

Sheep Mountain Project – Mine Permit 381C
APPENDIX D-9 – WILDLIFE
2012 ADDENDUM

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Appendix D9 - Wildlife

D9.1 Introduction

This report summarizes wildlife habitat and wildlife use on the Sheep Mountain Project, WDEQ/LQD Mine Permit 381C and was developed on behalf of Energy Fuels Wyoming (formerly Titan Uranium USA).

D9.2 Previous Wildlife Surveys and Reports

Wildlife surveys conducted for approval of the original 381C mine permit involved April 1974 surveys and updated observations in 1980. The bulk of the original wildlife surveys were obtained from a survey conducted by Dames and Moore in April 1974 and documented in an Environmental Report prepared for Western Nuclear, Inc. in May 1974. The mine permit also included results of a Wyoming Game and Fish Department (WGFD) study conducted in southcentral Wyoming in 1980. As stated in the permit: It was “assumed that the animal density information for vegetation types in southwest Wyoming can be extrapolated to similar vegetation types in the Crooks Gap Area.”

Additional surveys were conducted by Real West Natural Resource Consulting in 2010 and follow-up surveys in 2011 and 2012. This permit update documents the results of those surveys and combines the information, where appropriate, with that of the original permit.

D9.3 Site Description and Wildlife Habitats

The Sheep Mountain permit area covers 4,147 acres in Fremont County, Wyoming. Photographs of the site and habitat types are in Attachment A. Sheep Mountain is a small mountain, covering approximately 1,400 acres and extending 2.0 miles east to west and 1.8 miles north to south. Sheep Mountain is located immediately west of the much larger Green Mountain, which extends approximately 11 miles to the west with an expanse north to south of approximately six miles. Both Sheep Mountain and Green Mountain rise above the arid Great Divide Basin, which extends to the south. The higher elevation woodland habitat found on both Sheep and Green mountains create a unique habitat in contrast to the prairie sagebrush grasslands more common in the region.

The western third of the permit area is relatively flat sagebrush prairie at an elevation of 6,730 feet that descends further to the west to Crooks Creek, which flows south to north approximately 0.25 mile west of the permit boundary. The terrain extending to the east is rolling and hilly as it ascends Sheep Mountain, rising to an elevation of 7,895 feet over a distance of just under one mile. From the summit, the terrain descends to an elevation of 7,100 feet to the drainage of Sheep Creek to the northeast and to the open prairie to the southeast. Immediately to the east the terrain descends to a saddle area before rising again to Green Mountain.

The dominant habitat within the permit area is a woodland mix that includes an overstory of limber pine (*Pinus flexilis*) and juniper (*Juniperus scopulorum*) trees. Juniper is also found in the mid shrub story that also includes big sagebrush (*Artemisia tridentata*), mountain mahogany (*Cercocarpus montanus*), and antelope bitterbrush (*Purshia tridentata*). Less abundant are green rabbitbrush (*Chrysothamnus vicidiflorus*), rubber rabbitbrush (*Chrysothamnus nauseosus*), silver sagebrush (*Artemisa cana*), snowberry (*Symphoricarpos albus*), and currant (*Ribes* spp.). The understory supports a mix of grasses and forbs including western wheatgrass (*Agropyron smithii*), sandberg bluegrass (*Poa secunda*), penstemon (*Penstemon* spp.), Hood's phlox (*Phlox hoodii*), common yarrow (*Achillea millefolium*), and spring parsley (*Cymopterus acaulis*). A more through listing of plant species on the site are provided in the vegetation section (Appendix D8).

Sagebrush grassland habitat is found at the lower elevations and lower foothills in the mountain perimeter. In areas of native habitat, the big sagebrush is 12 to 24 inches in height with areal coverage ranging from 30 to 60 percent. Bitterbrush is also prevalent in this shrubland habitat. The understory species are similar to those found in the woodland habitat with the addition of arrowleaf balsamroot (*Balsamorhiza sagittata*), shooting star (*Dodecatheon meadia*), Indian paintbrush (*Castilleja linariifolia*), wild buchwheat (*Eriogonum* spp.), and stonecrop (*Sedum* spp.).

The permit area shows considerable evidence of previous mining activities with varied levels of reclamation. The McIntosh Pit, located in the southwest corner of the permit area, retains water year-round but the site lacks any significant emergent or bank vegetation. The highwalls surrounding the pit are steep and lack vegetation. The Congo Pit area, located in the northeast section of the permit area, has been reclaimed with primarily wheatgrasses (*Agropyron* spp.), as have other disturbance areas such as the Paydirt Pit and other staging areas. The bottom of the Paydirt Pit retains water but lacks any significant emergent vegetation.

D9.4 Methods

The U.S. Fish and Wildlife Service (USFWS) and Wyoming Game and Fish Department (WGFD) were contacted to obtain information on wildlife species and habitats of concern on the claim properties. Their response letters are in Attachment B. In addition, the Wyoming Natural Diversity Database (WYNDD) was accessed to obtain a listing of wildlife reported on the permit area and within a surrounding buffer area (WYNDD 2010).

Amber Travsky, a wildlife biologist with Real West Natural Resource Consulting (Real West) surveyed the permit area on numerous occasions in 2010 and in early June 2011 and late May 2012. A listing of survey dates and species targeted are listed in Table D9.1. The surveys were conducted primarily on foot and via 4-wheel drive vehicle and included the entire permit area plus buffer zones that varied from 0.25 to 2.0 miles, depending on the species being targeted.

The species that needed to be addressed by site surveys for individuals and suitable habitat include the black-footed ferret (*Mustela nigripes*), mountain plover (*Charadrius montanus*), greater sage-grouse (*Centrocercus urophasianus*), and all raptor species.

Table D9.1. Wildlife Surveys Conducted by Real West in 2010, 2011 and 2012 on the Sheep Mountain permit area and Vicinity.¹

Survey Dates	Raptor Nests	Sage-grouse (leks)	Mountain Plover
March 25-26		X	
April 8-9		X	
May 1-2	X	X	X
May 28, 29, 30	X		X
June 14-15	X		X
June 10, 2011	X		
May 18-19, 2012	X		

¹ General wildlife observations were made during all surveys. Targeted species, based on behavioral and habitat requirements, are indicated in the table.

D9.5 Results

D9.5.1 Threatened and Endangered Species

Those threatened and endangered (T&E) wildlife species that need to be addressed by site surveys for individuals and/or surveys for suitable habitat are listed in Table D9.2. The list includes those species, which according to the USFWS and geographic area, could occur in the region (USFWS correspondence, Attachment B). Federally listed plant species are addressed in Appendix D8-Vegetation.

Table D9.2. Federally Listed Threatened, Endangered, and Candidate Wildlife Species Potentially Occurring Within Fremont County.¹

Common Name	Scientific name	Status ²	Key Habitat Characteristics	Potential on site
Mammals				
Black-footed ferret	<i>Mustela nigripes</i>	E	Black-tailed prairie dog colonies or complexes > 80 acres.	Unlikely
Birds				
Greater sage-grouse	<i>Centrocercus urophasianus</i>	C	Sagebrush steppe habitat	Likely
Whooping crane ³	<i>Grus americana</i>	E	Wetland marshes.	Unlikely
Interior least tern ³	<i>Sterna antillarum athalassos</i>	E	Sandbars along rivers.	Unlikely
Piping plover ³	<i>Charadrius melodus</i>	T	Sandbars along rivers.	Unlikely
Fish				
Pallid sturgeon ³	<i>Scaphirhynchus albus</i>	E	Sand-covered portions of rivers.	Unlikely

¹List provided by the U.S. Fish and Wildlife Service in correspondence dated March 18, 2010.

²Federal Status Definitions:

E = Endangered. T = Threatened C=Candidate

³Water depletions in the North Platte River may affect the species and/or critical habitat in downstream reaches in other states.

D9.5.1.1 Black-footed Ferret

The black-footed ferret's original distribution in North America closely corresponded to that of prairie dogs (*Cynomys* spp.) (Fagerstone 1987). According to the USFWS (correspondence in Attachment B), the permit area has previously been block-cleared for ferret surveys. For that reason, no additional surveys would have been required had there been suitable habitat on the site. However, no prairie dog colonies were observed on the site or within 0.5-mile so suitable habitat is lacking. This project will have "no effect" on the black-footed ferret.

D9.5.1.2 Greater Sage-grouse

Sage-grouse inhabit foothills, plains, and mountain slopes where sagebrush is present (American Ornithologists' Union 1983) or a mixture of sagebrush, meadows, and aspen is in close proximity. Sagebrush is present on the permit area, particularly in the lower elevation areas. Sagebrush habitat is plentiful in the surrounding prairie habitat that extends primarily to the north and south from the permit area. Surveys were conducted in March, April and May 2010 to search the permit area and a two mile buffer for previously undocumented sage-grouse leks.

Surveys followed WGFD protocol with the surveys a minimum of 7 days apart and each being conducted from first light to an hour after sunrise. All suitable habitat within the permit area and within two miles was searched each of the three surveys. Due to snow cover and poor driving conditions on the second survey session (April 9, 2010) much of the area was covered by using a spotting scope at the highest access points available. Snow depth prevented extensive driving during that survey and high points were accessed primarily on foot. As time and conditions allowed during the other two surveys, Real West made an effort to visit leks in the vicinity but the primary focus was searching for new leks within the permit area and two-mile buffer.

No historic leks are located on the permit area or within two miles. The nearest documented sage-grouse lek is the East Antelope Lek, located approximately 5.25 miles southwest of the permit boundary. Additional leks in the vicinity and the reported highest number of males observed on the lek by WGFD personnel and by Real West in 2010 are listed in Table D9.3.

Table D9.3 Sage-grouse Leks within the Vicinity of the Sheep Mountain Permit Area.

Name	UTM Location (Zone 13, NAD83)	2010 Status	Peak Male Grouse Observed in 2010 ¹	Grouse observed by Real West in 2010	Distance from Permit Area
Nancy Creek	259890mE 4704607mN	Occupied	22	Didn't visit	5.5 mi
Nancy Ck Reservoir	260780mE 4706603mN	Occupied	43	Didn't visit	6.0 mi
Cottonwood Ck	258554mE 4708111mN	Occupied	0	Didn't visit	8.0 mi
Spring Creek	283723nE 4699867mN	Occupied	46	Didn't visit	9.3 mi
Lost Alkali	254355mE 4690450mN	Occupied	0	0	7.0 mi
Lost Arapahoe	254953mE 4686788mN	Occupied	10	0	8.0 mi
East Antelope	2614729mE 4685868mN	Occupied	17	36 males/4 hens	5.25 mi
Bare Ring Butte	2685650mE 4683545mN	Occupied	33	12 males/4 hens	6.0 mi
Harrier	268565mE 4683545mN	Occupied	37	Sign only – too late in morning	9.25 mi
Upper Osborn	273172mE 4677610mN	Occupied	14	Didn't visit	10.5 mi

¹Data provided by the Wyoming Game and Fish Department (2010).

Wyoming Governor Dave Freudenthal signed Executive Order 2008-2 (Greater Sage-grouse Area Protection) on August 1, 2008, directing state agencies to promote maintenance and enhancement and prevent declines of sage-grouse and their habitats within the designated Core Sage-grouse Areas within Wyoming. This order was superseded on August 18, 2010 with Executive Order 2010-4 which further directed state agencies to promote greater sage-grouse habitat enhancements. The order also provided an updated map of Sage-Grouse Core Areas where addition efforts are recommended to preserve and enhance sage-grouse habitat. As shown in Figure C-1, Attachment C, the permit area is outside any sage-grouse core area, although core areas are located to the north and south of the site.

While suitable habitat is on the site it is limited primarily to the outer boundaries of the permit area. There is the potential for sage-grouse to inhabit the lower elevation sagebrush habitat areas. However, since the site is more than two miles from any sage-grouse lek and it is outside any core area, no stipulations are required.

The proposed mining may displace individual sage-grouse to adjoining sagebrush habitat. Due to this potential, the proposed project may adversely impact individuals, but it is not likely to result in a loss of viability on the project area, nor cause a trend to federal listing or a loss of species viability range wide.

D9.5.1.3 North Platte River Species

In Fremont County, concerns with the interior least tern, piping plover, whooping crane, and pallid sturgeon are due to water depletions in the North Platte River. They are listed for counties in Wyoming only because reduced water flow may affect the species and/or critical habitat in downstream reaches in other states. Because the proposed project will not result in any water depletions to the North Platte River system, no impacts to these species will occur.

D9.5.2 Species of Concern

Species of special interest due to their consideration to be listed as Threatened or Endangered or, in the case of raptors, their protection under the Migratory Bird Treaty Act, are discussed in more detail below. Also discussed is the bald eagle, a species recently delisted as a threatened species but still under protection by the Bald and Golden Eagle Protection Act.

D9.5.2.1 Bald Eagle

Winter roosting habitat for bald eagles most commonly includes areas close to (within 4 km) of coastal areas, bays, rivers, lakes, or other bodies of water that reflect the general availability of primary food sources including fish, waterfowl, and seabirds (Andrew and Mosher 1982, Green 1985, Campbell et al. 1990). Bald eagles preferentially roost in conifers or other sheltered sites in winter in some areas and they typically select larger, more accessible trees (Buehler et al. 1991, 1992). While woodland habitat is present on much of the permit area and along the creek bottoms, the area lacks any significant water source or high carrion area that would provide food sources for wintering bald eagles. While bald eagles may temporarily roost on the site and in the vicinity, the proposed mining is unlikely to affect this species.

D9.5.2.2 Mountain Plover

On May 11, 2011 the USFWS determined that the mountain plover is not threatened or endangered throughout all or a significant portion of its range. This ground nesting species is

typically found in areas of short (less than four inches) vegetation on slopes of less than five percent. Any short grass, very short shrub, or cushion plant community could be considered plover nesting habitat (Parrish et al. 1993), however, mountain plovers prefer shortgrass prairie with open, level or slightly rolling areas dominated by blue grama (*Bouteloua gracilis*) and buffalograss (*Buchloe dactyloides*) (Dinsmore 1981, Kantrud and Kologiski 1982).

The permit area is primarily rolling to hilly terrain and lacks significant flat terrain. However the reclaimed area of the Congo Pit has patches of bare ground and areas of low vegetative cover; in addition it is fairly flat but adjacent to hilly terrain. While minimal in size and supporting denser vegetation than is found on typical mountain plover habitat, this area was searched for mountain plovers during three site visits between May 1 and June 15, following mountain plover search protocol. No mountain plovers were observed. While it's possible that mountain plovers occasional pass through the area, it is unlikely they would nest on the permit area due to the minimal available suitable habitat; therefore, the proposed mining is unlikely to affect this species.

D9.5.2.3 Other Migratory Birds – McIntire Pit Use

The McIntire Pit was created during past mining activity on the site. The pit is quite deep with a water depth of approximately 245 feet. In the USFWS correspondence (Attachment B), concern was stated about the potential risk of the McIntire Pit to migratory birds. Their letter states that “uranium pit lakes with elevated selenium can pose a risk to migratory birds as waterborne selenium concentrations $\geq 2 \mu\text{g/L}$ are considered hazardous to the health and long-term survival of fish and wildlife.” In converting to milligrams per liter, the 2 micrograms per liter equals 0.002 milligrams per liter. In addition, low pH levels would indicate the water is acidic and ingestion by waterfowl and other wildlife could be harmful.

Records of McIntire Pit selenium content were available sporadically from 1990 through 1998 and annually from 1999 through 2010. The selenium level in the McIntire Pit water measured from 0.004 to 0.005 milligrams per liter from 1999 through 2010. Previous to 1999 it measured from 0.002 to 0.005 with the lowest level (0.002) being reported in 1993. The water pH from 1998 thorough 2010 ranged from 7.89 to 8.46, putting the pH just slightly below the neutral level of 7.0. It was 8.3 in 2010, making it slightly alkaline.

Waterfowl use of the pit was monitored during every site visit conducted by Real West in 2010. The pit was ice-free by the May 2, 2010 visit and five Canada geese (*Branta canadensis*) were observed on the pit water. During subsequent observations on May 29, May 30, June 14 and

June 15, no additional waterfowl were observed on the pond or along the shoreline. The pit lacks any significant bank or emergent vegetation. There are highwalls rising above the pit, though, that provide nesting habitat for bank and violet-green swallows (*Riparian riparia* and *Tachycineta thalassina*) that are very numerous at the site.

Energy Fuels is bonded to reduce the highwall slope along half of the highwall, the north and west slopes, to a 3:1 slope and revegetate per the original approved reclamation plan. It is possible the reclamation will be reclaimed through the Wyoming Department of Environmental Quality – Abandoned Mine Lands Division. If that occurs, it is likely the pit would be substantially backfilled and if an impoundment were left it would be fed by surface water. The most likely plan would include a flow-through without an impoundment since there is already an impoundment to the south.

D9.5.3 BLM Sensitive Species

In addition to federally listed species, the BLM has established a list of sensitive species that warrant special attention on BLM-administered lands. Habitat descriptions and the potential for these species (when not covered in previous sections) to occur on the permit area are listed in Table D9.4. Those species that have the potential to occur on the site or in the vicinity are discussed further.

Table D9.4. BLM Sensitive Species within the Lander Resource Area and their potential on the Sheep Mountain site.

Species	Habitat Preference	Potential for Occurrence on Permit Area
Mammals		
Spotted Bat <i>Euderma maculatum</i>	Cliffs over perennial water, basin-prairie shrub	Possible
Long-eared Myotis <i>Myotis evotis</i>	Conifer and deciduous forests, caves and mines	Possible
Townsend’s Big-eared Bat <i>Corynorhinus townsendii</i>	Forests, basin-prairie shrub, caves and mines	Possible

Table D9.4. BLM Sensitive Species within the Lander Resource Area and their potential on the Sheep Mountain site.

Species	Habitat Preference	Potential for Occurrence on Permit Area
White-tailed Prairie Dog <i>Cynomys leucurus</i>	Basin-prairie shrub, grasslands	Possible but not found
Pygmy rabbit <i>Brachylagus idahoensis</i>	Dense sagebrush with sandy soils	Possible
Swift Fox <i>Vulpes velox</i>	Grasslands	Unlikely
Birds		
White-faced Ibis <i>Plegadis chihi</i>	Marshes, wet meadows	Unlikely
Trumpeter Swan <i>Cygnus buccinators</i>	Lakes, ponds, rivers	Unlikely
Northern Goshawk <i>Accipter gentiles</i>	Conifer and deciduous forests	Possible
Ferruginous Hawk <i>Buteo regalis</i>	Basin-prairie shrub, grassland, rock outcrops	Possible
Peregrine Falcon <i>Falco peregrinus</i>	Tall cliffs	Unlikely
Long-billed Curlew <i>Numenius americanus</i>	Grasslands, plains, foothills, wet meadows	Unlikely
Burrowing Owl <i>Athene cunicularia</i>	Grasslands, basin-prairie shrub	Unlikely
Sage Thrasher <i>Oreoscoptes montanus</i>	Basin-prairie shrub, mountain foothill shrub	Possible
Loggerhead Shrike <i>Lanius ludovicianus</i>	Basin-prairie shrub, mountain foothill shrub	Possible
Brewer's Sparrow <i>Spizella breweri</i>	Basin-prairie shrub	Possible
Sage Sparrow <i>Amphispiza bilineata</i>	Basin-prairie shrub, mountain foothill shrub	Possible
Amphibians		
Northern Leopard Frog <i>Rana pipiens</i>	Beaver ponds, permanent water in plains and foothills	Possible

Table D9.4. BLM Sensitive Species within the Lander Resource Area and their potential on the Sheep Mountain site.

Species	Habitat Preference	Potential for Occurrence on Permit Area
Spotted Frog <i>Rana luteiventris</i>	Ponds, sloughs, small streams	Unlikely
Great Basin Spadefoot <i>Spea intermountana</i>	Spring seeps, permanent and temporary waters	Possible
Boreal Toad <i>Bufo boreas boreas</i>	Pond margins, wet meadows, riparian areas	Possible
Fish Yellowstone cutthroat trout <i>Oncorhynchus clarkia bouvieri</i>	Yellowstone drainage, small mountain streams, large rivers	Unlikely

D9.5.3.1 Spotted Bat

These bats are very uncommon in Wyoming but they are associated with many different habitats, ranging from low deserts to evergreen forest (Clark and Stromberg 1987). Due to cliff habitat in the vicinity of the site, there is the potential that the bats would inhabit the area.

D9.5.3.2 Long-eared Myotis

Long-eared myotis are found in a wide variety of habitats, from grasslands and conifer forests, to humid coastal and montane forests (Manning and Jones 1989). Clark and Stromberg (1987) report that in Wyoming, long-eared myotis are common in ponderosa pine (*Pinus ponderosa*) and occasionally have been captured in spruce-fir (*Picea -Abies*) forests at higher elevations. These bats were also captured in drier habitats along sand dunes and bluffs, containing various forbs and shrubs (e.g., sage, rushes, greasewood, and juniper). Suitable habitat is in the permit area and vicinity; therefore, this species is possible in the area.

D9.5.3.3 Townsend’s Big-eared Bat

Maternity and hibernation colonies for the Townsend’s big-eared bat are typically in caves and mine tunnels (NatureServe 2011). These bats prefer relatively cold places for hibernation, often

near entrances and in well-ventilated areas. While limited in the area, habitat for this species is in the vicinity; therefore, there is the potential for the species on the site.

D9.5.3.4 White-tailed Prairie Dog

This loosely colonial species inhabits open shrublands, semidesert grasslands, and open valleys. It lives at higher elevations and in meadows with more diverse grass and herb cover than do black-tailed prairie dogs (NatureServe 2011). Suitable habitat is in the area, primarily within the lower elevation shrublands on the permit area. However, no burrows were found on the site and this species currently does not inhabit the area.

D9.5.3.5 Pygmy Rabbit

Pygmy rabbits typically occur in areas of tall, dense sagebrush cover, and are highly dependent on sagebrush to provide both food and shelter throughout the year (Katzner et al. 1997). There are two main features of pygmy rabbit habitat: thick sagebrush and deep soils. Usually borrows are found in the taller and thicker big sagebrush in an area, with a height of about thigh-high to chest-high (Keinath and McGee 2004). While sagebrush is present on the lower elevations of the permit area, it generally is of lower density than the habitat preferred by this species but there is the possibility that they inhabit the area due to dense sagebrush in the vicinity but outside the permit area.

D9.5.3.6 Northern Goshawk

This is a forest hawk species. In general northern goshawks breed in mature montane forests, preferring areas with large diameter trees, closed canopies, and open understories (Kennedy 2003). While suitable habitat is very limited on the permit area, it is present to the east on Green Mountain. Occurrence of this species on the permit area would be highly incidental, unpredictable, and limited to migrants passing through the area.

D9.5.3.7 Ferruginous Hawk

Ferruginous hawks require large expanses of native, semiarid open grassland and shrub-steppe that support populations of rodent prey and that have minimal human disturbance during the nesting period (Travsky and Beauvais 2005). In general ferruginous hawks do not require trees

for nesting, as they will nest on buttes, rocky outcroppings, power poles and other man-made structures, and in open areas on the ground.

While suitable habitat is limited on the permit area, nesting habitat is abundant in the vicinity. While it is unlikely this species will nest on the permit area it is possible that it would forage on the site.

D9.5.3.8 Sage Thrasher

This species is found in tall sagebrush and greasewood (Dorn and Dorn 1990). It is a somewhat common summer resident in Wyoming. Suitable habitat is present on the permit area and the species could occur in the area.

D9.5.3.9 Loggerhead Shrike

This species prefers relatively open country with scattered trees and shrubs, savanna, desert scrub (southwestern U.S.), and, occasionally, open woodland; it often perches on poles, wires or fenceposts (AOU 1983). Suitable hunting perches are an important part of the habitat (Yosef and Grubb 1994). Suitable habitat is present on the site and it's possible this species occurs in the area.

D9.5.3.10 Brewer's Sparrow

Brewer's sparrows are sagebrush obligates, their Great Basin range being concordant with the range of sage shrub-steppe (Faulkner 2010). Within Wyoming they reach their highest density in large, undisturbed, homogeneous stands of sage shrub-steppe in the southwestern and central basins of Wyoming. While suitable habitat is limited on the permit area, it is common in the vicinity and this species could occur in the area.

D9.5.3.11 Sage Sparrow

Sage sparrows are sagebrush obligates, preferentially occupying areas of dense and tall sagebrush with little or no herbaceous groundcover (Faulkner 2010). While such habitat is very limited on the permit area, habitat is present in the vicinity and this species could occur in the area.

D9.5.3.12 Northern Leopard Frog

In Wyoming this species is relatively common throughout the state. It is found in or near permanent water in the plains, foothills and montane zones (Baxter and Stone 1980). Preferred habitats are swampy cattail marshes on the plains and beaver ponds in the foothills and montane zones. Suitable habitat is present in the pond along the southern permit boundary and it's been known to be along Crook's Creek, west of the permit area.

D9.5.3.13 Great Basin Spadefoot

In Wyoming this species inhabits sagebrush communities at lower elevations, mostly in the Wyoming Basin and the Green River valley (Baxter and Stone 1980). This species may utilize some permanent waters in addition to temporary waterholes for breeding. Suitable habitat is present in the pond along the southern permit boundary; therefore, this species could occur in the area.

D9.5.3.14 Boreal Toad

Boreal toads inhabit wet areas in the foothills, montane and subalpine zones (Baxter and Stone 1980). In Wyoming this species is restricted to mountains and foothills and to relatively moist conditions. While suitable habitat is very limited on the permit area, there is the potential for this species in the pond located on the southern permit boundary.

D9.5.4 Big Game

Four big game species occur in the permit area including pronghorn antelope (*Antilocapra americana*), mule deer (*Odocoileus hemionus*), elk (*Cervus canadensis*), and moose (*Alces alces*). Figure C-2, Attachment C, shows the location of crucial big game range in the vicinity of the permit area. The area is also utilized by wild horses with a small group of four horses being observed on the permit area repeatedly during the 2010 wildlife surveys.

The permit area is outside any crucial winter range for big game species. As stated in the WGFD correspondence (Attachment B), there is the potential that the area will be designated as crucial-winter-yearlong range for mule deer in the future.

The Sheep Mountain Project includes the Congo Pit, a proposed open pit development, and the re-opening of the existing Sheep Underground mine. Surface disturbance activities including the proposed heap leach plant, Congo Pit and spoil piles are all proposed for areas of previous disturbance. The habitat in these areas is comprised primarily of monoculture grassland that provides minimal wildlife forage benefit. Other facilities include existing roads and the Sheep I and Sheep II vent shafts. These roads are already present, as are the disturbed areas surrounding the vent shafts.

In 2010, the road from Sheep I to Sheep II was removed by contouring to match the existing natural terrain and reseeded. This reclamation project covered 14.9 acres. While the return to a more native species mix will take some time, the reclamation will eventually supplement the available wildlife forage.

Mining operations are expected to occur over a period of approximately 11 years. Once mining operations cease, reclamation will commence including reduction of highwalls on the Congo Pit and revegetation of all disturbed areas.

While there is the potential to displace big game due to traffic and other human activity, loss of native forage habitat will be minimal since disturbance will occur primarily in the same areas previously disturbed by mining. While displacement is possible, big game are known to habituate to non-threatening human activity and are expected to continue to occupy the area where most of the suitable native vegetation will remain undisturbed.

D9.5.5 Raptors

Six raptor nests were observed by Real West during 2010 and 2011 surveys on the permit area or within one-mile of the site. By 2012, two of the six nests were no longer present. The nest locations are shown on the aerial photograph in Figure C-2, Attachment C and they are listed in Table D9.5.

No active raptor nests were located within the permit area. One stick nest (Unk 6) in good condition was observed in the east-central portion of the permit area. Since the nest was not located until after the nesting season, its activity status for 2010 was unknown. It was inactive in 2011 and 2012. Due to the size of the nest it was likely once used either by red-tailed hawks (*Buteo jamaicensis*) or golden eagles (*Aquila chrysaetos*).

Table D9.5. Raptor Nests Located on the Sheep Mountain Permit Area and within 0.5-mile during 2010, 2011 and 2012 Surveys by Real West Natural Resource Consulting.

Species Nest ID	UTM Location (Zone 13, NAD83)		Legal Location			Status			Nest Condition	Substrate
	Easterly	Northerly	T R	1/4 1/4	Sec	2010	2011	2012	In 2012	
GHO 1	267493	4692706	2892	SWSE	33	Active	Inactive	Inactive	Good	Aspen
RTHA 2	267400	4692767	2892	SWSE	33	Inactive	Active	Inactive	Good	Aspen
Unk 3	266842	4695985	2892	NWSW	21	Inactive	Inactive	Inactive	Poor	Snag
Unk 4	266911	4695929	2892	SWSW	21	Inactive	Inactive	--	Gone	Snag
GHO 5	266368	4694545	2892	NESE	29	Inactive	Inactive	--	Gone	Building torn down
UNK 6	268999	4696090	2892	NWSE	22	Unk	Inactive	Inactive	Good	Snag

The only active nest observed in 2010 was approximately 0.4 miles south of the permit area in an aspen tree along an unnamed creek bottom. The nest was occupied by great horned owls (*Bubo virginianus*) with one young owlet observed during the May 29, 2010 survey. This nest was inactive in 2011 and 2012. A second inactive nest, also in an aspen tree, was located approximately 125 yards east of the active nest. This second nest was in good condition and in 2011 it was active with nesting red-tailed hawks but inactive in 2012.

Within the permit area, two nests were located on the west-facing slope of Sheep Mountain. These nests, identified as Unk 3 and Unk 4, were in poor to very poor condition and likely had not been used for some time. By 2012, the Unk 4 nest was no longer present. One large nest, identified as GHO 5, was inside the abandoned shop building immediately north of the McIntire

Pit. This building was removed as part of the site reclamation; therefore the nest is no longer present.

The final nest, Unk 6, was previously mentioned as a potential red-tail hawk or golden eagle nest, based on nest size and substrate. This is a large stick nest within a pine tree snag.

With the exception of the great-horned owls located in the nest south of the permit area, the only raptors observed during any of the wildlife surveys in 2010 was a red-tailed hawk observed flying south of the McIntosh Pit and over the small reservoir. The red-tail hawks using RTHA 2 nest were the only raptors observed on the site during the 2011 survey. During the 2012 survey the only raptor observed was one red-tailed hawk flying south of the riparian habitat, approximately 0.6 miles south of the permit boundary. The bird did not vocalize but was observed soaring over the prairie, likely foraging for food.

Additional raptor species expected to forage and/or nest in area based on habitat and geographic area include golden eagles, Swainson's hawks (*Buteo swainsoni*), American kestrels (*Falco sparverius*) and merlins (*Falco columbarius*). These species utilize woodland habitat. Northern harriers (*Circus cyaneus*) nest in dense grassland, which is a very limited habitat on and in the vicinity of the permit area. Numerous rock outcrops are present along the northwest-facing slope that overlooks the Congo Pit. These outcrops were closely inspected for potential nests, primarily by ferruginous hawks and prairie falcons (*Falco mexicanus*) but no evidence of nesting by these species was observed. Rough-legged hawks (*Buteo lagopus*) likely winter in the area, although they were not observed during site surveys.

Annual nesting raptor surveys will be conducted to monitor nest status on the permit area and within one-mile. No construction would occur within 0.5-mile of any active raptor nest.

D9.5.6 Waterfowl and Shorebirds

Suitable habitat for waterfowl or shorebirds is present on the permit area at the McIntosh Pit, the reclaimed Paydirt Pit and a reclaimed reservoir along the permit southern boundary. As mentioned in Section 4.2.3, only a few Canada geese were observed on the McIntosh Pit during the site surveys. The bottom of the Paydirt Pit has been reclaimed but standing water was present in the pit bottom by mid June in 2010. Due to the lack of emergent vegetation and minimal bank vegetation, use of this small pit by waterfowl is likely limited to brief stop-overs. It is unlikely that waterfowl or shorebirds nest at either location.

The nearest body of water with established emergent and bank vegetation is the reservoir, covering approximately 7 acres, along the south permit boundary. This reservoir was constructed following and as a result of previous mining activities. The site is popular as a fishing site and anglers were observed at the reservoir during all summer survey periods in 2010. Killdeer (*Charadrius vociferus*) were frequently observed and heard at the reservoir along with green-winged teal (*Anas carolinensis*) and common mergansers (*Mergus merganser*). Additional waterfowl and shorebirds likely use the site.

Due to the prevalence of similar habitat in the vicinity of the permit area, while individual animals may be disturbed during mining operations, the proposed mining is not expected to impact any waterfowl or shorebird population.

D9.5.7 Passerine Birds

In 2010 twenty point-count sample points were established to identify passerine bird use of the site. At each sample point, the biologist recorded all birds observed and/or heard during a 10-minute period. All surveys were conducted from dawn to 11 a.m. during favorable weather conditions. The point-count locations are shown on the aerial photograph in Figure C-4, Attachment C and the locations are listed in Table C-5, Attachment C.

A total of 21 passerine bird species were observed or heard during the surveys, as listed in Table D9.6. The most common passerine bird within the permit area is the chipping sparrow followed by the gray jay and then the mountain chickadee. Additional passerine bird species were observed during random observations and these are included in the wildlife species list provided in Table D-1, Attachment D.

Due to the prevalence of similar habitat in the vicinity of the permit area, while individual birds may be disturbed during mining operations, the proposed mining is not expected to impact any passerine bird population.

D9.5.8 Reptiles and Amphibians

Creeks and bodies of water on and immediately adjacent to the permit area were searched for amphibians, particularly the northern leopard frog (*Rana pipiens*). This species is present in Crook's Creek, located approximately 0.25-mile west of the permit boundary. Boreal chorus frogs (*Pseudacris maculata*) are also present along the creek and in the small reservoir located

Table D9.6. Passerine birds observed and heard during 2010 point-count surveys.

Common Name	Scientific Name	Total Observed	Mean Observed
Chipping sparrow	<i>Spizella passerina</i>	39	1.95
Gray jay	<i>Perisoreus canadensis</i>	15	0.75
Mountain chickadee	<i>Parus gambeli</i>	8	0.40
Mourning dove	<i>Zenaida macroura</i>	7	0.35
Oregon junco	<i>Junco hyemalis oregonus</i>	7	0.35
Violet-green swallow	<i>Tachycineta thalassina</i>	6	0.30
Cliff swallow	<i>Petrochelidon pyrrhonata</i>	5	0.25
Common crow	<i>Corvus brachyrhynchos</i>	5	0.25
Red-shafted flicker	<i>Colaptes auratus</i>	4	0.20
Brewer's sparrow	<i>Spizella breweri</i>	3	0.15
Vesper sparrow	<i>Pooecetes gramineus</i>	3	0.15
American robin	<i>Turdus migratorius</i>	2	0.10
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	2	0.10
House wren	<i>Troglodytes aedon</i>	2	0.10
Mountain bluebird	<i>Sialia currucoides</i>	2	0.10
Western wood peewee	<i>Contopus sordidulus</i>	2	0.10
Yellow warbler	<i>Dendroica petechia</i>	2	0.10
Audubon's warbler	<i>Dendroica coronata</i>	1	0.05
Horned lark	<i>Eremophila alpestris</i>	1	0.05
Ruffed grouse	<i>Bonasa umbellus</i>	1	0.05
Western meadowlark	<i>Sturnella neglecta</i>	1	0.05

along the southern permit boundary. No amphibian species were seen or heard at the McIntosh Pit or Paydirt Pit. Due to the lack of impacts to the wetland habitats that support amphibian species, this project is not expected to impact any amphibian populations.

During site surveys no reptile species were observed on the site or in the vicinity. Reptile species expected in the area include the northern sagebrush lizard (*Sceloporus graciosus*), short-horned lizard (*Phrynosoma douglassi*), wandering garter snake (*Thamnophis elegans*), and prairie rattlesnake (*Crotalus viridis*). Due to the presence of similar habitats in the vicinity, the proposed mining is not expected to impact any reptile populations.

D9.5.9 Fish

The only known fishery within the permit area is the small reservoir on the southern boundary of the project area. This reservoir was created following uranium mining further to the south. The reservoir is stocked with trout and it attracts a steady flow of anglers through the summer months.

Wyoming Game and Fish Department sampling along Crooks Creek in previous years resulted in the capture of one brook trout (*Salvelinus fontinalis*) in the upper section of the creek as it flows through Crooks Gap. This species is likely more common downstream in the creek, although Crooks Creek does not flow all the way to the Sweetwater River; it submerges and disappears prior to intercepting the river.

Other species captured in Crooks Creek at Crooks Gap included creek chub (*Semotilus atromaculatus*), long nosed dace (*Rhinichthys cataractae*) and white sucker (*Catostomus commersoni*).

D9.5.10 Other Wildlife

All wildlife observed during the 2010 wildlife surveys are indicated in Table D-1, Attachment D. Also included are those species listed in the original permit as potentially occurring in the project area. In addition, the Wyoming Natural Diversity Database (WYNDD) was accessed to obtain a listing of wildlife reported on the permit area and within a surrounding buffer area covering the entire township and ranges that include the permit area (WYNDD 2010).

During 2010 wildlife surveys 9 mammal and 30 avian species were observed on the permit area or within one mile. The original permit application listed 62 mammal and 172 avian species as potentially occurring in the area. The WYNDD database listed three mammal and 12 avian species as having been reported in the area.

D9.6 Mitigation Measures

Potential impacts and mitigation measures for wildlife on the permit area are listed in Table D9.7. Mining activities will result in “no effect” to the black-footed ferret or North Platte River species. There is the potential for individual sage-grouse to be displaced due to the proposed mining; therefore the proposed project may adversely impact individuals, but it is not likely to

result in a loss of viability on the project area, nor cause a trend to federal listing or a loss of species viability range wide.

Table D9.7. Summary of Environmental Consequences and Mitigation Measures for the Sheep Mountain Permit Area.

Resource/Impact	Mitigation
Threatened and Endangered Species: Sage-grouse: No leks within 2 miles; outside sage-grouse core area.	No mitigation needed
Mountain Plover Habitat is minimal; no plovers observed.	No mitigation needed
Big Game No crucial range is present.	No mitigation needed
Raptors Six raptor nests found initially with four remaining by 2012.	No active construction within 0.5 mile of an active raptor nest during the nesting season (February 1 to July 31 for all raptor species). Annual raptor surveys will be conducted and results submitted in the annual monitoring report submitted to WDEQ.
Waterfowl and Shorebirds Suitable habitat is minimal.	No mitigation needed
Passerine Birds Prairie species common; habitat is plentiful in the area.	No mitigation needed
Amphibians and Reptiles Amphibian habitat will not be disturbed. Habitat is present for reptile species but suitable habitat is plentiful in the area.	No mitigation needed
Fish No bodies of water will be altered due to the proposed mining.	No mitigation needed
Other Wildlife Prairie species expected; habitat is plentiful in the area.	No mitigation needed

Four raptor nests are within the permit area or within 1-mile of the boundary. No construction would occur within 0.5-mile of any active raptor nest.

No big game crucial range is present on the permit area, although there is the potential for habitat in the area to be designated as crucial in the future. Due to the loss of minimal natural vegetation, the project will minimally result in disturbance to big game forage areas. Reclamation of currently disturbed habitats will result in long-term improvements to big game available forage.

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ATTACHMENT A

Site and Habitat Photographs



Figure A-1. Mixed woodland habitat is dominant on Sheep Mountain with a mix of limber pine and juniper and an understory of sagebrush, bitterbrush and mountain mahogany.



Figure A-2. Sagebrush grassland habitat is common on the lower elevation areas around the mountain perimeter and foothills.



Figure A-3. The steep hillsides of Sheep Mountain show evidence of previous mining with remnants of old roads.



Figure A-4. Sandstone outcrops are present on the north side of Sheep Mountain.



Figure A-5. Dense woodland habitats with patches of aspen are found in small seep areas on Sheep Mountain.



Figure A-6. The Paydirt Pit was reclaimed with a small pond in the bottom of the old pit.



Figure A-7. The Congo Pit area was previously mined and reclaimed with mostly grasses.



Figure A-8. The McIntosh Pit contains water year-round but lacks emergent or bank vegetation. The site is frozen over through the winter months.

Attachment B

**Correspondence from:
Wyoming Game and Fish Department
U.S. Fish and Wildlife Service**



WYOMING GAME AND FISH DEPARTMENT

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March 17, 2010

WER 12068

Real West Natural Resource Consulting
Permitting Requirements for Reopening a
Uranium Mine on Sheep Mountain Permit # 381C
Titan Uranium USA and BRS Inc
Fremont County

Amber Travsky
Owner/Wildlife Biologist
Real West Natural Resource Consulting
1116 Albin Street
Laramie, WY 82072

Dear Ms. Travsky:

The staff of the Wyoming Game and Fish Department has reviewed the permitting requirements for reopening a uranium mine on Sheep Mountain Permit # 381C for Titan Uranium USA and BRS Inc in Fremont County. We offer the following comments for your consideration.

Terrestrial Considerations:

About 2/3 of the permit area contains winter (WIN) range for the Green Mountain Elk Herd Unit, and winter range protections should be applied (Lander BLM applies seasonal stipulations to ALL winter ranges for elk, not just crucial ranges in the current Resource Management Plan). Sheep Mountain has one of the highest concentrations of mule deer observed in Deer Hunt Area 96 during classification flights conducted annually in November or December (post-hunting season). The Department is planning a review of all big game seasonal ranges in the South Lander Wildlife Biologist District, which should occur in Spring/Summer 2010. Based on preliminary data reviews of this site, it is likely that the Department will recommend Crucial Winter-Yearlong (CRUWYL) designation for the entire project and surrounding areas. Although mule deer may leave this area during extremely harsh winters, recent winter observations indicate this project site is extremely important to deer during most winters. The project site is also traversed by migration corridors for mule deer and pronghorn. As such, the Department recommends all mining activities be prohibited from November 15 to April 30 each winter to eliminate potential disturbance to wintering elk and mule deer.

The mine area is partially located within a sage-grouse core area as identified by the Governor's Sage-Grouse Implementation Team in 2008. Sage Grouse Implementation Team stipulations

should be applied on State Land in Section 16, T28N, R92W. For BLM land in the rest of the permit area, sage-grouse core area stipulations should be applied as per BLM IM WY-2010-012 issued on January 4, 2010. Lek surveys should be expanded to include all leks within 11 miles of the project boundary as per this BLM IM. Sage-grouse use of the permit area is most likely to occur in late summer and fall. In addition, searches for new leks should be conducted each spring prior to any mining activity within 3 miles of the project site.

The Department recommends a development plan that does not exceed the current disturbed acres of the permit. Reclamation should only be considered successful when at least 70% of the area exhibits re-vegetation to conditions at least as good as found within the project area. A site inventory of existing plant species (shrubs, grasses, and forbs) should be conducted prior to mining activity and reclamation plans should incorporate a seed mixture or seedlings to accomplish vegetation recovery as rapidly as possible.

This proposed uranium mine at Sheep Mountain lies entirely within the South Lander Biologist District, but the document makes no mention of where ore from the mine would be hauled for processing. This appears to be a major omission of the document, as construction, upgrade, and use of haul roads could present major impacts to wildlife from this project. Other uranium mine proposals in the Green Mountain area have historically included plans to haul ore south to the old Union 76 Mill in the Red Desert. If that is the plan for this mine, impacts to wildlife, particularly sage-grouse, could be significant. Most, if not all of the haul roads would likely lie within occupied sage-grouse habitats within core areas. Increased fragmentation of these core areas would be a major concern.

Aquatic Considerations:

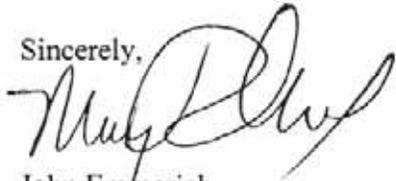
Western Nuclear Pond is located along the periphery of the project area: R92W, T28N, S32 (UTM: 266,664E; 4,693,097N; Z13; NAD27). This is a 10-acre pond managed as a basic yield fishery by annually stocking brook trout and rainbow trout. The pond is located on private land; however, the mine owner has allowed unrestricted public access since 1990. No formal access agreement has ever been made. Fishing opportunities are limited in this portion of the region and we would like to encourage the current land owners to continue allowing fishermen access. If they are interested and willing, we would be happy to discuss the creation of a formal agreement or easement to insure continued access for the future.

We have no other specific aquatic concerns relative to the proposal to reopen this uranium mine.

Ms. Amber Travsky
March 17, 2010
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Thank you for the opportunity to comment. If you have any questions or concerns, please contact Kevin Johnson, Lander Region Fisheries Supervisor, at 307-332-7723 Ext. 227 or Tom Ryder, Lander Wildlife Management Coordinator, 307-332-2372.

Sincerely,



for
John Emmerich
Deputy Director

JE: MF: gfb

cc: USFWS
Kevin Johnson, Lander Region
Tom Ryder, Lander Region



United States Department of the Interior

FISH AND WILDLIFE SERVICE

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MAR 18 2010

In Reply Refer To:
ES-61411/WY10SL0158

Ms. Amber Travsky
Owner/Wildlife Biologist
Real West Natural Resource Consulting
1116 Albin Street
Laramie, WY 82072

Dear Ms. Travsky:

Thank you for your letter of February 18, 2010, received in our office on February 19, regarding the proposed reopening of a uranium mine by Titan Uranium USA and BRS Inc. The mine is located in Sections or parts of Sections 16, 20, 21, 22, 27, 28, 29, 32, and 33, T28N, R92W in Fremont County.

You have requested information regarding species listed under the Endangered Species Act of 1973, as amended (Act), 16 U.S.C. 1531 *et seq.* In response to your request, the U.S. Fish and Wildlife Service (Service) is providing you with recommendations for protective measures for threatened and endangered species in accordance with the Act. We are also providing recommendations concerning migratory birds in accordance with the Migratory Bird Treaty Act (MBTA), 16 U.S.C. 703, and the Bald and Golden Eagle Protection Act (BGEPA), 16 U.S.C. 668. Wetlands are afforded protection under Executive Orders 11990 (wetland protection) and 11988 (floodplain management), as well as section 404 of the Clean Water Act. Other fish and wildlife resources are considered under the Fish and Wildlife Coordination Act, as amended, 16 U.S.C. 661 *et seq.*, and the Fish and Wildlife Act of 1956, as amended, 16 U.S.C. 742a-742j.

In accordance with Section 7(c) of the Act, we have determined that the following species or their designated habitat may be present in the proposed project area. We would appreciate receiving information as to the current status of each of these species within the proposed project area.

Species/Critical Habitat	Scientific Name	Status	Habitat
Blowout Penstemon	<i>Penstemon haydenii</i>	Endangered	Sand dunes or blowouts
Greater Sage-grouse	<i>Centrocercus urophasianus</i>	Candidate	Sagebrush steppe

<u>Platte River Species</u> (Interior Least Tern, Pallid Sturgeon, Piping Plover, Western Prairie Fringed Orchid, Whooping Crane)	<i>Sternula antillarum</i> <i>Scaphirhynchus albus</i> <i>Charadrius melodus</i> <i>Platanthera praeclara</i> <i>Grus americana</i>	Endangered Endangered Threatened Threatened Endangered	Downstream riverine habitat of the Platte River system
Platte River Species Critical Habitat	Designated for whooping crane in Nebraska in riverine habitat of the Platte River system (50 CFR 17.95(b))		

Please note we did not include the black-footed ferret (*Mustela nigripes*) on a list of species that may be present within or near the Project area because that area has previously been block-cleared from the need for ferret surveys. However, we encourage project proponents to protect all prairie dog complexes or towns for their value to the prairie ecosystem and the many species that rely on them. We further encourage you to analyze potentially disturbed prairie dog towns for their value to future black-footed ferret reintroduction. If prairie dog towns may be impacted by the proposed project please contact our office to discuss protective measures.

Blowout penstemon: Blowout penstemon (*Penstemon haydenii*) is a perennial herb with stems less than 12 inches tall. The inflorescence is 2-6 inches long and has 6-10 compact whorls of milky-blue to pale lavender flowers. Blowout penstemon was listed as endangered on October 1 1987. Blowout penstemon is known from multiple populations in western Nebraska (Fertig 2001). The plant's current known range in Wyoming consists of the Ferris dunes area in northwest Carbon County where the plant is restricted to two habitat types: steep, northwest facing slopes of active sand dunes with less than 5 percent vegetative cover; and on north facing sandy slopes, on the lee side of active blowouts with 25-40 percent vegetative cover. Known populations in Wyoming are found between 6680-7440 feet (Fertig 2001). However, recent surveys have indicated that systematic surveys may be warranted in some lower elevations (below 6700 feet) in Wyoming where active sand blowout features occur (BLM 2005, Fertig 2001).

Blowouts are formed as strong winds deposit sands from the windward side of a dune to the leeward side and result in a sparsely vegetated crater-like depression. Associated vegetation includes blowout grass, thickspike wheatgrass, lemon scurfpea, Indian ricegrass and western wheatgrass. Threats to the plant occur when sand dunes are removed or overly disturbed by vehicular traffic. Surveys should be conducted from mid-June to early-July when flowering occurs by knowledgeable botanists trained in conducting rare plant surveys. The Service does not maintain a list of "qualified" surveyors but can refer those wishing to become familiar with the blowout penstemon to experts who can provide training/services.

Greater sage-grouse: The greater sage-grouse (*Centrocercus urophasianus*) is a candidate for listing as threatened under the Endangered Species Act. Greater sage-grouse are dependent on sagebrush habitats year-round. Habitat loss and degradation, as well as loss of population connectivity have been identified as important factors contributing to the decline of greater sage-

grouse populations rangewide (Braun 1998, Wisdom *et al.* 2002). Presently greater sage-grouse occur in 11 western states. Wyoming contains some of the largest populations of greater sage-grouse across the species range, making Wyoming particularly important to greater sage-grouse conservation.

The State of Wyoming has adopted a "Core Population Area Strategy" Executive Order 2008-2 to ensure greater sage-grouse conservation. The recommendations of the State Sage-grouse Implementation Team and State of Wyoming's Greater sage-grouse "Core Population Area Strategy" Executive Order 2008-2 clearly state that development of any type in the most important sage-grouse habitats (core areas and associated seasonal habitats) is done only when no decline of the species can be demonstrated. Executive Order 2008-2 further states the burden of proof for showing development does not affect sage-grouse rests with the industry or proponent in question, and any research they feel is necessary to convey this, should be conducted outside of core areas.

The proposed project is located in an area designated by the State of Wyoming as a core sage-grouse population area. We recommend you pursue additional consultation with the state of Wyoming on its recent core area strategy as it relates to this project.

Platte River Species: If the proposed action may lead to consumptive use of water or have the potential to affect water quality in the Platte River System, there may be impacts to threatened and endangered species inhabiting the downstream reaches of this river system. For more information on how to seek ESA coverage for water-related activities through the Platte River Recovery Implementation Program, please visit our web site at: <http://www.fws.gov/platteriver>

Migratory Birds

The MBTA, enacted in 1918, prohibits the taking of any migratory birds, their parts, nests, or eggs except as permitted by regulations, and does not require intent to be proven. Section 703 of the MBTA states, "Unless and except as permitted by regulations ... it shall be unlawful at any time, by any means or in any manner, to ... take, capture, kill, attempt to take, capture, or kill, or possess ... any migratory bird, any part, nest, or eggs of any such bird..." The BGEPA prohibits knowingly taking, or taking with wanton disregard for the consequences of an activity, any bald or golden eagles or their body parts, nests, or eggs, which includes collection, molestation, disturbance, or killing.

Work that could lead to the take of a migratory bird or eagle, their young, eggs, or nests (for example, if you are going to erect new roads, or power lines in the vicinity of a nest), should be coordinated with our office before any actions are taken. Enclosed please find our general recommendations for the protection of bald eagles and other raptor species. We strongly encourage project proponents to fully implement the protective measures described in the enclosure in order to help ensure compliance with the MBTA and the BGEPA. We are also available to assist you in developing a project specific plan to address the MBTA and BGEPA concerns.

Removal or destruction of such nests, or causing abandonment of a nest, could constitute violation of one or both of the above statutes. Removal of any active migratory bird nest or nest tree is prohibited. For golden eagles, inactive nest permits are limited to activities involving resource extraction or human health and safety. Mitigation, as determined by the local Service field office, may be required for loss of these nests. No permits will be issued for an active nest of any migratory bird species, unless removal of an active nest is necessary for reasons of human health and safety. Therefore, if nesting migratory birds are present on, or near the project area, timing is a significant consideration and needs to be addressed in project planning.

If nest manipulation is proposed for this project, the project proponent should contact the Service's Migratory Bird Office in Denver at 303-236-8171 to see if a permit can be issued for this project. No nest manipulation is allowed without a permit. If a permit cannot be issued, the project may need to be modified to ensure take of a migratory bird or eagle, their young, eggs or nest will not occur.

Species of Concern

Mountain plover: The Service has agreed to reopen the comment period in 2010 on the proposed rule to list the mountain plover as a threatened species (67 FR 72396, December 5, 2002) and to complete a new final determination on the proposal by May 1, 2011. Once the comment period is reopened and pending the completion of the new final determination, the mountain plover will be proposed for listing. Section 7(a)(4) of the Act, requires Federal agencies to confer with us on any action that is likely to jeopardize the continued existence of any species proposed for listing. Federal action agencies may also request a conference on any proposed action that may affect a species proposed for listing.

We encourage project planners to develop and implement protective measures should mountain plovers occur within project areas. Measures to protect the mountain plover from further decline may include: (1) avoidance of suitable habitat during the plover nesting season (April 10 through July 10), (2) prohibition of ground disturbing activities in prairie dog towns, and (3) prohibition of any permanent above ground structures that may provide perches for avian predators or deter plovers from using preferred habitat. Suitable habitat for nesting mountain plovers includes grasslands, mixed grassland areas and short-grass prairie, shrub-steppe, plains, alkali flats, agricultural lands, cultivated lands, sod farms, and prairie dog towns. We encourage you to develop protective measures with an assurance of implementation should mountain plovers be found within the project areas.

Pit Lake Water Quality

Uranium pit lakes with elevated selenium can pose a risk to migratory birds as waterborne selenium concentrations ≥ 2 ug/L are considered hazardous to the health and long-term survival of fish and wildlife (Lemly 1996). Additionally, water with more than 20 ug/L is considered hazardous to aquatic birds (Skorupa and Ohlendorf 1991). Chronic effects of selenium manifest themselves in immune suppression to birds (Fairbrother et al. 1994) which can make affected

birds more susceptible to disease and predation. Selenium toxicity will also cause embryonic deformities and mortality (Skorupa and Ohlendorf 1991, See et al. 1992, Ohlendorf 2002)

Wildlife use and the risk presented by inorganic contaminants in the pit lake is unknown. Water contained in pit lakes may be nutrient-poor or may contain elevated concentrations of contaminants which may restrict productivity. Pit lakes are typically deep with steep sides, thereby limiting riparian and shallow lentic habitat. However, benches and ramps in the mine pit, along with erosion of pit walls, may provide limited areas where shallow lentic or riparian communities can become established. Wildlife using pit lakes may be exposed to hazardous levels of environmental contaminants in pit lakes. In an extreme case (Berkeley Pit near Butte, Montana), a large-scale avian die-off has been attributed to poor quality pit lake water. In this incident, the death of 342 snow geese was attributed to acute metal toxicosis and sulfuric acid exposure resulting from exposure to, and consumption of poor quality pit water. Birds landing in acidic ponds ($\text{pH} < 2$) can ingest this water which causes severe trauma to their gastrointestinal tracts and eventual death. The acidic water also removes natural oils from the birds' feathers causing them to die by drowning or hypothermia.

Under less extreme conditions, exposure to inorganic contaminants may occur through exposure to water and consumption of contaminated foods from the pit lake. In the latter, bioaccumulation and biomagnification become important factors affecting contaminant uptake. If submerged aquatic vegetation and/or aquatic invertebrates are present in pit lakes with high waterborne selenium concentrations, extremely high dietary levels of this contaminant can be available to aquatic migratory birds. Ramirez and Rogers (2000) documented selenium concentrations ranging from 434 to 508 $\mu\text{g/g}$ in pondweed (*Potamogeton vaginatus*) collected from a uranium mine wastewater storage reservoir that had waterborne selenium concentrations ranging from 260 to 350 $\mu\text{g/L}$.

Recommendations:

The Service requests the following information in order to better evaluate the risks to migratory birds from contaminants in the pit lake:

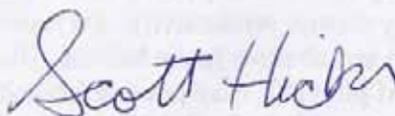
- aquatic migratory bird use of the pit lake;
- presence or absence of aquatic vegetation and/or aquatic invertebrates in the pit lake;
- pH of the pit lake water;
- water quality (metals, salts) of the pit lake water;
- ongoing or planned remediation of the pit lake; and
- if applicable, ongoing or planned measures to prevent migratory bird mortality/exposure to pit lake water.

For our internal tracking purposes, the Service would appreciate notification of any decision made on this project (such as issuance of a permit or signing of a Record of Decision or Decision Memo). Notification can be sent in writing to the letterhead address or by electronic mail to FW6_Federal_Activities_Cheyenne@fws.gov.

We appreciate your efforts to ensure the conservation of Wyoming's fish and wildlife resources. If you have questions regarding this letter or your responsibilities under the Act and/or other

authorities or resources described above, please contact Pete Ramirez of my office at the letterhead address or phone (307) 772-2374, extension 236.

Sincerely,



for Brian T. Kelly
Field Supervisor
Wyoming Field Office

Enclosure

cc: WGFD, Non-game Coordinator, Lander, WY (B. Oakleaf)
WGFD, Statewide Habitat Protection Coordinator, Cheyenne, WY (M. Flanderka)

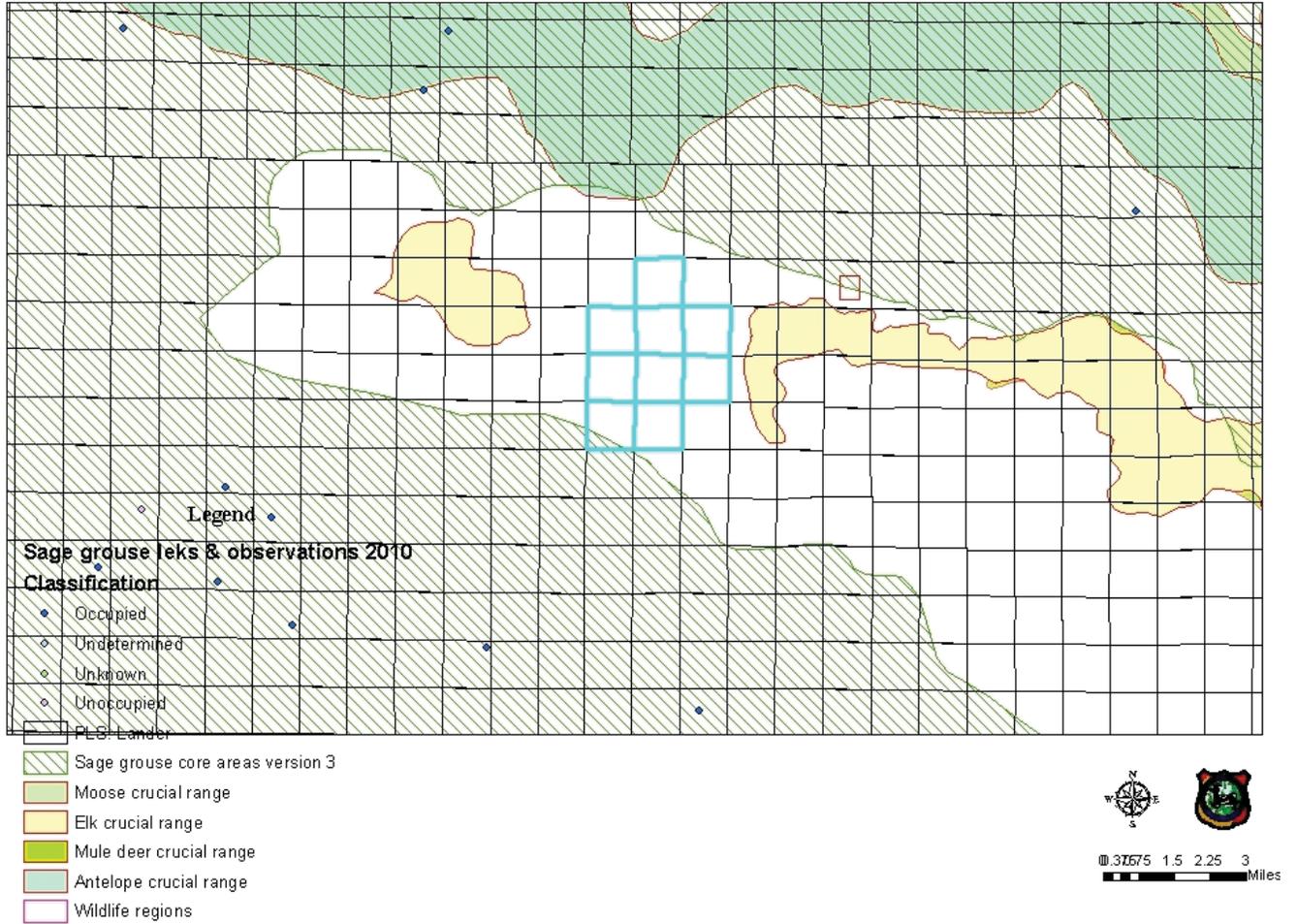
ATTACHMENT C

Maps of the Permit Area



Figure C-1. Sage-grouse core areas, shown in green, are located to the north and south of the permit area, whose general location is in red. The permit area is outside any sage-grouse core area.

Figure C-2. Big game crucial ranges, sage-grouse core area, and sage-grouse lek locations in the vicinity of the permit area (sections indicted in blue). Map was provided by the Wyoming Game and Fish Department on November 24, 2010.



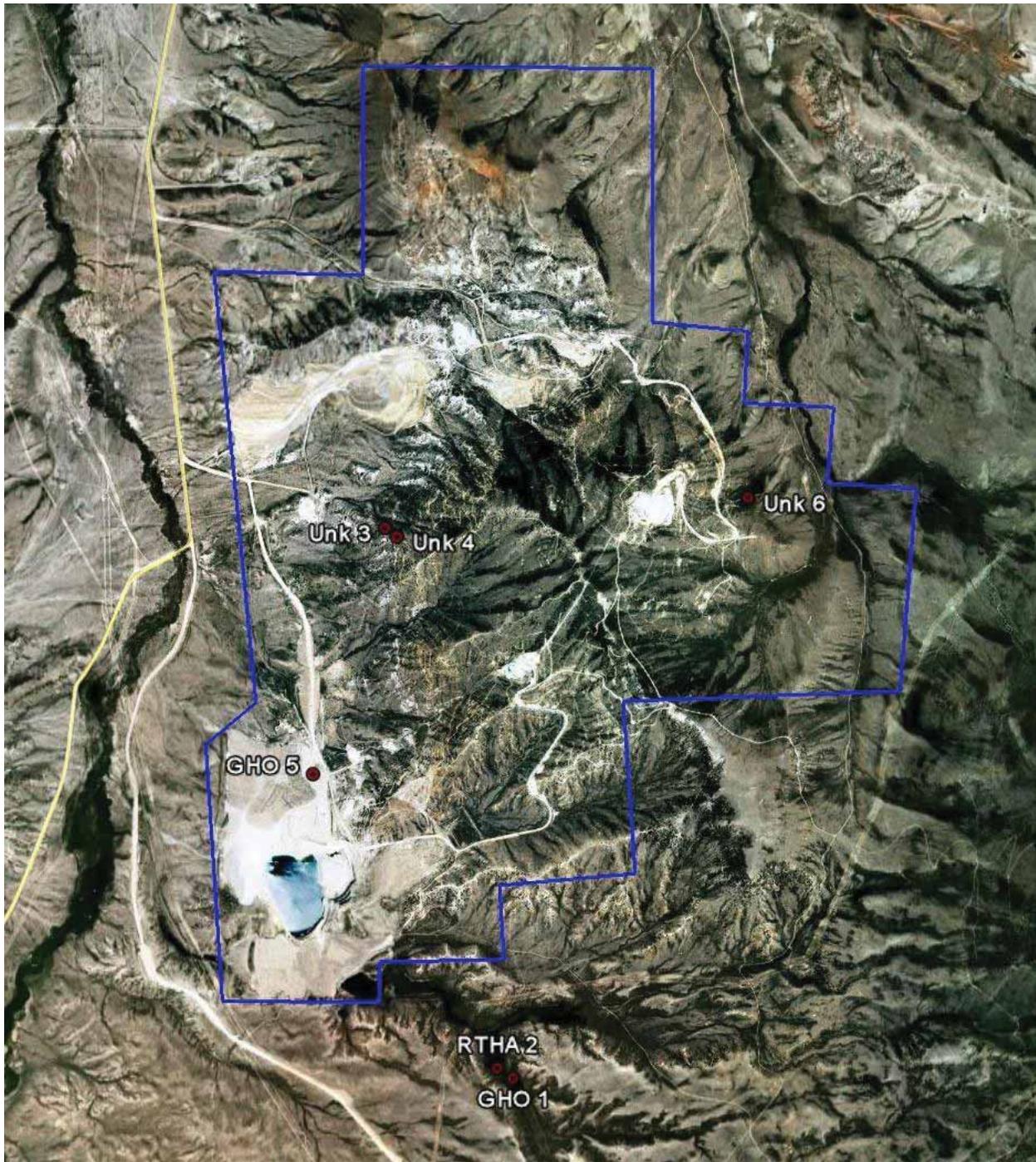


Figure C-3. Raptor nest locations identified by Real West Natural Resource Consulting during surveys in 2010, 2011 and 2012 on the Sheep Mountain project area and in the vicinity.

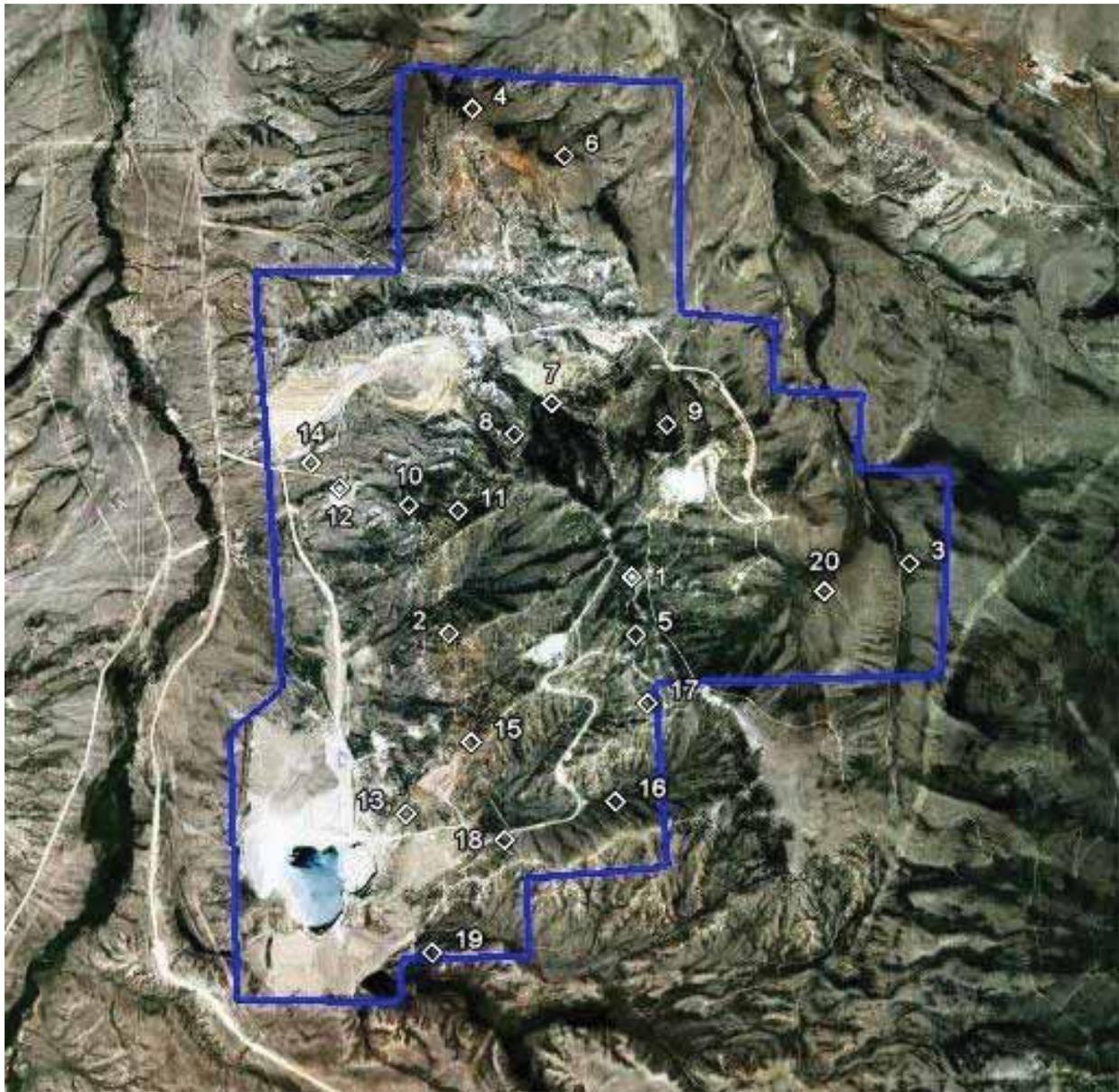


Figure C-4. Passerine Bird Transect Locations.

Table C-5. Passerine Bird Point Count Locations.

Point Number	Location (NAD 83, Zone 13)		Habitat
	Easting	Northing	
1	268106	4695511	sage-conifer
2	267042	4695247	sage-conifer
3	269730	4695568	woodland
4	267249	4698402	mixed
5	268124	4695475	mixed
6	267792	4698123	mixed
7	267673	4696594	mixed
8	267450	4696404	rock outcrop
9	268345	4696420	dense wood
10	266810	4696021	mixed
11	267113	4695953	mixed
12	266388	4696158	sage grass
13	266773	4694227	grass/cushion
14	266214	469319	sage
15	267156	4694619	mixed
16	267972	4694257	sage
17	268170	4694799	wooded
18	267332	4694062	sage
19	266899	4693441	mixed
20	269221	4695416	mixed

ATTACHMENT D

Wildlife Observed or Expected on the Sheep Mountain Permit Area

Table D-1. Wildlife species observed or expected on the Sheep Mountain Project Area.

Common Name	Scientific Name	Observed by Real West in 2010, 2011 or 2012	Reported in the Original Permit ¹	Reported in the Area on the WYNDD ²
Mammals				
Masked shrew	<i>Sorex cinereus cinereus</i>		X	
Vagrant shrew	<i>Sorex vagrans</i>		X	
Merriam's shrew	<i>Sorex merriami leucogenys</i>		X	
Dwarf shrew	<i>Sorex nanus</i>		X	
Water shrew	<i>Sorex palustris navigator</i>		X	
Little brown myotis	<i>Myotis lucifugus carrissima</i>		X	
Small-footed myotis	<i>Myotis subulatus subulatus</i>		X	
Long-legged myotis	<i>Myotis volans interior</i>		X	
Long-eared myotis	<i>Myotis evotis evotis</i>		X	
Silver-haired bat	<i>Lasionycteris noctivagans</i>		X	
Hoary bat	<i>Lasiurus cinereus cinereus</i>		X	
Spotted bat	<i>Plecotus inaculatum pallescens</i>		X	
Big brown bat	<i>Eptesicus fuscus pallidus</i>		X	
Eastern cottontail	<i>Sylvilagus floridanus similis</i>		X	
Desert cottontail	<i>Sylvilagus audubonii baileyi</i>	X	X	
Snowshoe rabbit	<i>Lepus americanus</i>	X	X	
White-tailed jackrabbit	<i>Lepus townsendii</i>	X	X	
Pygmy rabbit	<i>Brachylagus idahoensis</i>			X
Least chipmunk	<i>Eutamias minimus</i>	X	X	
Yellow-bellied marmot	<i>Marmota flaviventris</i>		X	
Richardson's ground squirrel	<i>Spermophilus richardsonii elegans</i>	X	X	X
Thirteen-lined ground squirrel	<i>Spermophilus tridecemlineatus</i>		X	
Golden-mantled ground squirrel	<i>Spermophilus lateralis</i>		X	
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>		X	
White-tailed prairie dog	<i>Cynomys leucurus</i>		X	
Red squirrel	<i>Tamiasciurus hudsonicus</i>		X	
Wyoming pocket gopher	<i>Thomomys clusius</i>			X
Northern pocket gopher	<i>Thomomys talpoides</i>		X	

Common Name	Scientific Name	Observed by Real West in 2010, 2011 or 2012	Reported in the Original Permit ¹	Reported in the Area on the WYNDD ²
Olive-backed pocket mouse	<i>Perognathus fasciatus</i>		X	
Ord's kangaroo rat	<i>Dipodomys ordii</i>		X	
Beaver	<i>Castor canadensis</i>		X	
Western harvest mouse	<i>Reithrodontomys megalotis</i>		X	
Deer mouse	<i>Peromyscus maniculatus</i>		X	
Northern grasshopper mouse	<i>Onychomys leucogaster</i>		X	
Bushy-tailed wood rat	<i>Neotoma cinerea</i>		X	
Gapper's red-backed vole	<i>Clethrionomys gapperi</i>		X	
Heather vole	<i>Phenacomys intermedius</i>		X	
Montane vole	<i>Microtus montanus</i>		X	
Long-tailed vole	<i>Microtus longicaudus</i>		X	
Prairie vole	<i>Microtus ochrogaster</i>		X	
Sagebrush vole	<i>Lagurus curtatus</i>		X	
Muskrat	<i>Ondatra zibethicus</i>		X	
Western jumping mouse	<i>Zapus princeps princeps</i>		X	
Porcupine	<i>Erthizon dorsatum</i>		X	
Coyote	<i>Canis latrans</i>	X	X	
Red fox	<i>Vulpes vulpes</i>		X	
Swift fox	<i>Vulpes velox</i>		X	
Black bear	<i>Ursus americanus</i>		X	
Ermine	<i>Mustela erminea</i>		X	
Long-tailed weasel	<i>Mustela frenata</i>		X	
Mink	<i>Mustela vison</i>		X	
Badger	<i>Taxidea taxus</i>		X	
Spotted skunk	<i>Spilogale putorius</i>		X	
Striped skunk	<i>Mephitis mephitis</i>		X	
Mountain lion	<i>Felis concolor</i>		X	
Lynx	<i>Lynx Canadensis</i>		X	
Bobcat	<i>Lynx rufus</i>		X	
Elk	<i>Cervus Canadensis</i>	X	X	
Mule deer	<i>Odocoileus hemionus</i>	X	X	
White-tailed deer	<i>Odocoileus virginianus</i>		X	
Moose	<i>Alces alces</i>	Sign	X	
Pronghorn antelope	<i>Antilocapra americana</i>	X	X	
Bison	<i>Bison bison</i>		X	
Bighorn sheep	<i>Ovis canadensis</i>		X	
Birds				
Common loon	<i>Gavia immer</i>		X	
Western grebe	<i>Aechmophorus occidentalis</i>		X	

Common Name	Scientific Name	Observed by Real West in 2010, 2011 or 2012	Reported in the Original Permit ¹	Reported in the Area on the WYNDD ²
Horned grebe	<i>Podiceps auritus</i>		X	
Eared grebe	<i>Podiceps nigricollis</i>		X	
Pied-billed grebe	<i>Podilymbus podiceps</i>		X	
American white pelican	<i>Pelecanus erythrorhynchos</i>		X	X
American bittern	<i>Botaurus lentiginosus</i>		X	
Great blue heron	<i>Ardea Herodias</i>		X	
Black-crowned night heron	<i>Nycticorax nycticorax</i>		X	
Snowy egret	<i>Egretta thula</i>		X	
White-faced ibis	<i>Plegadis chihi</i>		X	
Common merganser	<i>Mergus merganser</i>	X	X	
Hooded merganser	<i>Lophodytes cucullatus</i>		X	
Lesser snow goose	<i>Chen caerulescens</i>		X	
Canada goose	<i>Branta Canadensis</i>	X	X	
Whistling swan	<i>Olor columbianus</i>		X	
Trumpeter swan	<i>Olor buccinator</i>		X	
Green-winged teal	<i>Anas crecca</i>	X	X	
Blue-winged teal	<i>Anas discors</i>		X	
Cinnamon teal	<i>Anas cyanoptera</i>		X	
Pintail	<i>Anas acuta</i>		X	
Mallard	<i>Anas platyrhynchos</i>	X	X	
Gadwall	<i>Anas strepereta</i>		X	
American widgeon	<i>Anas Americana</i>		X	
Shoveler	<i>Anas clypeata</i>		X	
Greater scaup	<i>Aythya marila</i>		X	
Lesser scaup	<i>Aythya affinis</i>		X	
Ringnecked duck	<i>Aythya collaris</i>		X	
Canvasback	<i>Aythya valisneria</i>		X	
Redhead	<i>Aythya Americana</i>		X	
Bufflehead	<i>Bucephala albeola</i>		X	
Barrow's goldeneye	<i>Bucephala islandica</i>		X	
American goldeneye	<i>Bucephala clangula</i>		X	
Ruddy duck	<i>Oxyura jamaicensis</i>		X	
Turkey vulture	<i>Cathartes aura</i>		X	
Sharp-shinned hawk	<i>Accipter striatus</i>		X	
Cooper's hawk	<i>Accipter cooperii</i>		X	
Goshawk	<i>Accipter gentilis</i>		X	
Red-tailed hawk	<i>Buteo jamaicensis</i>	X	X	
Swainson's hawk	<i>Buteo swainsoni</i>		X	
Rough-legged hawk	<i>Buteo lagopus</i>		X	
Ferruginous hawk	<i>Buteo regalis</i>		X	X
Golden eagle	<i>Aquila chrysaetos</i>		X	X
Bald eagle	<i>Haliaeetus leucocephalus</i>		X	

APPENDIX D9 – 2012 ADDENDUM

Common Name	Scientific Name	Observed by Real West in 2010, 2011 or 2012	Reported in the Original Permit ¹	Reported in the Area on the WYNDD ²
Peregrine falcon	<i>Falco peregrinus</i>		X	
Prairie falcon	<i>Falco mexicanus</i>		X	
Kestrel	<i>Falco sparverius</i>	X	X	
Northern harrier	<i>Circus cyaneus</i>		X	
Greater sage grouse	<i>Centrocercus urophasianus</i>		X	X
Ruffed grouse	<i>Bonasa umbellus</i>	X		
Sharp-tailed grouse	<i>Pedioecetes phasianellus</i>		X	
Sandhill crane	<i>Grus canadensis</i>	Vocalization	X	X
Sora	<i>Porzana carolina</i>		X	
American coot	<i>Fulica americana</i>		X	
Mountain plover	<i>Charadrius montanus</i>		X	X
Killdeer	<i>Charadrius vociferus</i>	X	X	
Black-bellied plover	<i>Pluvialis squatarola</i>		X	
Wilson's snipe	<i>Capella gallinago</i>		X	
Stilt sandpiper	<i>Micropalama himaatopus</i>		X	
Baird's sandpiper	<i>Clidris bairdii</i>		X	
Least sandpiper	<i>Calidris minutilla</i>		X	
Semi-palmated sandpiper	<i>Calidris pusillus</i>		X	
Sanderling	<i>Calidris alba</i>		X	
Greater yellowlegs	<i>Tringa melanoleuca</i>		X	
Lesser yellowlegs	<i>Tringa flavipes</i>		X	
Western solitary sandpiper	<i>Tringa solitaria</i>		X	
Western willet	<i>Catoptrophorus semipalmatus</i>		X	
Long-billed curlew	<i>Numenius americanus</i>		X	
American avocet	<i>Recurvirostra americana</i>		X	
Wilson's phalarope	<i>Steganopus tricolor</i>		X	
Northern phalarope	<i>Lobipes lobatus</i>		X	
Herring gull	<i>Larus argentatus</i>		X	
California gull	<i>Larus californicus</i>		X	
Ring-billed gull	<i>Larus delawarensis</i>		X	
Franklin's gull	<i>Larus pipixcan</i>		X	
Bonaparte's gull	<i>Larus philadelphia</i>		X	
Black tern	<i>Chlidonias niger</i>		X	
Common tern	<i>Sterna hirundo</i>		X	
Mourning dove	<i>Zenaida macroura</i>	X	X	
Long-eared owl	<i>Asio otus</i>		X	
Short-eared owl	<i>Asio flammeus</i>		X	X
Great horned owl	<i>Bubo virginianus</i>	X	X	
Burrowing owl	<i>Speotyto cunicularia</i>		X	
Poor-will	<i>Phalaenoptilus nuttallii</i>		X	
Common nighthawk	<i>Chordeiles minor</i>	X	X	

APPENDIX D9 – 2012 ADDENDUM

Common Name	Scientific Name	Observed by Real West in 2010, 2011 or 2012	Reported in the Original Permit ¹	Reported in the Area on the WYNDD ²
White-throated swift	<i>Aeronautes saxatalis</i>		X	
Broad-tailed hummingbird	<i>Selasphorus platycoreus</i>		X	
Rufous hummingbird	<i>Selasphorus rufus</i>		X	
Belted kingfisher	<i>Megaceryle alcyon</i>		X	
Common flicker	<i>Colaptes auratus</i>	X	X	
Cassin's kingbird	<i>Tyrannus vociferans</i>		X	
Western kingbird	<i>Tyrannus verticalis</i>		X	
Say's phoebe	<i>Sayornis saya</i>		X	
Western wood pewee	<i>Contopus sordidulus</i>	X	X	
Horned lark	<i>Eremophila alpestris</i>	X	X	
Tree swallow	<i>Tridoproene bicolor</i>		X	
Violet green swallow	<i>Tachycineta thalassina</i>	X	X	
Cliff swallow	<i>Petrochelidon pyrrhonata</i>	X	X	
Barn swallow	<i>Hirundo rustica</i>	X	X	
Rough-winged swallow	<i>Stelgidopteryx ruficollis</i>		X	
Gray jay	<i>Perisoreus canadensis</i>	X	X	
Black-billed magpie	<i>Pica hudsonia</i>	X	X	
Common crow	<i>Corvus brachyrhynchos</i>	X	X	
Pinon jay	<i>Gymnorhinus cyanocephalus</i>		X	
Clark's nutcracker	<i>Nucifraga columbiana</i>		X	
Mountain chickadee	<i>Parus gambeli</i>	X	X	
Plain titmouse	<i>Parus isornatus</i>		X	
Rock wren	<i>Salpinctes obsoletus</i>		X	
Canyon wren	<i>Catherpea mexicanus</i>		X	
House wren	<i>Troglodytes aedon</i>	X	X	
Catbird	<i>Dumetella carolinensis</i>		X	
Sage thrasher	<i>Oreoscoptes montanus</i>		X	X
Brown thrasher	<i>Taxostoma rufum</i>		X	
American robin	<i>Turdus migratorius</i>	X	X	
Townsend's solitaire	<i>Myadestes townsendi</i>		X	
Swainson's thrush	<i>Catharus ustulata</i>		X	
Veery	<i>Catharus fuscescens</i>		X	
Mountain bluebird	<i>Sialia currucoides</i>	X	X	
Golden-crowned kinglet	<i>Regulus satrapa</i>		X	
Ruby-crowned kinglet	<i>Regulus calendula</i>		X	
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>		X	
Water pipit	<i>Anthus spinoletta</i>		X	
Bohemian waxwing	<i>Bombycilla garrulus</i>	X	X	
Northern shrike	<i>Lanius excubitor</i>		X	
Loggerhead shrike	<i>Lanius ludovicianus</i>		X	X
Red-eyed vireo	<i>Vireo olivaceus</i>		X	
Warbling vireo	<i>Vireo gilvus</i>		X	

APPENDIX D9 – 2012 ADDENDUM

Common Name	Scientific Name	Observed by Real West in 2010, 2011 or 2012	Reported in the Original Permit ¹	Reported in the Area on the WYNDD ²
Solitary vireo	<i>Vireo solitarius</i>		X	
Black-and-white warbler	<i>Maiotilta varia</i>		X	
Orange-crowned warbler	<i>Vermivora celata</i>		X	
Yellow warbler	<i>Dendroica petechia</i>	X	X	
Audubon's warbler	<i>Dendroica coronata</i>	X	X	
Black-throated gray warbler	<i>Dendroica nigrescens</i>		X	
Townsend's warbler	<i>Dendroica townsendi</i>		X	
Northern waterthrush	<i>Seiurus noveboracensis</i>		X	
MacGillivray's warbler	<i>Oporornis tolmiei</i>		X	
Yellowthroat	<i>Geothlypis trichas</i>		X	
Yellow-breasted chat	<i>Icteria virens</i>		X	
Wilson's warbler	<i>Wilsonia pusilla</i>		X	
House sparrow	<i>Passer domesticus</i>		X	
Boblink	<i>Dolichonyx oryziborus</i>		X	
Western meadowlark	<i>Sturnella neglecta</i>	X	X	
Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>		X	
Red-winged blackbird	<i>Aegialius phoeniceus</i>	X	X	
Brown-headed cowbird	<i>Molothrus ater</i>		X	
Bullock's oriole	<i>Icterus galbula</i>		X	
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	X	X	
Black-headed grosbeak	<i>Pheucticus melanocephalus</i>		X	
Lazuli bunting	<i>Passerina amoena</i>		X	
Lark bunting	<i>Calamospiza melanocorys</i>		X	
Green-tailed towhee	<i>Chlorura chlorura</i>		X	
Evening grosbeak	<i>Hesperiphona vespertina</i>		X	
Cassin's purple finch	<i>Cerpodacus cassinii</i>		X	
House finch	<i>Carpodacus mexicanus</i>		X	
Rufous-sided towhee	<i>Pipilo erythrophthalmus</i>		X	
Gray-crowned rosy finch	<i>Leucosticte tephrocotis</i>		X	
Common redpoll	<i>Acanthis flammea</i>		X	
Western goldfinch	<i>Spinus psaltria</i>		X	
Snow bunting	<i>Plectrophenax nivalis</i>		X	
Lapland longspur	<i>Calcarius lapponicus</i>		X	
Western vesper sparrow	<i>Pooecetes gramineus</i>	X	X	
Savannah sparrow	<i>Passerculus sandwichensis</i>	X	X	
Western grasshopper sparrow	<i>Ammodramus savannarum</i>		X	
Lark sparrow	<i>Chondestes grammacus</i>		X	
White-crowned sparrow	<i>Zonotrichia leucophrys</i>		X	
Clay-colored sparrow	<i>Spizella pallida</i>		X	

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Chipping sparrow	<i>Spizella passerina</i>	X		
Brewer's sparrow	<i>Spizella breweri</i>	X	X	X
Song sparrow	<i>Melospiza melodia</i>		X	
Dark-eyed junco	<i>Junco hyemalis</i>		X	
Oregon junco	<i>Junco hyemalis oregonus</i>	X	X	
Sage sparrow	<i>Amphispiza belli</i>		X	X
Grasshopper sparrow	<i>Ammodramus savannarum</i>			X
Lincoln's sparrow	<i>Melospiza lincolnii</i>		X	
Gray-headed junco	<i>Junco caniceps</i>		X	

¹Reported as potentially being on the site in the original mine permit.

²Wyoming Natural Diversity Database. 2010. Data compilation for A. Travsky, completed October 12, 2010. Unpublished report. Wyoming Natural Diversity Database, University of Wyoming, Laramie, Wyoming.