

**ATTACHMENT D9-2**

**Work Plan for Wildlife 2007**

This report was written on behalf of Ur Energy, USA. NFU and LC ISR, LLC are both 100% owned by UR-Energy, USA.

Wildlife surveys were conducted on the Lost Creek Permit Area and in a study area of up to two miles beyond the permit boundary.

**Attachment D9-2**

**Biological Studies Work Plan  
Lost Creek ISR Uranium Project  
Ur-Energy USA Inc.**

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**Biological Studies Work Plan  
Lost Creek ISR Uranium Project  
Ur-Energy USA Inc.**

**1.0 Introduction**

AATA International, Inc. (AATA) is pleased to submit this work plan for Biological Field studies to support permitting efforts for the proposed Ur-Energy USA Inc, Lost Creek property in Fremont and Sweetwater Counties, Wyoming. The project is located on lands administered by the Bureau of Land Management (BLM) Rawlins Field Office. Because the site is located on lands administered by the BLM and will require other federal permits the project will have to be considered under the National Environmental Policy Act (NEPA). The Wyoming Department of Environmental Quality (WDEQ) is responsible for state permitting and review of the project.

The following scope of work summarizes field surveys and data gathering that will be required to support WYDEQ and BLM permitting for the project. Informal agency scoping meetings with the BLM, WYDEQ and Wyoming Game and Fish Department (WGFD) were completed to help define the work scope outlined in this plan (Blomquist 2006, Etzelmiller 2006, Hyatt 2006 ).

**2.0 Biological Studies Work Plan**

**2.1 Data Collection and Mapping**

To expedite field work formal data request will be made to the BLM, WYGF, and Wyoming Natural Heritage Program for the project. Data requests will include GIS mapping of habitat areas for big game, sage grouse, raptors, prairie dog colonies and other habitat features. These data requests will supplement existing data already gathered for the project. The data that is received (sage grouse lek locations, raptor nest locations, and other data) will help focus the spring/summer field work. AATA will develop project GIS maps that show appropriate data. These maps will be used to focus the biological studies for the project.

**2.2 Sage Grouse Surveys**

**2.2.1 Lek Surveys (from BLM 2005)**

**Lek Survey:** A monitoring technique to identify new sage grouse leks and to determine whether known leks are active.

**Lek Survey Methodology:**

1. Searches should be conducted from early April to early May (April 1 – May 7). (Survey season corresponds to peak male attendance as established by the WGFD for documenting population trends.)

2. Surveys for new leks should be conducted three (3) times (with subsequent surveys 7-10 days apart).
3. Surveys for new leks should be conducted throughout suitable habitat. New leks can be located by the discovery of concentrated tracks/droppings/feathers at all times of the day when conducting other field activities. Return visits to such sites during the morning strutting hours must be made to confirm the location as a lek.
4. Surveys to confirm the activity of a lek may require only one visit if grouse are identified on the lek.
  - **NOTE** To designate a known lek as inactive requires either an absence of birds on the lek during multiple ground visits under ideal conditions throughout the strutting season or a ground check of the exact lek site late in the strutting season that fails to find any sign (droppings/feathers) of strutting activity.
5. Surveys can be conducted from the ground or from an aircraft.
  - Lek surveys can be conducted from the **ground** by driving along roads in suspected or known breeding habitat and stopping every ½ mile to listen for sounds of breeding grouse. Ground searches can be conducted from an hour before to an hour after sunrise. In less accessible areas, searches can be made from a mountain bike, trail motorcycle, 4-wheel all terrain vehicle, horseback, or on foot. On a calm morning, breeding sage grouse may be heard at a distance of 1.5 km ( about 1 mi). All openings or areas of less dense sagebrush should be searched for breeding birds with binoculars or a spotting scope.
  - Helicopters or fixed-wing airplanes can be used for **aerial** surveys. Suspected breeding habitat should be flown on north - south transects with lines about one km (.6 mi) apart. Aerial searches are biased toward finding larger leks; small leks (<15 birds) are more difficult to detect. Calm, clear mornings are a prerequisite to aerial searches. Winds over 15 mph and more than scattered cloud cover should be sufficient to cancel search flights. Cocks can be observed from the air at distances greater than one km (0.6 mi) in early morning sun, but cloud cover greatly reduces observability. Under conditions of marginal light, transect width should be narrowed. High winds not only make traveling a straight transect difficult, but also affect strutting behavior. Fewer cocks will strut continuously, and flushing distance appears to be greater under windy conditions.

Transects should be flown at about 100-150 meters (300-450 ft) above ground level. Whenever possible, two observers should be used in addition to the pilot so that one observer is always looking away from the sun regardless of the direction the aircraft is flying. Surveys should begin at the east edge of the survey area and work west to minimize the possibility of the plane flying over leks prior to them being observed. Special attention should be paid to old lakebeds, stock-watering areas, and other relatively open sites largely surrounded by sagebrush with 15 to

25% canopy cover. Lek searches from an aircraft should be conducted from ½ hour before to one hour after sunrise.

6. If a new lek is identified, the location should be accurately determined and recorded in UTM's using NAD83 datum. It is advisable to record/map the perimeters of new leks. Surveyor(s) should **not** disturb grouse to GPS lek locations. If a lek is active, the surveyor(s) should make the best estimate of the lek location and return later to confirm.

### **2.2.2 Lek Trend Surveys (from BLM 2005)**

**Lek Count:** A census technique that documents the actual number of male sage grouse observed on a particular lek.

- Lek count data are primarily used to develop indices to relative population levels and provide short and long term trend information for both populations and changes in occupied range.

#### **Lek Count Methodology:**

1. Counts should be conducted during the month following the peak of mating activity, which is usually in early April in Wyoming (April 1 – May 7). Research has shown that the highest numbers of male sage grouse are observed during this period. The increased number of males is due to young males showing up later in the strutting season even though most of the breeding has already occurred.
2. Counts should be conducted from the ground. Counts from fixed-winged aircraft are not accurate enough to be used for monitoring population trends.
3. Counts should be made as close to sunrise as possible and may extend for one-half hour after sunrise. The phase of the moon may affect use patterns of leks. During a full moon, grouse may display at night and consequently terminate activities earlier in the morning.
4. Counts should be conducted a minimum of three (3) times each year between April 1 – May 7 for each lek (at least one count every 7-10 days.)
5. Optimum weather conditions for counts are clear, calm days. Wind speeds should be less than 20 mph due to the fact that high winds reduce lek activity. Temperature seems to have little effect on lek activity. Weather conditions should be recorded each time lek observations are made.
6. The location of each lek should be accurately determined and recorded in UTM's using NAD83 datum. Observer(s) should not disturb grouse to obtain lek locations. If a lek is active, the observer(s) should make the best estimate of the lek location and return later to confirm.
7. Data should be recorded on the standardized statewide reporting form with the following information:

LOCATION \_\_\_\_\_ GPS \_\_\_\_\_ UTM \_\_\_\_\_  
Date Time Observer Males Females Unk QQ Sec Twn Rng northing easting Grouse Sign Comments

**Annual status - Each year a lek will be determined to be in one of the following status categories:**

**Active.** Any lek that has been attended by male sage grouse during the strutting season. Presence can be documented by observation of birds using the site or by signs of strutting activity.

**Inactive.** Leks where it is known that there was no strutting activity through the course of a strutting season. A single visit, or even several visits, without strutting grouse being seen is not adequate documentation to designate a lek as inactive. This designation requires either an absence of birds on the lek during multiple ground visits under ideal conditions throughout the strutting season or a ground check of the exact lek site late in the strutting season that fails to find any sign (droppings/feathers) of strutting activity.

**Unknown.** Leks that have not been documented either active or inactive during the course of a strutting season.

### **2.3 Nesting Raptor Surveys (from BLM 2005)**

**Recommended protocol based on peer reviewed publications.**

1. Surveys (combination of aerial and ground) should be conducted within 0.5 miles of proposed surface disturbance or activity to document nest activity during April 15 to June 15. Surveys outside this period may not accurately depict nesting activity. It is recommended for early nesting species such as eagles and great-horned owls that this survey be conducted early as possible, while late nesting species could be conducted later in the survey window. Surveys for nest sites between Feb. 1 and April 15 shall be avoided to protect this sensitive breeding and nesting period. Surveys conducted at other times of the year, are allowed however a nest occupancy check and/or additional surveys may be required.
2. Surveys should be done in important raptor habitat including: rock outcrops, cliffs, ridges, knolls, stream banks, conifer, and cottonwood trees. Nests should be recorded in UTM coordinates using NAD83 datum.
3. Optimum weather conditions for surveys are clear, calm days. Nests should be approached cautiously to avoid flushing the female, and their status (ie, number of nestling) will be determined from a distance with binoculars or a spotting scope.



4. Nests will not be visited during adverse weather conditions (e.g. extreme cold, precipitation events, windy periods or during the hottest part of the day). Visits will be as brief as possible.
5. Photograph the nest to help illustrate nest shape, condition, and substrate. See attached nest photographs in appendix 2 for assistance in determining nest condition.
6. Data should be recorded on the standardized form, and summarized for project reports in a table format; data should be provided to the land management agency in a digital format. Field names and codes to use are as follows:

### Raptor Nest ID

Previously documented nests should be identified in all documentation (reports, tables, etc.) with the identification number supplied by the land management agency, in order to avoid confusion and duplication.

New nests should be identified in a unique 12 digit, alpha/numeric format. The number in its entirety indicates species and location. The first two characters are alpha and refer to the raptor species (first letter). Next is a three digit alpha/numeric character which indicates the township number and whether the township is north or south of the base line (N or S). This is followed by another three more alpha/numeric characters which indicate the range number and whether the range is east or west of the base line (E or W). The next two characters refer to the section and the final two numeric characters represent a sequential number for all known and inventoried nests for that particular species within that section. Therefore, nest number FH11N54E2102 is a Ferruginous Hawk nest in T.11N., R.54E., Section 21, and this is the 2nd ferruginous hawk nest identified within section 21.

### Species

<b>BUOW</b> = Burrowing Owl	<b>OSPR</b> = Osprey
<b>COHA</b> = Cooper's Hawk	<b>PEFA</b> = Peregrine Falcon
<b>FEHA</b> = Ferruginous Hawk	<b>PRFA</b> = Prairie Falcon
<b>GOEA</b> = Golden Eagle	<b>RETA</b> = Red-tailed Hawk
<b>GRHO</b> = Great Horned Owl	<b>SWHA</b> = Swainson's Hawk
<b>NOGO</b> = Northern Goshawk	<b>SHHA</b> = Sharp-shinned hawk
<b>BAEA</b> = Bald Eagle	<b>UNAC</b> = Unknown Accipiter
<b>AMKE</b> = American Kestrel	<b>UNBU</b> = Unknown Buteo
<b>LOOW</b> = Long-eared Owl	<b>UNOW</b> = Unknown Owl
<b>MERL</b> = Merlin	<b>UNRA</b> = Unknown Raptor
<b>NOHA</b> = Northern Harrier	

### LOCATION

Enter Township Number; for example, **12**; Select/Circle either **N** for North or **S** for South;  
 Enter Range Number; for example, **57**; Select/Circle either **E** for East or **W** for West;  
 Enter the **Quarter**, and **Quarter/Quarter** Section.

### UTM ZONE

Enter the UTM Zone for the nest location:

**GEO. DATUM:** Circle NAD 27 or NAD 83 or whatever datum is used.  
NAD83 preferred.

**NORTHING:** Enter the northing UTM coordinate (7 characters);

**EASTING:** Enter the easting UTM coordinate (6 characters);

**NEST SITE ELEVATION**

Enter the elevation at the nest in feet. (**NOT** nest height, but the elevation of the terrain)

**USGS QUAD NAME**

Enter the name of the appropriate USGS 7½" Quad.

**BLM MAP NAME**

Enter the name of the appropriate BLM 1:100,000 Map.

**COUNTY**

Enter the name of the appropriate County (if desired).

**NEST STATUS**

Status of the nest when observed (4 Characters)

**ACTI:** ACTIve nest; A nest in which a breeding attempt was made as indicated by:

- 1) Eggs in nest, or
- 2) Young in nest, or
- 3) Fledged young near nest, or
- 4) Incubating/brooding adult.

**ACTF:** ACTIve Failed; An active nest that did not fledge young, indicated by:

- 1) Egg shells in or around nest with no young when, young should be in the nest, or
- 2) Young present but known not to have fledged, or
- 3) Eggs in nest but obviously abandoned (past the time when eggs should have normally hatched).

**DNLO:** Did Not Locate; Surveyor searched but was unable to locate the nest (does not mean nest is gone or destroyed, merely that the observer was unable to find the nest).

**OCCU:** OCCUpied; A nest with one or more of the following:

- 1) Fresh lining material
- 2) Adult presence at or near the nest
- 3) Recent and well-used perch site near the nest

**OCAL:** Occupied Alternate; A tended nest within the boundaries of a territory housing an ACTIVE nest.

**INAC:** INACTIVE; A nest with no apparent recent use or adult presence at the time of observation, but in good condition.

**INAL:** INactive Alternate; An inactive nest within a territory that contains an active nest.

**INDI:** INactive Dilapidated; An inactive nest in a state of ruin due to weather, natural aging and/or neglect.

**INDE:** INactive Destroyed; A nest showing no sign of raptor activity that is destroyed to the point that it is no longer usable without major reconstruction. These nests, for all practical purposes, have disappeared, but there is often still lingering evidence of an historic presence.

**GONE:** nest was GONE; A nest that was located during a previous survey but has subsequently been found to have been destroyed and no longer exists. No evidence remains.

**PRED:** PREdated; The nest was active, but there is evidence that it was predated (remains of adults or young, feathers or egg shells scattered, or other physical evidence is present).

### **NEST CONDITION**

**GONE:** There may or may not be evidence of where the nest was, but it is no longer there.

**REMNANTS:** Scant material remaining and not usable unless fully rebuilt.

**POOR:** Nest is dilapidated, in need of major repair to be used.

**FAIR:** Nest is not dilapidated, but needs significant repair in order to be used.

**GOOD:** Nest is in need of only minor attention in order for it to be used.

**EXCELLENT:** Nest is able to be used with little or no attention or maintenance.

**UNKNOWN:** The nest is obviously present (i.e. a tree cavity, rock cavity), but because of its location, a determination can't be made.

### **NUMBER OF YOUNG**

Record the number of young in the nest.

### **DATE OBSERVED**

Date of observation in Month/Day/Year format (MM/DD/YYYY). This format applies to the date of the first observation and the dates of all future observations.

### **OBSERVED BY**

Record the name of the person making the first observation of this nest.

### **OWNERSHIP**

**P:** Private Land

**S:** State Land

**FS:** Forest Service

**BLM:** BLM (Public) Land  
**LU:** Bankhead-Jones LU Lands  
**OTHER:** Other - Specify

### **NEST SUBSTRATE**

Substrate upon which nest is built (3 Characters)

<b>ABB</b> = Abandoned Burrow	<b>LIM</b> = Limber Pine Tree
<b>ACB</b> = Active Burrow	<b>LOW</b> = Low Ridge/Knoll
<b>ANS</b> = Artificial Nesting Structure	<b>LPP</b> = Lodgepole Pine Tree
<b>ASP</b> = Aspen Tree	<b>MMS</b> = Manmade Structures
<b>BLS</b> = Blue Spruce Tree	<b>OSS</b> = Other Shrub Species
<b>BLT</b> = Broadleaf Tree	<b>PON</b> = Ponderosa Pine Tree
<b>BOX</b> = Boxelder Tree	<b>RIM</b> = Rimrock
<b>BTT</b> = Butte	<b>RIP</b> = Riparian Area
<b>CLF</b> = Cliff	<b>ROC</b> = Rock Cavity
<b>CKB</b> = Creek Bank	<b>ROK</b> = Rock Outcrop
<b>CTL</b> = Cottonwood Tree (Live)	<b>ROL</b> = Rocky Ledge
<b>CTD</b> = Cottonwood Tree (Dead)	<b>ROP</b> = Rock Pillar/Pinnacle
<b>DOF</b> = Douglas Fir	<b>RUS</b> = Russian Olive
<b>ERC</b> = Erosion Cone	<b>SAG</b> = Sagebrush
<b>ERR</b> = Erosion Remnant (Badland)	<b>SER</b> = Serviceberry
<b>GRE</b> = Green Ash	<b>UNK</b> = Unknown
<b>GHS</b> = Ground/Hillside	<b>WIL</b> = Willow (Live)
<b>JUN</b> = Juniper Tree	

### **HEIGHT OF SUBSTRATE**

Record (in feet) the height of the substrate upon/in which the nest is located. Height of the cliff/butte/tree/etc. above the surrounding terrain.

### **HEIGHT OF NEST ON SUBSTRATE**

Record (in feet) the height of the nest on/in the substrate (i.e. height of tree nest above the ground; height of cliff nest on cliff height of pillar nest above the surrounding terrain).

### **NEST EXPOSURE**

Record the general direction of nest exposure (i.e. N, NE, S, SW, WNW, etc.)

### **VEGETATION TYPE**

Indicates the type of habitat/vegetation found around the nest site; select habitat type from pull down menu of options.

**Badland**  
**Bitterbrush Shrubland**  
**Cottonwood/Riparian**  
**Cultivated Cropland**  
**Cultivated/Reseeded**  
**Grassland**  
**Juniper Woodland**

**Mixed Mountain Shrub**  
**Ponderosa Pine Woodland**  
**Ponderosa Pine/Grassland**  
**Ponderosa/Juniper Woodland**  
**Ponderosa Pine/Skunkbrush**  
**Riparian**  
**Sagebrush/Grassland**  
**Short Grass Prairie**

**REMARKS**

Any unique features, physical relationships to other nests, proximity to human disturbances, or other pertinent observations are to be placed in the remarks section.

**RAPTOR NEST LOCATION**  
**Raptor Inventory Data Sheet**

**Raptor Nest ID\*:** \_\_\_\_\_

**Date First Observed\*:** \_\_\_\_\_

**Species:** \_\_\_\_\_

**Observed By:** \_\_\_\_\_

**Location:** Township \_\_\_\_\_ N S, Range \_\_\_\_\_ E W

**Ownership:** P S FS BLM LU Other \_\_\_\_\_

Section \_\_\_\_\_, \_\_\_\_\_ 1/4 \_\_\_\_\_ 1/4

**Nest Substrate\*:** \_\_\_\_\_

UTM Zone: \_\_\_\_\_

**Height of Substrate (ft.):** \_\_\_\_\_

Geo. Datum (circle one): NAD 27 NAD 83

**Nest Height On/In Substrate (ft.):** \_\_\_\_\_

Northing: \_\_\_\_\_, Easting: \_\_\_\_\_

**Nest Exposure:** \_\_\_\_\_

**Nest Site Elevation:** \_\_\_\_\_

**Vegetation Type\*:** \_\_\_\_\_

**USGS Quad Name:** \_\_\_\_\_

**Remarks/Comments: Physical Relationship to Other Nests, Proximity to Potential Disturbances, Etc.:**

**BLM Map Name:** \_\_\_\_\_

\_\_\_\_\_

**County:** \_\_\_\_\_

\_\_\_\_\_

**Nest Status\*:** \_\_\_\_\_

\_\_\_\_\_

**Nest Condition\*:** \_\_\_\_\_

\_\_\_\_\_

**Number of Eggs:** \_\_\_\_\_ **Young:** \_\_\_\_\_

\_\_\_\_\_

\* Use existing data codes      † Historic Nest

**Record Monitoring of Nest Activity on Reverse Side**

**Map/Photo**



## **2.4 Nesting Bird Surveys**

Nesting non game bird surveys will be conducted in representative habitat types within the claim areas. Surveys will be completed in areas where mining activities are proposed to occur and in adjacent areas where active mining is not currently proposed.

Surveys will be completed by following techniques recommended by the WYDEQ (WYDEQ 1987). At least 2 transects will be established in each vegetation type of the Lost Creek site. Transects will be 1,000 meters in length (2,000 meters per habitat type) on each site. Transects will be concentrated on areas that are proposed for mining disturbance.

In upland vegetation types belt transects (100 meters) wide will be walked. All birds observed or heard will be recorded. In riparian zones point transects will be used. The observer will walk from point to point (100 meters apart). At each point the observer will stop (for 5 minutes) and listen and observe birds within 50 meters. If possible 1,000 meter transects will be used in riparian habitat.

Surveys will be completed during the peak of the nesting season from June 1 to July 1. Surveys will be completed from 0.5 hours before sunrise to 9:30 am.

## **2.5 Mountain Plover Surveys**

Mountain plover presence and absence surveys will follow USFWS recommended protocol (USFWS 1999, 2002).

### **MOUNTAIN PLOVER SURVEY GUIDELINES**

*(From U.S. Fish and Wildlife Service 2002)*

#### **March 2002**

The mountain plover (*Charadrius montanus*) is a small bird (17.5 cm, 7 in.) about the size of a killdeer (*C. vociferus*). It is light brown above with a lighter colored breast, but lacks the contrasting dark breast-belt common to many other plovers. During the breeding season it has a white forehead and a dark line between the beak and eye, which contrasts with the dark crown.

Mountain plover breeding habitat includes short-grass prairie and shrub-steppe landscapes; dryland, cultivated farms; and prairie dog towns. Plovers usually nest on sites where vegetation is sparse or absent, conditions that can be created by herbivores, including domestic livestock and prairie dogs. Vegetation in shortgrass prairie sites is typically less than 4 inches tall. Nest sites within the shrub-steppe landscape are also confined to areas of little to no vegetation, although surrounded by areas visually dominated by shrubs. Commonly, nest sites within shrub-steppe areas are on active prairie dog towns. Nests are commonly located near a manure pile or rock. In addition to disturbance by prairie dogs or livestock, nests have also been found on bare



ground created by oil and gas development activities, and on dryland, cultivated agriculture in the southern part of their breeding range. Mountain plovers are rarely found near water. Positive indicators for mountain plovers therefore include level terrain, prairie dogs, bare ground, *Opuntia* pads, cattle, widely spaced plants, and horned larks. It would be unusual to find mountain plovers on sites characterized by irregular or rolling terrain; dense, matted vegetation; grass taller than 4 inches, wet soils, or the presence of killdeer.

These guidelines were developed by Service biologists and Dr. Fritz Knopf, USGS-BRD. Keep in mind these are guidelines - please call the local Fish and Wildlife Service, Ecological Services office, if you have any suggestions.

### **GENERAL GUIDELINES FOR SURVEYS**

On February 16, 1999, the Service proposed the mountain plover for federal listing as threatened. Because listing of this species is proposed, the Service may recommend surveys for mountain plovers to better define nesting areas, and minimize potential negative impacts. The Service may recommend surveys for mountain plovers to better define nesting areas, and minimize potential negative impacts. The Service may recommend surveys for mountain plovers in all suitable habitat, as well as avoidance of nesting areas, to minimize impact to plovers in a site planned for development. While the Service believes that plover surveys, avoidance of nesting and brood rearing areas, and timing restrictions (avoidance of important areas during nesting) will lessen the chance of direct impacts to and mortality of individual mountain plovers in the area, these restrictions do nothing to mitigate indirect effects, including changes in habitat suitability and habitat loss. Surveys are, however, a necessary starting point. The Service has developed the following 3 survey guidelines, depending on whether the intent is to determine the presence or absence of plovers at a site during the nesting season for permanent and short term projects, or to determine the density of nesting plovers at known nesting sites.

#### **Survey Protocol**

Surveys for mountain plovers are conducted during the period where the highest numbers of plovers are likely to be tending nests and territories, and therefore are most likely to be detected. Throughout their range, these dates are generally from May 01 through June 15. However, seasonal restrictions for ground disturbing activities in suitable mountain plover nesting habitats are usually longer than the survey dates. The longer seasonal restrictions allow for protection of early nesting birds, and very young chicks which tend to sit still to avoid detection during the first week post-hatch. Since specific nesting dates across the breeding range of the plover vary according to latitude and local weather, the project proponent or the land management agency should contact the local U.S. Fish and Wildlife Service Office to determine what seasonal restrictions apply for specific projects.

Two types of surveys may be conducted: 1) surveys to determine the presence/absence of breeding plovers (i.e., displaying males and foraging adults), or 2) surveys to determine nest density. The survey type chosen for a project and the extent of the survey area (i.e., beyond the edge of the construction or operational ROW) will depend on the type of project activity being

analyzed (e.g., construction, operation) and the users intent. One methodology outlines a breeding survey that was used in northeastern Colorado to establish the density of occupied territories, based on displaying male plovers or foraging adults. The other was developed to only determine whether plovers occupy an area.

### **Techniques Common to Each Survey Method**

- Conduct surveys during early courtship and territorial establishment. Throughout the breeding range, this period extends from approximately mid-April through early July. However, the specific breeding period, and therefore peak survey days, depends on latitude, elevation, and weather.
- Conduct surveys between local sunrise and 1000 and from 1730 to sunset (periods of horizontal light to facilitate spotting the white breast of the adult plovers).
- Drive transects within the project area to minimize early flushing. Flushing distances for mountain plovers may be within 3 meters for vehicles, but plovers often flush at 50 to 100 meters when approached by humans on foot.
- Use of a 4-wheel drive vehicle is preferable where allowed. Use of ATVs has proven highly successful in observing and recording displaying males. Always seek guidance from land management agencies regarding use of vehicles on public lands, and always obtain permission of private landowners before entering their lands.
- Stay in or close to the vehicle when scanning. Use binoculars to scan and spotting scopes to confirm sightings. Do not use scopes to scan.
- Do not conduct surveys in poor weather (i.e., high wind, precipitation, etc.).
- Surveys conducted during the courtship period should focus on identifying displaying or calling males, which would signify breeding territories.
- For all breeding birds observed, conduct additional surveys immediately prior to construction activities to search for active nest sites.
- If an active nest is located, an appropriate buffer area should be established to prevent direct loss of the nest or indirect impacts from human-related disturbance. The appropriate buffer distance will vary, depending on topography, type of activity proposed, and duration of disturbance. For disturbances including pedestrian foot traffic and continual equipment operations, a 1/4 mile buffer is recommended.

### **SURVEY TO DETERMINE PRESENCE/ABSENCE**

#### **Large scale/long term projects**

Conduct the survey between May 1 and June 15, throughout the breeding range.

1. Visual observation of the area should be made within 1/4 mile of the proposed action to detect the
  - i. presence of plovers. All plovers located should be observed long enough to determine if a nest is present. These observations should be made from within a stationary vehicle, as plovers do not appear to be wary of vehicles. Because this survey is to determine presence/absence only, and not calculate statistical confidence, there is no recommended distance interval for stopping the vehicle to scan for birds. Obviously numerous stops will be required to conduct a thorough survey, but number of stops should be determined on a project and site-specific basis.
2. If no visual observations are made from vehicles, the area should be surveyed on ATV's. Extreme care should be exercised in locating plovers due to their highly secretive and quiet nature. Surveys by foot are not recommended because plovers tend to flush at greater distances when approached using this method. Finding nests during foot surveys is more difficult because of the greater flushing distance.
3. A site must be surveyed 3 times during the survey window, with each survey separated by at least 14 days. The need for 3 surveys is to capture the entire nesting period, with the intent of reducing the risk of concluding the site is not nesting habitat by an absence of nesting birds during a single survey.
4. Initiation of the project should occur as near to completion of the survey as possible. For example, seismic exploration should begin within 2 days of survey completion. A 14 day period may be appropriate for other projects.
5. If an active nest is found in the survey area, the planned activity should be delayed 37 days, or seven days post-hatching. If a brood of flightless chicks is observed, activities should be delayed at least seven days.

## **MOUNTAIN PLOVER GENERAL HABITAT INDICATORS**

### **Positive habitat images**

Stock tank (non-leaking, leaking tanks often attract killdeer)  
Flat (level or "tilted") terrain  
Burned field/prairie/pasture  
Bare ground (minimum of 30 percent)  
"Spaced" grass plants  
Prairie dog colonies  
Horned larks  
Cattle  
Heavily grazed pastures

*Opuntia* pads visible

### **Negative habitat images**

- Killdeer present (indicating less than optimal habitat)
- Hillsides or steep slope
- Prominent, obvious low ridge
- Leaky stock tanks
- Vegetation greater than 4 inches in height in short-grass prairie habitat
- Increasing presence of tall shrubs
- Matted grass (i.e., minimal bare ground)
- Lark buntings

## **2.6 Prairie Dog Colony Mapping (from BLM 2005)**

### **Recommended Protocol**

1. Delineate colonies using a GPS receiver in UTM coordinates and NAD83 datum. First, identify the prairie dog colony with one GPS fix at the approximate center of the town. Then map the colony perimeter by taking points approximately every 10 meters at the outermost burrows around the colony edge. Document segments of the colony by activity level (high, low, or inactive).
2. Use this table to submit data on prairie dog colony locations. If you have GPS files, guidelines and a data dictionary are available at <http://nris.state.mt.us/mtnhp> (navigate to “animals” and “submit data”).

**Location:** provide as specific location information as possible in UTM coordinates, NAD83 datum. **Township-Range/UTM:** Include township, range, section and  $\frac{1}{4}$  section and UTM's for the approximate center of the colony. **Activity:** defines if the colony is occupied: YES = animals or fresh sign seen, NO = mounds present but neither fresh sign nor animals seen and mounds show various stages of abandonment. UNKNOWN = mounds present but neither fresh sign or animals seen, mounds may or may not show various stages of abandonment OR the survey was not at the time of day and/or season when animals or fresh sign would be expected to be seen. **Size:** If a colony is active, record the acreage of active mounds. Include the acreage of any inactive mounds, if possible. If a colony is inactive or activity is unknown, indicate the acreage of all mounds. If acreage cannot be accurately estimated, place size in one of the following acreage categories; A: 0-5, B: 6-40, C: 41 – 160, D: 161 – 640, E: > 640, or U: unfamiliar with or unable to give acreage estimation. **How size determined:** Indicate how the size was determined, e.g., visual, 7.5-minute map, GPS. **Density:** estimate the number of burrows per acre: Low = less than 5 burrows per acre, Medium = 5 – 10 burrows per acre, High = more than 10 burrows per acre. (An acre is a circle with a diameter of 235 feet, or a square 209 feet to the side.) **Land Ownership:** Indicate ownership, if known. **Comments:** provide any notable information such as shape of colony, landscape features, or adjacent land use. Indicate if any of these associated species are present: Burrowing Owl, Mountain Plover, Ferruginous Hawk, Swift Fox, or Black-footed Ferret.

**Prairie Dog Colony Observation Form**

Observer \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Tel. \_\_\_\_\_

Email \_\_\_\_\_



Location or Identifier	Township, Range, Section, ¼ and UTM zone, east, north	Date (mo/day/yr)	Activity Y, N, U	Size (acres) <u>all</u> mounds	Size (acres) <u>active</u> mounds	How size determined	Density L, M, H	Land Ownership
Example: 2.5 mi SSE of Miles City	T7N,R47E,12,NW	7/1/00	Y	20	15	Mapped	M	Private
Comments: Example: Colony is semi-circular in shape. Colony is bordered by grain fields on the north. Five acres of inactive burrows adjacent to the west.								
Example: town ref #. muss99012	13T 271988E, 5171617N	7/12/00	Y	D		Visual	M	BLM
Comments : Example: Colony is elongate, approximately ¾ mile long and ½ mile wide. Two burrowing owls near center of colony and one Ferruginous Hawk.								
1.								
Comments:								
2.								
Comments:								
3.								
Comments:								
4.								
Comments:								
5.								
Comments:								

## 2.7 Black-Footed Ferret Surveys

If active prairie dog colonies are present within the study area that meet criteria as potential black-footed ferret habitat (white-tailed prairie dog towns or complexes greater than 200 acres) the BLM and U.S. Fish and Wildlife Service (USFWS) will be consulted regarding requirements for black-footed ferret surveys. A portion of the study area has been block-cleared for black-footed ferrets.

If ferret surveys are required survey protocol will follow standard USFWS guidelines (USFWS 1989). Nocturnal (spotlight) surveys would be completed during the survey window of July 1 and October 31. Each section (320 acres or smaller) of the colony would be surveyed for 3 consecutive nights. All results would be recorded on standard data forms. Survey reports would follow USFWS guidelines. A biologist who has completed USFWS training in conducting ferret surveys would lead the field effort.

## 2.8 Other Wildlife Resources

Specific field studies are not proposed for small mammals, reptiles and amphibians, big game animals, predators, wintering sage grouse, waterbirds, wintering and migrating passerine birds, wild horses, or other biological resources. Existing data will be used to describe other wildlife resources in the project area. Past environmental studies, GIS data bases, research reports, and field reconnaissance level surveys will be used to describe these resources.

All sightings or sign of BLM Sensitive Species (that are not included in other studies) that are observed on the site will be recorded on standard field data sheets. BLM Sensitive Species are listed in the following table.

**Table 2.8-1 BLM Sensitive Species than may occur in the Great Divide Basin Project Area**

Common Name (scientific name)	Habitat
Amphibians	
Northern leopard frog ( <i>Rana pipiens</i> )	Beaver ponds, permanent water in plains and foothills
Great Basin spadefoot toad ( <i>Scaphiopus intermontanus</i> )	Sagebrush, semi-desert shrublands, ephemeral pools, streams
Birds	
Baird's sparrow ( <i>Ammodramus bairdii</i> )	Grasslands, weedy fields
Brewer's sparrow ( <i>Spizella breweri</i> )	Basin-prairie shrub
Burrowing owl ( <i>Athene cunicularia</i> )	Grasslands, basin-prairie shrub
Ferruginous hawk ( <i>Buteo regalis</i> )	Basin-prairie shrub, grasslands, rock outcrops
Greater sage-grouse	Basin-prairie shrub, mountain-foothill shrub

<i>(Centrocercus urophasianus)</i>	
Loggerhead shrike <i>(Lanius ludovicianus)</i>	Basin-prairie shrub, mountain-foothill shrub
Long-billed curlew <i>(Numenius americanus)</i>	Grasslands, plains, foothills, wet meadows
Mountain plover <i>(Charadrius montanus)</i>	Sparse shrub and grasslands, prairie dog colonies with vegetation < 4 inches and slopes < 5%
Northern goshawk <i>(Accipiter gentilis)</i>	Conifer and deciduous forests
Peregrine falcon <i>(Falco peregrinus)</i>	Cliffs, especially over rivers

Sage sparrow <i>(Amphispiza billi)</i>	Basin-prairie shrub, mountain-foothill shrub
Sage thrasher <i>(Oreoscoptes montanus)</i>	Basin-prairie shrub, mountain-foothill shrub
Trumpeter swan <i>(Cygnus buccinator)</i>	Lakes, ponds, rivers
White-faced ibis <i>(Plegadis chihi)</i>	Marshes, wet meadows
Yellow-billed cuckoo <i>(Coccyzus americanus)</i>	Riparian cottonwood forest with a dense shrub understory.
Fish	
None in the general area	
Mammals	
Fringed myotis <i>(Myotis thysanodes)</i>	Conifer forests, woodland chaparral, caves and mines
Long-eared myotis <i>(Myotis evotis)</i>	Conifer and deciduous forest, caves and mines
Spotted bat <i>(Euderma maculatum)</i>	Cliffs over perennial water, basin-prairie shrub
White-tailed prairie dog <i>(Cynomys leucurus)</i>	Colonies on grasslands and shrublands
Pygmy rabbit <i>(Sylvilagus idahoensis)</i>	Tall sage brush stands, draws.
Swift fox <i>(Vulpes velox)</i>	Grasslands
Townsend's big-eared bat <i>(Corynorhinus townsendii)</i>	Forests, basin-prairie shrub, caves and mines

Plants	
Starveling milkvetch <i>(Astragalus jejumus)</i>	Dry barren ridges and bluffs
Contracted Indian ricegrass <i>(Oryzopsis contracta)</i>	Basin and foothill areas, dry sandy soils
Gibben's beardtongue <i>(Penstemon gibbensii)</i>	Sparsely vegetated shale, sandy, clay slopes
Devil's Gate twinpod <i>(Physaria eburniflora)</i>	Cushion plant communities
Persistent sepal yellowcress <i>(Rorippa calycina)</i>	Riverbanks, shorelines, sandy soils
Laramie false sagebrush <i>(Sphaeromeria simplex)</i>	Cushion plant communities.

## **2.9 Aquatic Life Surveys**

There is no perennial stream in the Lost Creek Permit Area and there is no aquatic life. Therefore, no survey on aquatic life is needed.

## **3.0 Summary Report**

The results of all field surveys completed during the 2006 field season will be summarized in a Biological Field Survey Report.

The report will describe survey methods and survey results. Resource locations will be shown on 1:24,000 Scale Quadrangle maps. Mapping will include sage grouse leks, raptor nests, mountain plover locations and nests, prairie dog colonies, and locations of all study transects and points. Site photographs, photographs of raptor nests and other features will be included as attachments to the report.

## **4.0 References**

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