-160-R-34, Progress Report, J. Connelly and D. Musil, September 2007.

Cook, 2007. The Distribution of Stable Cesium in Soils and Plants of the Eastern Snake River Plain in Southern Idaho. *J. Arid Environ.* 69: Pages 40-64, L.L. Cook, R.S. Inouye, T.P. McGonigle, and G.J. White, 2007.

Crawford, 2004. Ecology and management of sage-grouse and sage-grouse Habitat. *J. Range Manage.* 57: 2-19. John A. Crawford, Rich A. Olson, Neil E. West, Jeffrey C. Mosley, Michael.A. Schroeder, Tom D. Whitson, Richard F. Miller, Michael A. Gregg, And Chad S. Boyd, January 2004.

USFWS, 2010. NEWS RELEASE: U.S. FISH AND WILDLIFE SERVICE SAYS WESTERN SAGE GROUSE NOT A SUB-SPECIES, MARCH 5, 2010. <http://www.fws.gov/news/newsreleases/shownews.cfm?NEWSID=30091EBB-E869-3F1D>, DATE ACCESSED: MAY 12, 2010.

USFWS, 2008c. Wetlands Geodatabase, Wetlands Digital Data, Website: <http://wetlandsfws.er.usgs.gov/wtinds/launch.html>, Date accessed: October 2008

USFWS, 2008d. Endangered and Threatened Wildlife and Plants: 90-Day Finding on a Petition To List the Pygmy Rabbit (*Brachylagus idahoensis*) as Threatened or Endangered, Federal Register Volume 73, No. 5, Pages 1312-1313, U.S. Fish and Wildlife Service, January 8, 2008.

USFWS, 2008e. Endangered and Threatened Wildlife and Plants: Initiation of Status Review for the Greater Sage-Grouse (*Centrocercus urophasianus*) as Threatened or Endangered, Federal Register Volume 73, No. 38, Pages 10218-10219, U. S. Fish and Wildlife Service, February 26, 2008.

USFWS, 2008f. Endangered and Threatened Wildlife and Plants: Initiation of Status Review for the Greater Sage-Grouse (*Centrocercus urophasianus*) as Threatened or Endangered, Federal Register Notice Volume. 73, No. 83, Pages 23172-23174, U. S. Fish and Wildlife Service, April 29, 2008.

USFWS, 2008. Bull Trout. U.S. Fish & Wildlife Service. <http://www.fws.gov/pacific/bulltrout/>, Date accessed: June 9, 2008.

USGS, 2008a. Geochemistry Survey for Bonneville County, Idaho, U.S. Geological Survey, Website: <http://tin.er.usgs.gov/doc/average/se/usa.html>, Date accessed: October 19, 2008.

USGS, 2008b. National Water Information System: Web Interface, USGS Water Data for the Nation, Website: <http://waterdata.usgs.gov/nwis/nwis>, Date accessed: June 20, 2008.

Utah DNR, 2002. Strategic Management Plan For Sage-Grouse, 2002 Publication 02-20, State of Utah, Department of Natural Resources, Division of Wildlife Resources, June 11, 2002.

Utah, 2003. State of Utah Plan Approval with Mixed Waste Facility; State-Issued Part B Permit Renewal, April 4, 2003.

Utah, 2008. Utah Department of Environmental Quality, Division of Radiation Control, Radioactive Material License, 2008.

Vetter, 2005. Basaltic volcanism in the western Snake River Plain and Boise River Valley: ferrobasalts, flotation cumulates, and the change to K-rich ocean island basalts 750,000 years ago, Geological Society of America Abstracts with Programs, 37-7: 127, S. Vetter, J. Shervais, and M. Zarnetske, 2005.

Volcanism Working Group, 1990. Assessment of potential volcanic hazards for New Production Reactor Site at the Idaho National Engineering Laboratory, EG&G Informal Report EGG-NPR-10624, 1990.

Vrem, 2005. Determination of Significance and Effect for Natural Resource Conservation Service (NRCS) Site Numbers 10BV30, 10BV31, 10BV32, and 10BV47, Stephen Croft Project, Idaho, Report Number NRCS-05-5600, D. Vrem, May 9, 2005.

Weiner, 2006. RADTRAN 5.6. "RadCat 2.3 User Guide." SAND2006-6315, Sandia National Laboratories, R.F. Weiner, D.M. Osborn, G.S. Mills, D. Hinojosa, T. J. Heames, and D.J. Orcutt, 2006.

WCRM, 2008. A Class III Cultural Resource Inventory Of The Eagle Rock Enrichment Plant, Bonneville County: Report, Western Cultural Resources Management Inc., Boulder, Colorado, M. Ringhoff, E. Stoner, C.C. Chambellan, and S. Mehls, November, 2008.

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with 15 to 25 percent sagebrush canopy cover for breeding habitat and 10 to 30 percent canopy cover for winter habitat. A healthy perennial grass and forb understory is also an important component of nesting and brood-rearing habitat. The availability of a diversity of forbs rich in calcium, phosphorus, and protein are also important to pre-laying hens (Connelly et al., 2000). There are documented active and inactive greater sage-grouse lekking grounds west of the EREF; the nearest one is more than 16-km (10-mi) west of the EREF (IDFG, 2009a). Greater sage-grouse are known to primarily make use of sagebrush steppe habitat; however, they commonly are found in shrub/grassland habits while foraging, with the majority of breeding and rearing taking place amongst sagebrush habitats. These characteristics define the sage-grouse as a sagebrush obligate species.

A sage-grouse lek survey ^{WERE} was performed for the proposed EREF in May 2008; during this ^{AND APRIL 2010} survey ^{use} no leks were identified within the bounds of the survey area (MWH, 2009). During the ^{AND APRIL 2010} October and November 2009 surveys, no sign of sage-grouse use (scat) was observed within the proposed transmission line corridor. The low volume of use of habitat within the survey corridor was not unexpected due to the limited amount of suitable sagebrush habitat within the corridor. ^{NORTH WIND 2010}

A separate survey ^{WERE} for sagebrush habitat, sage-grouse, and other sensitive species was performed for the EREF Area of Potential Effect (refer to the EREF ER Sections 3.5 and 4.5 and the Sage Grouse Survey Report prepared for the EREF ER). ^{DURING MAY 2008,} Although no sage-grouse or sage-grouse sign was observed on the EREF property, one sage-grouse was observed on BLM-administered lands north of the EREF property and a second sage-grouse was heard and feathers were found at a different location north of the EREF property. ^{INSERT FOR ER APP. H, SECTION 3.10.2}

The sagebrush habitat present within the transmission line corridor (see Section 3.12 below) also provides suitable habitat for three raptor species, which are designated as BLM special status species. These species are the prairie falcon (*Falco mexicanus*), northern goshawk (*Accipiter gentilis*), and ferruginous hawk (*Buteo regalis*) (also a state-listed species). Ferruginous hawks and prairie falcons inhabit semi-arid to arid habitats on the western plains and intermountain regions. They are typically found in open country with scattered trees, primarily prairies, plains, and badlands. These species prey on small mammals, reptiles, and occasionally other small birds. Both species hunt their prey from perched locations and while in flight. Northern goshawks primarily occur in forested habitat, but are also known to use sagebrush steppe habitat periodically during migration. There are multiple documented occurrences of ferruginous hawks flying/hunting within 1.6-km (1-mi) of the transmission line corridor (IDFG, 2009a).

The project corridor provides suitable habitat for two sagebrush obligate bird species: Brewer's sparrow (*Spizella breweri*) and sage sparrow (*Amphispiza belli*). These sagebrush obligate species rely on the sagebrush shrub communities as part of their migratory habitats. The loggerhead shrike (*Lanius ludovicianus*) also may occur in sagebrush habitat and seasonally may occur within the general geographic area. These three species are known to use sagebrush steppe habitat as breeding, nesting, and foraging habitat.

There is potential habitat for three of the four State-listed mammals within the transmission line corridor. These species are the Townsend's big-eared bat (*Corynorhinus townsendii*), pygmy rabbit (*Brachylagus idahoensis*), and Piute ground squirrel (*Spermophilus mollis*). Townsend's big-eared bat is a species generally associated with caves and mines. There is limited roosting habitat and no known hibernating habitat present within the transmission line corridor for Townsend's big-eared bats. The roosting habitat occurs within fissures in the basalt rock found associated with lava outcrops. If they are found on-site, individuals would be expected to be foraging or traveling between roosting and foraging areas, around dusk or twilight hours.

IDEQ, 2009a. Idaho Department of Environmental Quality. 2009a. Idaho Department of Environmental Quality, Air Quality Index website. Date accessed: November 17, 2009. http://www.deq.idaho.gov/air/data_reports/monitoring/aqi.cfm

IDEQ, 2009b. Idaho Department of Environmental Quality. 2009b. Waste Management and Remediation: Data, Reports, and Guidance website. Date accessed: October 29, 2009. http://www.deq.idaho.gov/waste/data_reports.cfm

IDFG, 2005. Idaho Department of Fish and Game. 2005. Idaho Comprehensive Wildlife Conservation Strategy. Idaho Conservation Data Center, Idaho Department of Fish and Game, Boise, ID. <http://fishandgame.idaho.gov/cms/tech/CDC/cwcs.cfm>

IDFG, 2009a. Idaho Department of Fish and Game. 2009a. GIS data provided by IDF&G Conservation Data Center. Located in the project file.

IDFG, 2009b. Idaho Department of Fish and Game. 2009b. Conservation Data Center, yellow-billed cuckoo fact sheet. Date accessed: November 12, 2009. http://fishandgame.idaho.gov/cms/tech/CDC/cwcs_appf/Yellow-billed%20Cuckoo.pdf

INL ESER, 2009. Idaho National Laboratory, Environmental Surveillance, Education and Research Program. 2009. INL Species List. Date accessed: October 28, 2009. http://www.stoller-eser.com/species_index.htm

Marne, 2007. Marne, D. J. 2007. National Electrical Safety Code (NESC) 2007 Handbook. McGraw-Hill, New York. 752 pp.

MWH, 2009. Sage Grouse Survey Report. Prepared for the Proposed Site of the Eagle Rock Enrichment Facility, Bonneville County, Idaho. <http://www.nrc.gov/materials/fuel-cycle-fac/eagle-rock.html>

NRCS, 2009. U.S. Department of Agriculture Natural Resources Conservation Service. 2009. Web soil survey. Date accessed: November 15, 2009. <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

PacifiCorp, 2006. Bird Management Program Guidelines. June 2006. 29 pp.

Shelley and Petroff, 1999. Shelley, R. and J. Petroff. 1999. Introduction to Biology and Management of Noxious Rangeland Weeds. Oregon State University Press, Corvallis, OR.

Tesky, 1994. Tesky, J.L. 1994. *Brachylagus idahoensis*. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Date accessed: November 18, 2009. <http://www.fs.fed.us/database/fels/>

USC, 2009a. United States Code. 2009a. The National Environmental Policy Act of 1969, as amended through 1982, 42 USC 4321-4347, Public Law 91-190, 2009.

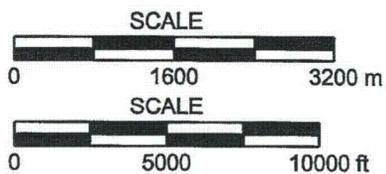
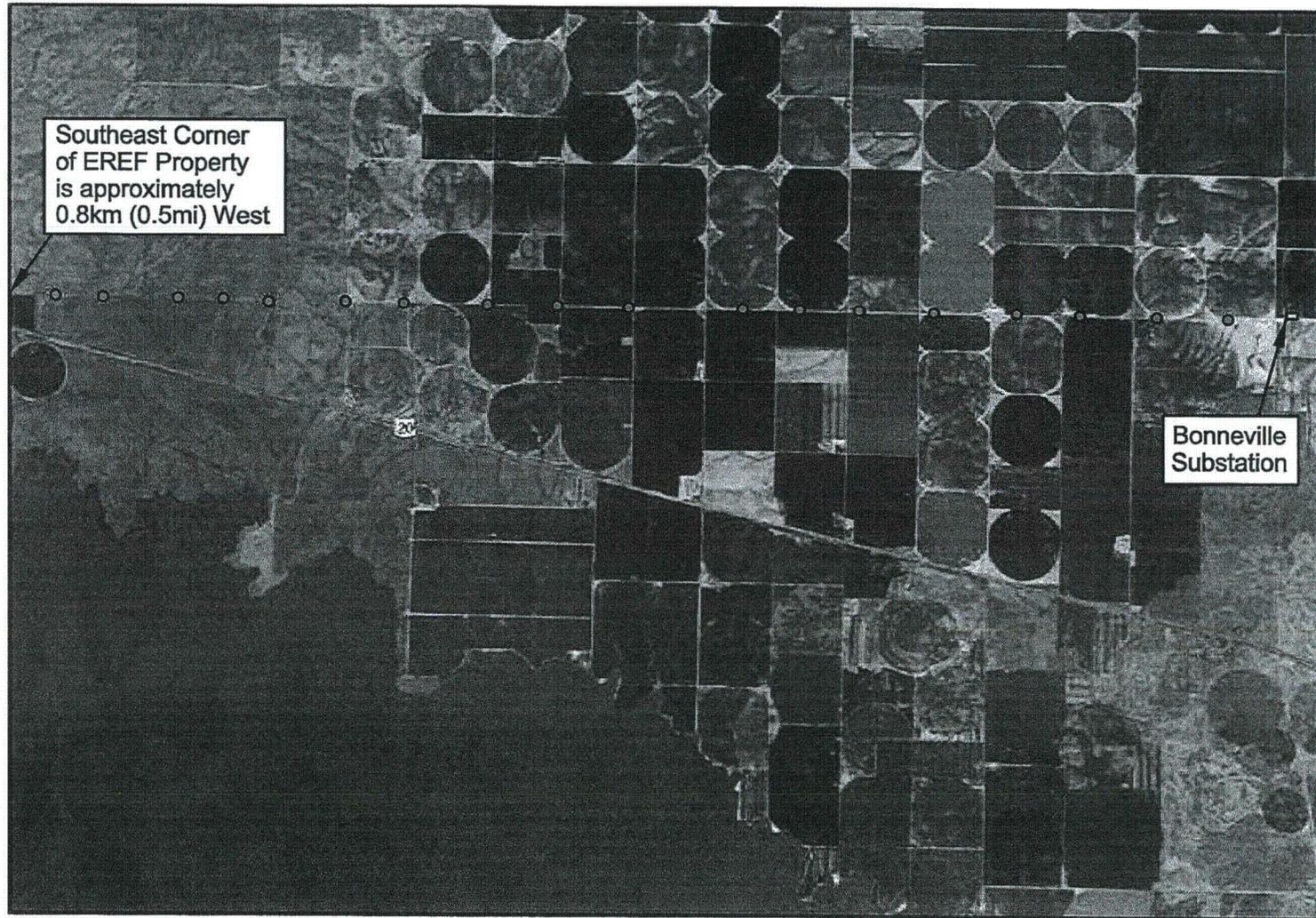
USC, 2009b. United States Code. 2009b. The Atomic Energy Act of 1954, as amended. Public Law 94-579, 42 USC 2011, October 21, 1976.

USC, 2009c. United States Code. 2009c. The Endangered Species Act of 1973, as amended. Public Law 93-205, 16 USC 1531, December 28, 1973.

USC, 2009d. United States Code. 2009d. The Migratory Bird Treaty Act of 1918, as amended. 16 USC 703-712. July 3, 1918.

USC, 2009e. United States Code. 2009e. The Bald Eagle Protection Act of 1940, as amended. 16 USC 668-668d. June 8, 1940.

Albert
FOR ER
APP. H
SECTION
6.0



Legend

- Sage Grouse Search Points

FIGURE H-8 **Rev. 3**
 April 2010 Sage Grouse Survey Point Locations
 Transmission Line Route
 Bonneville Substation to EREF
**EAGLE ROCK ENRICHMENT FACILITY
 ENVIRONMENTAL REPORT**

Insert for ER Section 3.1.6

... and a roost site was observed on the proposed site during the June 2008 surveys. Sage grouse signs were found in January and April 2009, and in April 2010, but not in October 2008.

Insert for ER Section 3.5.3

In March 2010, the USFWS announced that listing of the greater sage grouse as an endangered species is warranted, but listing precluded by the need to complete other listing actions of higher priority (USFWS, 2010).

Insert for ER Section 3.5.4

Insert A

In March 2010, the USFWS announced that listing of the greater sage grouse as an endangered species is warranted, but listing precluded by the need to complete other listing actions of higher priority (USFWS, 2010).

Insert B

During the April 2010 field surveys, old sage grouse pellets were found at three search point locations along or near the northern border of the property. However, no birds were heard or observed, and no other indications of sage grouse were found on the site during this spring survey.

Inserts for ER Section 3.5.6

Insert A

During the April 2010 field surveys, old sage grouse pellets were found at three search point locations within the sagebrush community along or near the northern border of the property. However, no birds were heard or observed, and no other indications of sage grouse were found on the site during this spring survey.

Insert B

During the April 2010 field surveys, one of the three search point locations where old sage grouse pellets were found was near irrigated cropland.

Insert for ER Section 3.5.7

However, no signs were found during the April 2010 survey to indicate that the western and northern portions of the EREF property are being used by sage grouse for nesting.

Insert for ER Section 3.5.15

Similarly, the April 2010 supplemental sage grouse lek searches were conducted 30 minutes before sunrise to two hours after sunrise. Ground lek searches were conducted in accordance with Idaho Department of Fish and Game approved methods as described in Connelly et al. (Connelly, 2003). Existing roads within suitable habitat where sage grouse sign had been previously documented were driven. Stops, with the automobile turned off, were made every 1 km (0.6 mi) to listen for sage grouse "popping" vocalizations. Where roads were not established, foot surveys transecting the EREF property were performed. Prior to the morning lek searches, day and evening foot

surveys for potential lekking areas were conducted across the EREF site to look for signs left by displaying birds.

Inserts for ER Section 3.5.16

Insert A

However, a greater sage grouse roost site was found in June 2008, although no leks were found on the site.

Insert B

During the April 2010 field surveys, old sage grouse pellets were found at three search point locations along or near the northern border of the property. However, no birds were heard or observed, and no other indications of sage grouse were found on the site during this spring survey.

Insert for ER Appendix H Section 3.10.2

During the April 2010 field surveys, old sage grouse pellets were found at three search point locations along or near the northern border of the property. However, no birds were heard or observed, and no other indications of sage grouse were found on the site during this spring survey.

Insert for ER Appendix H Section 6.0

North Wind, 2010. Sage Grouse Survey Report, Eagle Rock Enrichment Facility, North Wind, Inc., May 13, 2010.

AREVA Enrichment Services LLC
Eagle Rock Enrichment Facility
AES-O-NRC-10-00349-0

Enclosure 2

**Sage Grouse Survey Report
May 13, 2010**