ECOLOGY FIELD STUDY REPORT
PROPOSED SITE FOR THE
EAGLE ROCK ENRICHMENT FACILITY
BONNEVILLE, IDAHO

WINTER AND SPRING 2009 SURVEYS

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April 30, 2009

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1.0 INTRODUCTION

Ecological field surveys were conducted on the proposed site for the Eagle Rock Enrichment Facility (EREF) during the weeks of January 12, 2009 (Winter 2009) and April 20, 2009 (Spring 2009). The purpose of these field studies was to collect site-specific ecological resource data at the proposed EREF site. The data was used to further characterize the wildlife communities on the proposed site. In addition, these inventories were conducted to determine the presence/absence of sensitive species, specifically the pygmy rabbit (*Brachylagus idahoensis*) (Winter 2009) and greater sage grouse (*Centrocercus urophasianus*) (Spring 2009).

2.0 METHODS

Preferred sagebrush habitat for wildlife species of concern is concentrated in the northwest portion of the proposed EREF site. As such, survey efforts were concentrated in this area during both winter and spring surveys. Additional surveys were conducted in the irrigated crop portion of the proposed site in order to complement existing wildlife data for this area, and to examine winter and spring wildlife use on this portion of the property. During the winter field survey period, 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. During the spring survey, cattle were occupying the sagebrush portion of the site during the entire survey period. Other cattle were relocated to the non-irrigated pasture portion of the site from offsite the afternoon of Tuesday, April 21, and remained there for the duration of the spring survey. While livestock presence in the sagebrush community did not alter the survey protocol in this area, surveys in the non-irrigated seeded pasture ceased once cows were released on this area.

Wildlife presence for both winter and spring surveys was determined using a combination of line transects and point counts, similar to the methods used for species presence during previous field studies (June & October, 2008). During the winter survey period, road censuses were also conducted in sagebrush habitat. Due to the abundance of snow cover (which limited vehicular access on the site), survey locations differed from those previously used (**Figure 1**). Four point-survey locations were established opportunistically along plowed roads in the irrigated crop portion of the site. Each point location was surveyed for a 10-minute time period each morning immediately following sunrise. Line transects were walked on snowshoe in the sagebrush vegetation type in the mornings immediately following the completion of point counts. Censuses along plowed two-tracks were conducted in the sagebrush habitat type in the afternoon as conditions allowed following transect surveys. In addition, one point count (Figure 1, point # 5) was conducted in the sagebrush habitat following road census.

Spring surveys were conducted using a combination of point counts and line transects. Survey locations followed those used during previous survey periods (**Figure 2**). Multiple visits to the sagebrush habitat were made over the four-day survey period, while the irrigated crop and non-irrigated seeded pasture portions of the site were each formally surveyed once during the spring census.

For all surveys, species composition and relative abundance were determined based on visual observations of animals, signs (e.g., tracks, scat, nests, burrows), and vocalizations. Gender and age (i.e., juvenile and adult) were noted when possible. Behavior also was noted (e.g., in flight, territorial establishment, nesting, perching).

3.0 RESULTS

3.1 WILDLIFE

3.1.1 WINTER 2009

Animal species identified during transect and point sampling are listed in **Tables 1** and **2**. While many animal tracks were found in the snowpack, very few wildlife species were seen or heard over the three-day period. By far, the most abundant animal sign (tracks and scat) were that of the coyote (*Canis latrans*).

A total of 5 bird species (or their sign) were positively identified in the sagebrush community (**Table 1**). These species include the northern harrier (*Circus cyaneus*), red-tailed hawk (*Buteo jamaicensis*), horned lark (*Eremophila alpestris*), American crow (*Corvus brachyrhynchos*), and Greater sage-grouse (*Centrocercus urophasianus*). Mammalian species (or their sign) which were most frequently observed in the sagebrush community include the coyote and black-tailed jackrabbit (*Lepus californicus*).

A total of 3 bird species (or their sign) were positively identified in the irrigated crop vegetation type. These species include the horned lark (*Eremophila alpestris*), American crow (*Corvus brachyrhynchos*), and Greater sage-grouse (*Centrocercus urophasianus*). Tracks and scat of many coyote as well as tracks of pronghorn (*Antilocapra americana*) and black-tailed jackrabbit were found in the irrigated crop area during survey.

3.1.2 SPRING 2009

Animal species identified during transect and point sampling are listed in **Tables 3, 4,** and **5**. Most animals identified were birds, although some mammals were also observed.

A total of 10 bird species were positively identified in the sagebrush community. The most common bird species encountered in the sagebrush community during avian transect surveys were the horned lark (*Eremophila alpestris*) and western meadowlark (*Sturnella neglecta*). Other bird species encountered include the Brewer's sparrow (*Spizella breweri*), sage sparrow (*Amphispiza belli*), and sage thrasher (*Oreoscoptes montanus*). (**Table 3**). Raptors encountered during this survey include the red-tailed hawk (*Buteo jamaicensis*) and prairie falcon (*Falco mexicanus*). 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.

A total of 5 bird species were positively identified in the seeded crested wheatgrass vegetation type. The most common bird species encountered was the horned lark. Western meadowlarks, Brewer's sparrows, an American crow (*Corvus brachyrhynchos*), and a black-billed magpie (*Pica hudsonia*) were also observed (**Table 4**).

A total of 5 bird species were also positively identified in the irrigated crop vegetation type. Species observed included the horned lark, western meadowlark, Brewer's sparrow, sage sparrow, and American crow (**Table 5**).

Several mammal species were identified during transect and point count samples and through incidental observations (**Appendix B**). These include pronghorn (*Antiliocapra americana*),

coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), Townsend's ground squirrel (*Spermophilus townsendii*) and deer mouse (*Peromyscus maniculatus*).

3.2 PROTECTED AND SENSITIVE SPECIES

3.2.1 PROTECTED AND SENSITIVE ANIMALS

Three sensitive species associated with big sagebrush habitat, ferruginous hawk (*Buteo regalis*), pygmy rabbit (*Brachylagus idahoensis*), and greater sage grouse (*Centrocercus urophasianus*) are known in the region. The northwest portion of the EREF site and surrounding areas are dominated by big sagebrush, which is prime habitat for these species. T No sign or sightings of ferruginous hawks were made on the EREF site during these surveys.

Winter surveys were deliberately conducted during a period following recent snowfall, which would allow for easier detection of pygmy rabbit sign. No indication of pygmy rabbits were found on the proposed site including tracks, pellets, burrows, or direct sightings of the animals themselves.

The only sensitive species found to be using the site was the greater sage grouse. During winter 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. It is believed that grouse use this area as both a winter and summer roosting area. 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 spring 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.

4.0 FIELD SURVEY SUMMARIES

4.0.1 WINTER 2009

A cold, foggy weather regime was dominant during this three day survey effort. Frozen fog blanketed the landscape for nearly the entire survey period, and often times greatly limited visibility. Field-recorded temperatures ranged from -7 to -2 °C (19-28°F) during active survey periods. Wind was not an issue, as the existing cold-airmass inversion produced only slight breezes, and these were infrequent.

Overall, animal detections on the proposed EREF were relatively few, and lower in both diversity and frequency than those made during summer and fall field surveys. Many of the bird species observed during the summer were non-resident passerines, and have likely left the area for the season. Tracks of greater sage grouse were found on site during this survey, indicating some winter use of the site by this species. No evidence of pygmy rabbits was found.

Evidence that coyotes use the site in winter was ubiquitous, as tracks and scat of this species were found throughout the survey areas. Coyotes were also spotted outside of the survey areas. Sign of black-tailed jackrabbits was also encountered occasionally; both tracks and pellets were found. Tracks from a single pronghorn were documented on the site in both the sagebrush and irrigated crop areas. The most common bird species found on site was the American crow.

4.0.2 SPRING 2009

Weather for the first several days of the spring 2009 wildlife survey were ideal, with calm cool mornings and warm sunny evenings. Weather became windy and unsettled towards the latter portion of the survey period. Overall, animal detections on the proposed EREF were numerous, as many avian species have again returned to their breeding habitats. Greater sage grouse use of the site was again confirmed, although the specifics of this use remain uncertain. It appears that sage grouse may be using portions of the sagebrush habitat, particularly the topographically elevated knolls and basalt outcrops, as roosting habitat, though the birds themselves have not been spotted on site during any survey. Evidence of their presence during the spring 2009 survey was indicated by feathers found in several locations in the sagebrush habitat. Use of the area by sage grouse may be affected by the grazing regime currently practiced on the site. By far, the most common bird species encountered during the spring survey period were the horned lark and western meadowlark.

Table 1 Winter 2009 Wildlife Survey Data Summary (Transect & Point #5) for the Proposed Eagle Rock Enrichment Facility Site – Sagebrush Steppe[1]

Species		Observed
Horned Lark	*Eremophila alpestris*	X
Northern Harrier	*Circus cyaneus*	X
Red-tailed Hawk	*Buteo jamaicensis*	X
Ferruginous Hawk	*Buteo regalis*	
Brewer's Sparrow	*Spizella breweri*	
Sage Sparrow	*Amphispiza belli*	
Mourning Dove	*Zenaida macroura*	
American Crow	*Corvus brachyrhynchos*	X
Black-billed Magpie	*Pica hudsonia*	
Sage Grouse	*Centrocercus urophasianus*	X
Coyote	*Canis latrans*	X
American Badger	*Taxidea taxus*	
Pronghorn	*Antilocapra americana*	X
Pygmy rabbit	*Brachylagus idahoensis*	
Black-tailed Jackrabbit	*Lepus californicus*	X
Least chipmunk	*Tamias minimus*	
Montane vole	*Microtus montanus*	X
Deer mouse	*Peromyscus maniculatus*	X

[1] Note: Includes animals seen, heard, or sign observed (e.g., tacks, scat, etc.)

Table 2 Winter 2009 Avian Point Survey Data Summary (Points #1-4) for the Proposed Eagle Rock Enrichment Facility Site- Irrigated Crops[1]

Species		Total	Pt 1	Pt 2	Pt 3	Pt 4
Horned Lark	*Eremophila alpestris*	1		1		
Northern Harrier	*Circus cyaneus*					
Brewer's Sparrow	*Spizella breweri*					
Sage Sparrow	*Amphispiza belli*					
Mourning Dove	*Zenaida macroura*					
American Crow	*Corvus brachyrhynchos*	1		1		
Black-billed Magpie	*Pica hudsonia*					
Greater Sage Grouse[2]	*Centrocercus urophasianus*	1		1		
Total		**3**	0	3	0	0

[1] Note: Includes animals seen, heard, or sign observed (e.g., tacks, scat, etc.)
[2] Note: tracks of greater sage grouse present at point location, no individuals seen

Table 3 Spring 2009 Wildlife Transect Survey Data Summary for the Proposed Eagle Rock Enrichment Facility Site – Sagebrush Steppe[1]

Species		Observed
Horned lark	*Eremophila alpestris*	X
Northern harrier	*Circus cyaneus*	
Red-tailed hawk	*Buteo jamaicensis*	X
Ferruginous hawk	*Buteo regalis*	
Prairie falcon	*Falco mexicanus*	X
Brewer's sparrow	*Spizella breweri*	X
Sage sparrow	*Amphispiza belli*	X
Mourning dove	*Zenaida macroura*	
American crow	*Corvus brachyrhynchos*	X
Black-billed magpie	*Pica hudsonia*	
Brewer's blackbird	*Euphagus cyanocephalus*	X
Killdeer	*Charadrius vociferus*	
Sage grouse	*Centrocercus urophasianus*	X
Western meadowlark	*Sturnella neglecta*	X
Sage thrasher	*Oreoscoptes montanus*	X
Coyote	*Canis latrans*	X
American badger	*Taxidea taxus*	
Pronghorn	*Antilocapra americana*	X
Pygmy rabbit	*Brachylagus idahoensis*	
Black-tailed jackrabbit	*Lepus californicus*	X
Townsend's ground squirrel	*Spermophilus townsendii*	X
Least chipmunk	*Tamias minimus*	
Montane vole	*Microtus montanus*	
Deer mouse	*Peromyscus maniculatus*	X
Unknown		X

[1] Note: Includes animals seen, heard, or sign observed (e.g., tacks, scat, etc.)

Table 4 Spring 2009 Wildlife Transect Survey Data Summary for the Proposed Eagle Rock Enrichment Facility Site – Non-Irrigated Seeded Pasture[1]

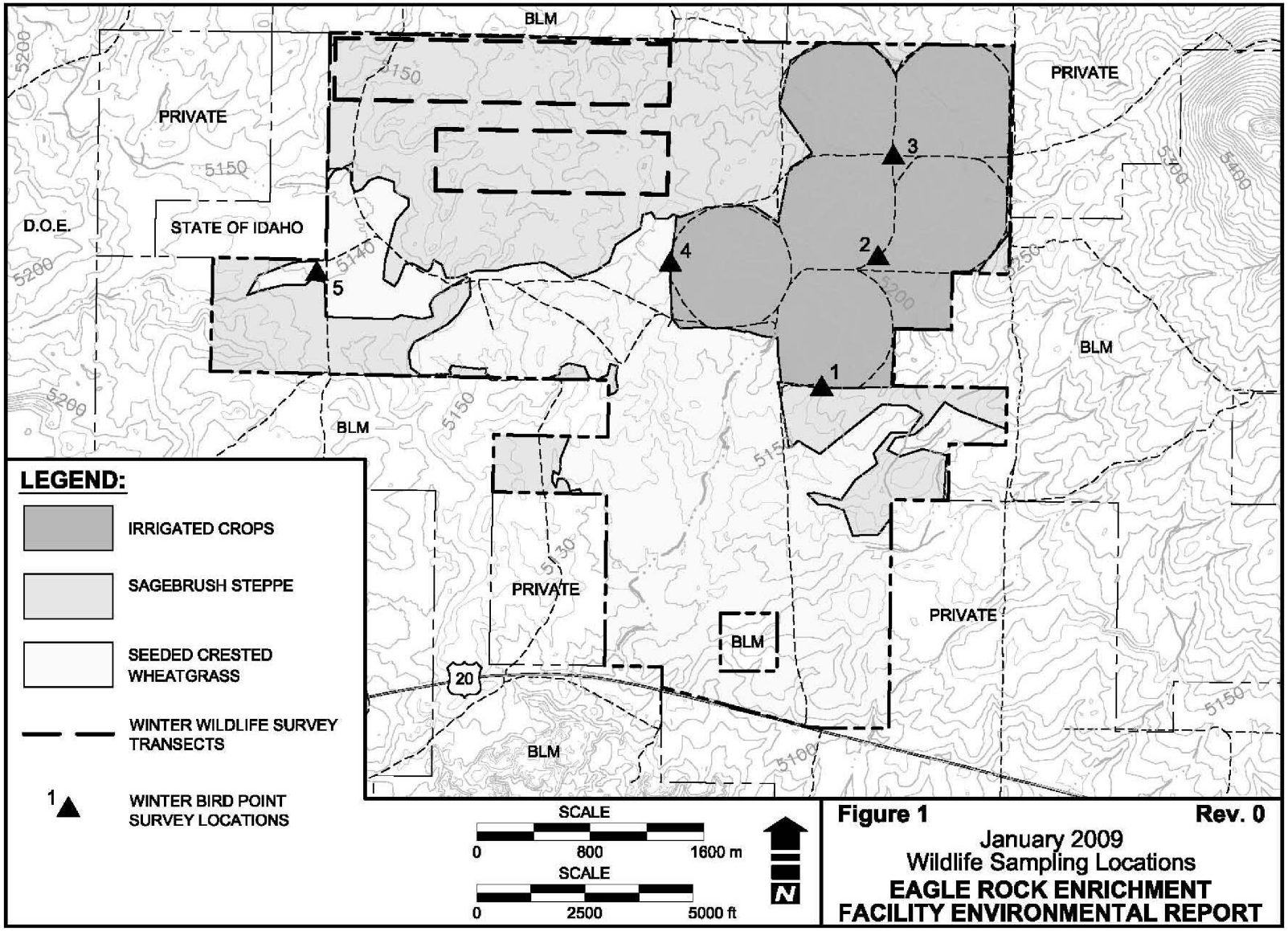
Species		Observed
Horned lark	*Eremophila alpestris*	**X**
Northern harrier	*Circus cyaneus*	
Red-tailed hawk	*Buteo jamaicensis*	
Ferruginous hawk	*Buteo regalis*	
Brewer's sparrow	*Spizella breweri*	**X**
Sage sparrow	*Amphispiza belli*	
Mourning dove	*Zenaida macroura*	
American crow	*Corvus brachyrhynchos*	**X**
Black-billed magpie	*Pica hudsonia*	**X**
Western meadowlark	*Sturnella neglecta*	**X**
Sage grouse	*Centrocercus urophasianus*	
Coyote	*Canis latrans*	**X**
Deer mouse	*Peromyscus maniculatus*	

[1] Note: Includes animals seen, heard, or sign observed (e.g., tacks, scat, etc.)

Table 5 Spring 2009 Avian Point Survey Data Summary for the Proposed Eagle Rock Enrichment Facility Site- Irrigated Crops[1]

Species		Total	Pt 1	Pt 2	Pt 3	Pt 4	Pt 5
Horned Lark	*Eremophila alpestris*	33	7	4	3	11	8
Northern Harrier	*Circus cyaneus*						
Brewer's Sparrow	*Spizella breweri*	3	2				1
Sage Sparrow	*Amphispiza belli*	2					2
Mourning Dove	*Zenaida macroura*						
American Crow	*Corvus brachyrhynchos*	1			1		
Black-billed Magpie	*Pica hudsonia*						
Western meadowlark	*Sturnella neglecta*	7	2				5
Greater Sage Grouse	*Centrocercus urophasianus*						
Total		**3**	0	3	0		0

[1] Note: Includes animals seen, heard, or sign observed (e.g., tacks, scat, etc.)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4
5
5200
5150
5140
5130
5100
5400
LEGEND:
IRRIGATED CROPS
SAGEBRUSH STEPPE
SEEDED CRESTED WHEATGRASS
WINTER WILDLIFE SURVEY TRANSECTS
1 WINTER BIRD POINT SURVEY LOCATIONS
SCALE
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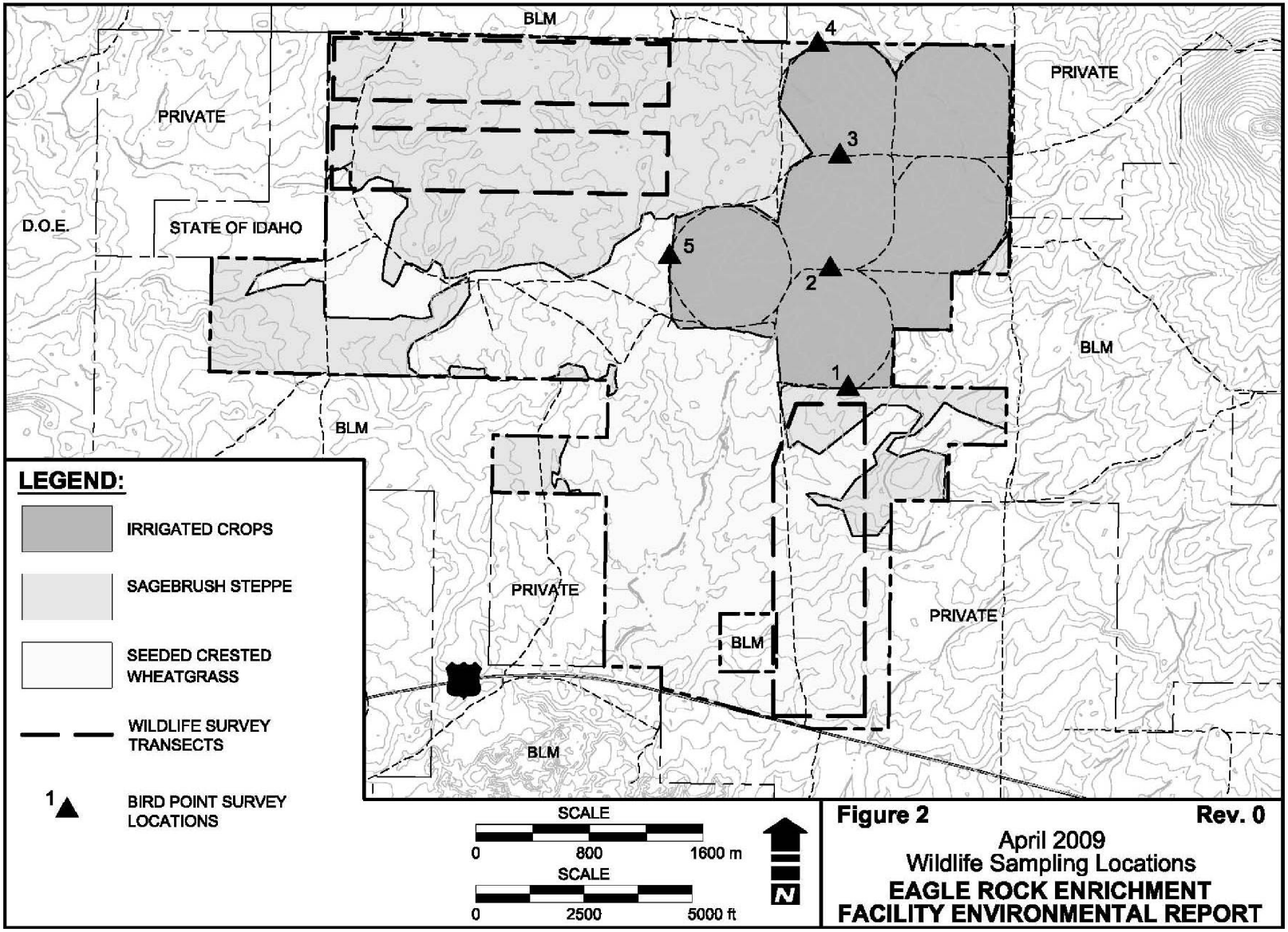
SCALE
0 2500 5000 ft
N
Figure 1
Rev. 0
January 2009
Wildlife Sampling Locations
EAGLE ROCK ENRICHMENT FACILITY ENVIRONMENTAL REPORT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LEGEND:
IRRIGATED CROPS
SAGEBRUSH STEPPE
SEEDED CRESTED WHEATGRASS
WILDLIFE SURVEY TRANSECTS
1 BIRD POINT SURVEY LOCATIONS
SCALE
0 800 1600 m
SCALE
0 2500 5000 ft
N
Figure 2
Rev. 0
April 2009
Wildlife Sampling Locations
EAGLE ROCK ENRICHMENT FACILITY ENVIRONMENTAL REPORT

APPENDIX A

JANUARY 2009 WILDLIFE TRANSECT SURVEY DATA SUMMARY SHEETS PROPOSED EAGLE ROCK ENRICHMENT FACILITY

Sagebrush Steppe Habitat – January 13, 2009: transect and road census

Species	Heard	Observed	Sign	Comments
Horned lark				
Northern Harrier		X		one male seen hunting when fog lifted
Red-tailed Hawk				
Sage sparrow				
Crow				
Black-billed magpie				
Sage grouse			X	several sets of tracks
Unknown				
Coyote			X	many tracks, both fresh and old
Badger				
Pronghorn				
Pygmy rabbit				
Jack rabbit			X	one set of tracks
Least chipmunk				
Deer mouse				

Sagebrush Steppe Habitat – January 14, 2009 transect and road census

Species	Heard	Observed	Sign	Comments
Horned lark				
Northern Harrier				
Red-tailed Hawk		X		single hawk soaring toward SW as fog level lifted and weather turned hazy (light morph)
Sage sparrow				
Crow	X	X		single crow both seen and heard
Black-billed magpie				
Sage grouse				
Unknown				
Coyote			X	many tracks, scat
Badger				
Pronghorn			X	older tracks
Pygmy rabbit				
Jack rabbit			X	several sets of tracks
Montane vole		X		single individual seen
Deer mouse		X		one mouse seen

Sagebrush Steppe Habitat – January 14, 2009 road census only due to dense fog

Species	Heard	Observed	Sign	Comments
Horned lark		X		single bird seen foraging along road
Northern Harrier				
Red-tailed Hawk				
Sage sparrow				
Crow	X			single individual heard
Black-billed magpie				
Sage grouse				
Unknown				
Coyote				
Badger				
Pronghorn				
Pygmy rabbit				
Jack rabbit				
Montane vole				
Deer mouse		X		one individual seen

APPENDIX B

APRIL 2009 WILDLIFE TRANSECT SURVEY
DATA SUMMARY SHEETS
PROPOSED EAGLE ROCK ENRICHMENT FACILITY

Sagebrush Steppe Habitat – April 21, 2009: AM transect data

Species	Heard	Observed	Sign	Comments
Horned lark	X	X		many seen and heard
Northern harrier				
Red-tailed hawk		X		soaring
Ferruginous hawk				
Prairie falcon				
Brewer's sparrow	X			frequent vocalizations
Sage sparrow	X			
Mourning dove				
American crow		X		In flight
Black-billed magpie				
Brewer's blackbird				
Killdeer				
Sage grouse				
Western meadowlark	X	X		many seen and heard
Sage thrasher		X		several seen perching
Coyote			X	tracks, scat
American badger				
Pronghorn		X		2 adults
Pygmy rabbit				
Black-tailed jackrabbit				
Townsend's ground squirrel				
Least chipmunk				
Montane vole				
Deer mouse				
Unknown	X			unrecognized song heard once

Non-Irrigated Seeded Pasture Habitat – April 21, 2009: transect data

Species	Heard	Observed	Sign	Comments
Horned lark	X	X		ubiquitous
Brewer's sparrow	X			twice heard
Sage sparrow				
Mourning dove				
American crow		X		Single bird flying through
Brewer's blackbird				
Killdeer				
Sage grouse				
Western meadowlark	X	X		several seen and heard
Sage thrasher				
Coyote			X	Tracks, scat present
Pronghorn				
Black-tailed jackrabbit				
Deer mouse				
Unknown				

Sagebrush Steppe Habitat – April 21, 2009: PM transect data

Species	Heard	Observed	Sign	Comments
Horned lark	X	X		many seen and heard
Northern harrier				
Red-tailed hawk				
Ferruginous hawk				
Prairie falcon				
Brewer's sparrow	X			heard multiple times
Sage sparrow	X	X		several observed and heard
Mourning dove				
American crow		X		two in flight
Black-billed magpie				
Brewer's blackbird				
Killdeer				
Sage grouse				
Western meadowlark	X	X		many seen and heard
Sage thrasher	X	X		several seen and heard
Coyote			X	scat
American badger				
Pronghorn			X	tracks
Pygmy rabbit				
Black-tailed jackrabbit			X	scat
Townsend's ground squirrel				
Least chipmunk				
Montane vole				
Deer mouse		X		under mature sagebrush
Unknown				

Sagebrush Steppe Habitat – April 22, 2009: AM transect data

Species	Heard	Observed	Sign	Comments
Horned lark	X	X		Many seen and heard
Northern harrier				
Red-tailed hawk				
Ferruginous hawk				
Prairie falcon				
Brewer's sparrow	X	X		
Sage sparrow	X	X		
Mourning dove				
American crow		X		
Black-billed magpie				
Brewer's blackbird		X		
Killdeer				
Sage grouse			X	Feathers found in 3 separate locations along north edge of property
Western meadowlark	X	X		Many seen and heard
Sage thrasher		X		
Coyote			X	Tacks, scat
American badger				
Pronghorn			X	tracks
Pygmy rabbit				
Black-tailed jackrabbit		X		
Townsend's ground squirrel		X		
Least chipmunk				
Montane vole				
Deer mouse				
Unknown				

Sagebrush Steppe Habitat – April 22, 2009: PM transect data – *very windy conditions*

Species	Heard	Observed	Sign	Comments
Horned lark	X	X		several seen and heard
Northern harrier				
Red-tailed hawk				
Ferruginous hawk				
Prairie falcon				
Brewer's sparrow				
Sage sparrow				
Mourning dove				
American crow				
Black-billed magpie				
Brewer's blackbird				
Killdeer				
Sage grouse				
Western meadowlark	X	X		several seen and heard
Sage thrasher	X			one individual
Coyote				
American badger				
Pronghorn				
Pygmy rabbit				
Black-tailed jackrabbit				
Townsend's ground squirrel				
Least chipmunk				
Montane vole				
Deer mouse				
Unknown				

Sagebrush Steppe Habitat – April 23, 2009: AM transect data –windy conditions

Species	Heard	Observed	Sign	Comments
Horned lark	X	X		many
Northern harrier				
Red-tailed hawk				
Ferruginous hawk				
Prairie falcon		X		Stooping and flying low
Brewer's sparrow		X		one pair seen
Sage sparrow	X			two vocalizations
Mourning dove				
American crow				
Black-billed magpie				
Brewer's blackbird				
Killdeer				
Sage grouse				
Western meadowlark	X	X		multiple songs and sightings
Sage thrasher	X			one individual heard
Coyote				
American badger				
Pronghorn				
Pygmy rabbit				
Black-tailed jackrabbit				
Townsend's ground squirrel				
Least chipmunk				
Montane vole				
Deer mouse				
Unknown				