

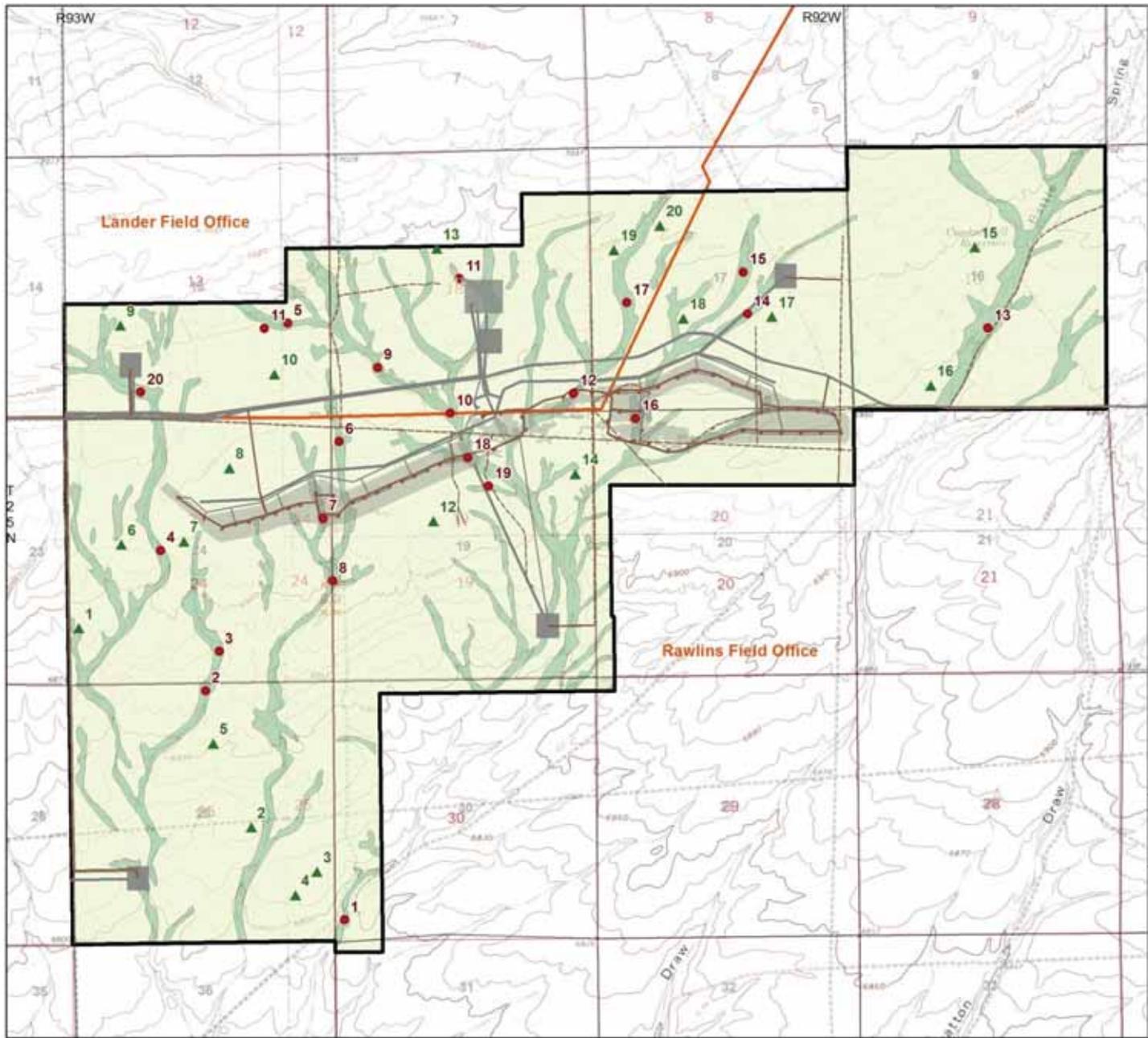
3.7 Vegetation

3.7.1 Vegetation Studies Performed

A vegetation survey was conducted within the area originally planned for the Permit Area during the 2006 growing season. Two vegetation types were identified and delineated: Upland Big Sagebrush Shrubland and Lowland Big Sagebrush Shrubland. The southern and southeastern Permit Area boundaries were changed in early 2007, resulting in the addition of about 160 acres to the planned Permit Area. In 2009, the East and West Access Roads were added to the Permit Area at the request of WDEQ-LQD. When the changes were made, a vegetation map was prepared based on aerial photos, and then checked in the field. The vegetation types in the added areas were the same as those in the original Permit Area. No additional cover sampling was conducted in these areas, but information on species present and rare plant habitat was collected. The distribution of the two vegetation types, Upland Big Sagebrush Shrubland and Lowland Big Sagebrush Shrubland, is shown on **Figure 3.7-1** for the main Permit Area and on **Figure 3.7-2** and **Figure 3.7-3** for the East and West Access Roads, respectively.

Each of the two vegetation types was sampled with 20 transects (a total of 40 transects) using a point-intercept approach to obtain vegetation cover and species diversity data. Vegetation cover observations were made on a species basis. Observations were also made for cover by litter and bare soil. The sampling locations are shown on **Figure 3.7-1**. Specific information about each of the sampling locations at the Permit Area is presented in **Table 3.7-1**.

Shrub and semi-shrub density data were obtained by counting all of the individual plants that occurred within one meter on either side of the transect line that was used for collecting cover data. This approach consisted of establishing a belt transect that was two meters wide and 25 meters long (a total of 50 square meters). The data from the transects were used to compute the mean number of shrubs and semi-shrubs per square meter and the number per acre. In addition to shrubs and semi-shrubs, density counts were also made for prickly pear cactus. No trees occurred on the Permit Area.



Legend

Sampling Transect Locations

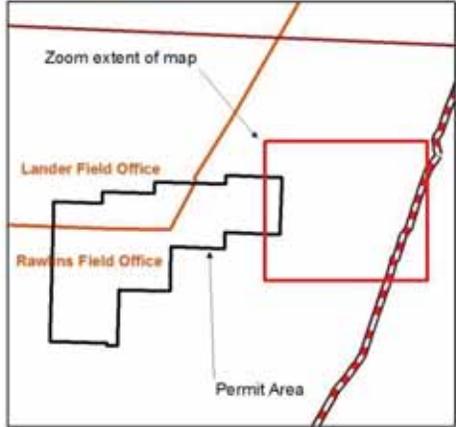
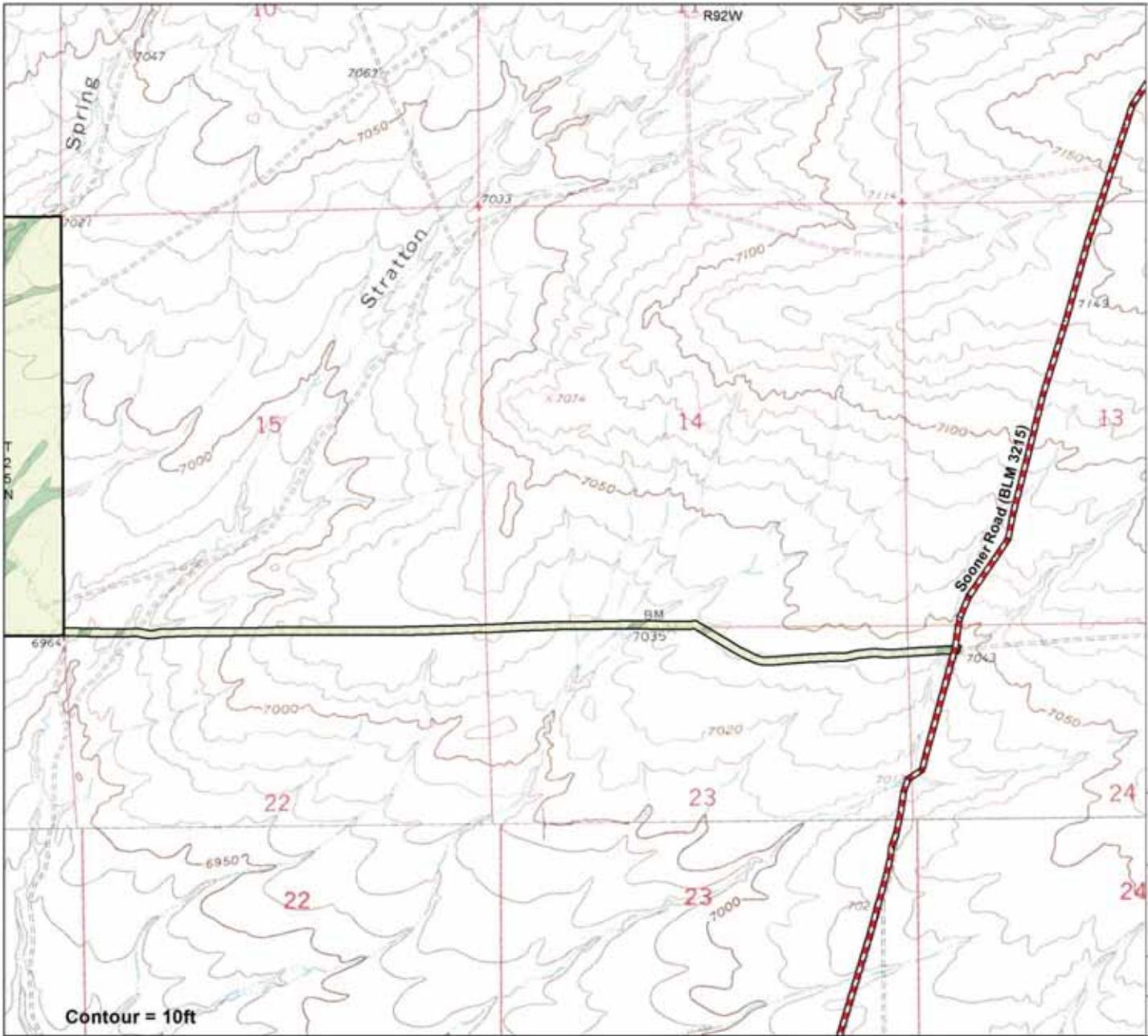
- Lowland Big Sagebrush
- ▲ Upland Big Sagebrush
- Lowland Big Sagebrush
- Upland Big Sagebrush
- Project Infrastructure
- ▭ Lost Creek Permit Area
- ▭ BLM Field Office Boundary
- Main Access Road
- Secondary Roads
- - - Existing Two Track

Lost Creek Uranium *In-Situ* Recovery Project
Sweetwater County, WY

Figure 3.7-1
Vegetation of the Main Permit Area



No warranty is made by the BLM for use of the data for purposes not intended by BLM



Legend

- Lowland Big Sagebrush
- Upland Big Sagebrush
- Lost Creek Permit Area
- BLM Field Office Boundary
- County/BLM Road



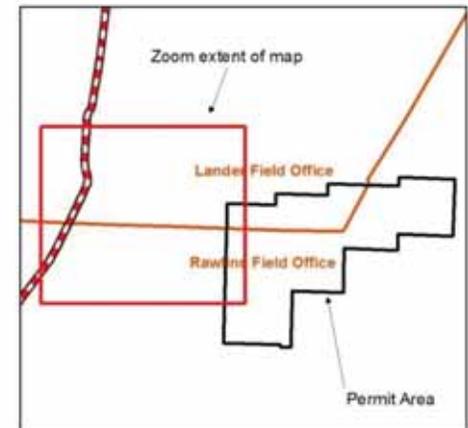
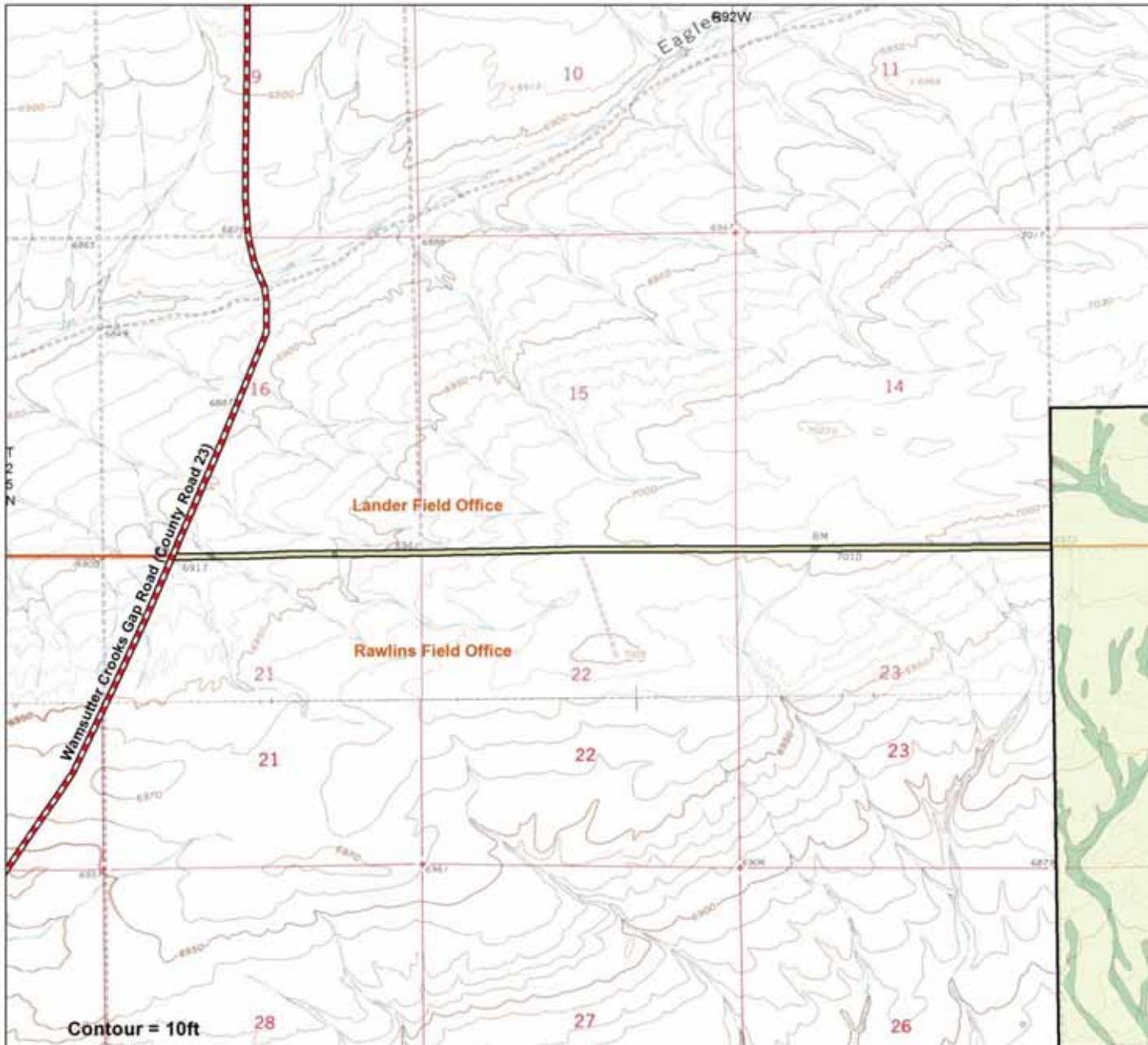
Lost Creek Uranium *In-Situ* Recovery Project
Sweetwater County, WY

Figure 3.7-2
Vegetation Communities
Along the East Road



No warranty is made by the BLM for use of the data for purposes not intended by BLM

Contour = 10ft



Legend

- Lowland Big Sagebrush
- Upland Big Sagebrush
- Lost Creek Permit Area
- BLM Field Office Boundary
- County/BLM Road



Lost Creek Uranium *In-Situ* Recovery Project

Sweetwater County, WY

**Figure 3.7-3
Vegetation Communities
Along the West Road**



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3.0 AFFECTED ENVIRONMENT

**Table 3.7-1 Vegetation Sampling Locations and Site Information
(Page 1 of 2)**

| Transect Number | Location | Transect Bearing | Slope (percent) | Aspect | Sampling Date |
|-----------------------------|------------------------------------|------------------|-----------------|-----------|------------------|
| Upland Big Sagebrush | | | | | |
| 1 | N42° 07' 11.0"; W107° 53' 27.5" | 300° | 2 | South | June 10, 2006 |
| 2 | N42° 06' 31.8"; W107° 52' 40.1" | 187° | 0 | Flat | June 10, 2006 |
| 3 | N42° 06' 22.1"; W107° 52' 19.7" | 278° | 0 | Flat | June 10, 2006 |
| 4 | N42° 06' 19.0"; W107° 52' 23.6" | 95° | 3 | East | June 10, 2006 |
| 5 | N42° 06' 48.2"; W107° 53' 00.7" | 280° | 2 | Northeast | June 10, 2006 |
| 6 | N42° 07' 26.7"; W107° 53' 16.2" | 48° | 4 | Southwest | June 10, 2006 |
| 7 | N42° 07' 24.1"; W107° 52' 57.8" | 12° | 2 | South | June 10, 2006 |
| 8 | N42° 07' 43.2"; W107° 52' 46.0" | 280° | 3 | Southeast | June 10, 2006 |
| 9 | N42° 08' 09.4"; W107° 53' 16.7" | 290° | 4 | Southwest | June 11, 2006 |
| 10 | N42° 08' 00.7"; W107° 52' 36.2" | 355° | 0 | Flat | June 11, 2006 |
| 11 | N42° 08' 11.3"; W107° 52' 39.7" | 170° | 6 | South | June 11, 2006 |
| 12 | N42° 07' 31.6"; W107° 51' 51.1" | 225° | 3 | South | June 11, 2006 |
| 13 | N42° 08' 12.6"; W107° 52' 01.1" | 274° | 0 | Flat | June 11, 2006 |
| 14 | N42° 07' 41.9"; W107° 51' 11.8" | 325° | 3 | Northwest | June 11, 2006 |
| 15 | N42° 08' 25.8"; W107° 49' 24.9" | 229° | 1 | South | June 12, 2006 |
| 16 | N42° 07' 56.8"; W107° 49' 37.6" | 97° | 1 | South | June 12, 2006 |
| 17 | N42° 08' 11.5"; W107° 50' 22.9" | 358° | 0 | Flat | June 12, 2006 |
| 18 | N42° 08' 10.9"; W107° 50' 47.2" | 86° | 2 | Southwest | June 12, 2006 |
| 19 | N42° 08' 27.3"; W107° 51' 03.9" | 206° | 5 | South | June 12, 2006 |
| 20 | N42° 08' 32.3"; W107° 50' 52.1" | 171° | 5 | West | June 12, 2006 |

**Table 3.7-1 Vegetation Sampling Locations and Site Information
(Page 2 of 2)**

| Transect Number | Location | Transect Bearing | Slope (percent) | Aspect | Sampling Date |
|------------------------------|------------------------------------|------------------|-----------------|-----------|------------------|
| Lowland Big Sagebrush | | | | | |
| 1 | N42° 06' 12.8"; W107° 52' 18.2" | 30° | 0 | Flat | June 10, 2006 |
| 2 | N42° 06' 55.4"; W107° 52' 55.3" | 5° | 0 | Flat | June 10, 2006 |
| 3 | N42° 07' 06.4"; W107° 52' 50.0" | 355° | 1 | South | June 10, 2006 |
| 4 | N42° 07' 24.4"; W107° 53' 03.7" | 170° | 1 | South | June 10, 2006 |
| 5 | N42° 08' 13.4"; W107° 52' 38.2" | 319° | 3 | Southeast | June 11, 2006 |
| 6 | N42° 07' 48.3"; W107° 52' 17.3" | 158° | 2 | Southeast | June 11, 2006 |
| 7 | N42° 07' 33.1"; W107° 52' 22.2" | 351° | 2 | South | June 11, 2006 |
| 8 | N42° 07' 19.4"; W107° 52' 20.1" | 18° | 1 | South | June 11, 2006 |
| 9 | N42° 08' 01.9"; W107° 52' 05.6" | 360° | 0 | Flat | June 11, 2006 |
| 10 | N42° 07' 52.9"; W107° 51' 46.8" | 109° | 0 | Flat | June 11, 2006 |
| 11 | N42° 08' 07.6"; W107° 51' 54.4" | 135° | 2 | Southeast | June 11, 2006 |
| 12 | N42° 07' 59.0"; W107° 51' 12.9" | 232° | 1 | Southwest | June 11, 2006 |
| 13 | N42° 08' 10.5"; W107° 49' 25.6" | 72° | 1 | South | June 12, 2006 |
| 14 | N42° 08' 11.3"; W107° 50' 30.4" | 251° | 2 | Southwest | June 12, 2006 |
| 15 | N42° 08' 20.3"; W107° 50' 29.4" | 191° | 1 | South | June 12, 2006 |
| 16 | N42° 07' 50.5"; W107° 50' 57.6" | 195° | 0 | Flat | June 12, 2006 |
| 17 | N42° 08' 17.1"; W107° 51' 02.0" | 355° | 1 | South | June 12, 2006 |
| 18 | N42° 07' 43.4"; W107° 51' 39.7" | 285° | 1 | Southeast | June 12, 2006 |
| 19 | N42° 07' 37.8"; W107° 51' 33.1" | 95° | 3 | East | June 12, 2006 |
| 20 | N42° 07' 58.5"; W107° 53' 09.4" | 89° | 2 | Southeast | June 12, 2006 |

3.0 AFFECTED ENVIRONMENT

Prior to conducting field work on the Permit Area, a literature review was conducted to determine what species of special concern might occur within the Permit Area. The review identified several species of special concern that occur within the general region (**Table 3.7-2**). As part of the field work, observations were made on the overall species composition of the area and special attention was paid to examining any unusual micro-environments where rare plant species might occur. Also, WDEQ-LQD Guideline No. 2 (1997) provides lists of prohibited and restricted noxious weeds, selenium indicators and plant species of special concern. These lists were reviewed and compared with the observed species composition at the Permit Area.

3.7.2 Results of Vegetation Studies Performed

As part of all field work, observations were made regarding the species composition in each of the vegetation types (**Table 3.7-3**). In all, 58 species were observed on the Permit Area. In the Upland Big Sagebrush Shrubland vegetation type, 36 species were noted; and in the Lowland Big Sagebrush Shrubland vegetation type, 43 species were noted, indicating a large overlap of species diversity in the two vegetation types. The relatively low number of species is a reflection of the overall homogeneity of the environmental conditions on the site. The Permit Area has limited topographic variability and no wetland environments (**Section 3.5**).

In the sections that follow, each of the vegetation types is described based on data collected and on general observations made during the site visits.

3.7.2.1 Upland Big Sagebrush Shrubland Type

The Upland Big Sagebrush Shrubland type covers most of the Permit Area (**Figure 3.7-1**). **Figure 3.7-4** is a photograph of an area typical of this vegetation type. Overall, this type covers approximately 85 percent of the main Permit Area and 96 percent of the area along the East and West Access Roads. It covers flat areas and the gently sloping south-facing slopes. The slope at the sampled transects in this type ranged between zero to six percent (**Table 3.7-1**). Soils throughout the upland areas are mostly shallow and coarse textured. The only environmental settings on the Permit Area that do not support the Upland Big Sagebrush Shrubland type are the areas along the drainages where the Lowland Big Sagebrush Shrubland type grows.

Table 3.7-2 Rare Plant Species in Sweetwater County

| Scientific Name | Common Name | Distribution in Sweetwater County | Heritage Rank | Federal Status |
|---|-----------------------------|-----------------------------------|---------------|----------------|
| <i>Artemisia biennis</i> var <i>diffusa</i> | Mystery Wormwood | Central | G5T1Q/S1 | C2 |
| <i>Asclepias uncialis</i> | Dwarf Milkweed | Northwestern | G3/SH | C2, S-R2 |
| <i>Astragalus jejunus</i> var. <i>jejunus</i> | Starveling Milkvetch | Eastern & Western Edges | G3T1/S1 | C2 |
| <i>Astragalus proimanthus</i> | Precocious Milkvetch | Extreme Southwestern | G1/S1 | C2 |
| <i>Cirsium ownbeyi</i> | Ownbey's Thistle | South-Central | G3/S1 | C2 |
| <i>Descurainia torulosa</i> | Wyoming Tansy Mustard | South-Central | G1/S1 | C2, S-R2, S-R4 |
| <i>Lesquerella macrocarpa</i> | Large-fruited Bladderpod | North-Central | G2/S2 | C2 |
| <i>Oryzopsis contracta</i> | Contracted Indian Ricegrass | Northeast, Northwest & Southwest | G3/S3 | C2 |
| <i>Penstemon acaulis</i> var <i>acaulis</i> | Stemless Beardtongue | Extreme Southwestern | G3/S1 | C2, S-R4 |
| <i>Penstemon gibbensii</i> | Gibben's Beardtongue | Extreme Southeastern | G1/S1 | C2 |
| <i>Phlox opalensis</i> | Opal Phlox | West-Central | G1/S1 | C2 |
| <i>Thelesperma caespitosum</i> | Green River Greenthread | Southwestern | G1/S1 | C2, S-R4 |

Heritage Rank Codes:

- G1: Critically imperiled globally because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extinction (Critically endangered throughout its range).
- G2: Imperiled globally because of rarity (6 to 20 occurrences) or because of other factors demonstrably making it very vulnerable to extinction throughout its range. (Endangered throughout its range).
- G3: Very rare or local throughout its range or found locally in a restricted range (21 to 100 occurrences). (Threatened throughout its range).
- G4: Apparently secure globally, though it might be quite rare in parts of range, especially at periphery.
- G5: Demonstrably secure globally, though it may be quite rare in parts of range, especially at periphery.
- T1: The variety is critically imperiled globally because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extinction (Critically endangered throughout its range).
- Q: Indicates uncertainty about taxonomic status.

State Rank Codes:

- S1: Critically imperiled in state because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extirpation from the state. (Critically endangered in state).

3.0 AFFECTED ENVIRONMENT

S2: Imperiled in state because of rarity (6 to 20 occurrences) or because of other factors demonstrably making it very vulnerable to extirpation from the state (Endangered or threatened in state).

S3: Rare in state (21 to 100 occurrences)

SH: Of historical occurrence, not documented in Wyoming since 1920.

Federal Status Codes:

C2: Notice of Review, Category 2: taxa for which current information indicates that proposing to list as endangered or threatened is possible, but appropriate or substantial biological information is not on file to support an immediate rulemaking.

S: Sensitive: those plant and animal species identified by the Regional Forester for which population viability is a concern as evidenced by:

a) Significant current or predicted downward trends in population numbers or density.

b) Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

R: Forest Region

Table 3.7-3 List of Vegetation Species Observed (Page 1 of 2)

| Scientific Name | Common Name | Upland Big Sagebrush Shrubland | Lowland Big Sagebrush Shrubland |
|---|--------------------------|---|--|
| COOL SEASON PERENNIAL GRASSES AND GRASSLIKE PLANTS | | | |
| <i>Agropyron dasystachyum</i> | Thickspike Wheatgrass | x | x |
| <i>Agropyron smithii</i> | Western Wheatgrass | | x |
| <i>Agropyron spicatum</i> | Bluebunch Wheatgrass | x | x |
| <i>Carex douglasii</i> | Douglas Sedge | | x |
| <i>Carex eleocharis</i> | Spikerush Sedge | | x |
| <i>Elymus cinereus</i> | Great Basin Wildrye | | x |
| <i>Hordeum jubatum</i> | Foxtail Barley | | x |
| <i>Koeleria macrantha</i> | Prairie Junegrass | x | x |
| <i>Muhlenbergia richardsonis</i> | Mat Muhly | | x |
| <i>Oryzopsis hymenoides</i> | Indian Ricegrass | x | x |
| <i>Poa secunda</i> | Sandberg Bluegrass | x | x |
| <i>Sitanion longifolium</i> | Squirreltail Grass | x | x |
| <i>Stipa comata</i> | Needle-and-thread Grass | x | x |
| <i>Stipa lettermannii</i> | Lettermann Needlegrass | | x |
| PERENNIAL FORBS | | | |
| <i>Allium textile</i> | Prairie Onion | x | x |
| <i>Antennaria rosea</i> | Pussytoes | | x |
| <i>Arabis sp.</i> | Rockcress | x | x |
| <i>Astragalus mollissimus</i> | Woolly Milkvetch | x | |
| <i>Astragalus sericoleucus</i> | Silky Milkvetch | x | |
| <i>Crepis occidentalis</i> | Hawksbeard | | x |
| <i>Cryptantha thrysiflora</i> | Cryptantha | x | |
| <i>Erigeron pumilus</i> | Fleabane | x | |
| <i>Hymenoxis acaulis</i> | Stemless Actinea | x | |
| <i>Lomatium orientale</i> | Bisquitroot | x | |
| <i>Machaeranthera canescens</i> | Machaeranthera | x | |
| <i>Sedum lanceolatum</i> | Stoncrop | x | |
| <i>Senecio integerrimus</i> | Groundsel | | x |
| <i>Trifolium gymnocarpon</i> | Hollyleaf Clover | x | x |
| CUSHION PLANTS | | | |
| <i>Arenaria hookeri</i> | Hooker's Sandwort | x | x |
| <i>Astragalus spatulatus</i> | Spatulate Leaf Milkvetch | x | |
| <i>Eriogonum acaule</i> | Stemless Buckwheat | x | x |
| <i>Eriogonum ovalifolium</i> | Oval Leaved Buckwheat | x | x |
| <i>Haplopappus acaulis</i> | Stemless Goldenweed | x | |
| <i>Paronychia sessiliflora</i> | Nailwort | x | |
| <i>Phlox hoodii</i> | Hood's Phlox | x | x |

3.0 AFFECTED ENVIRONMENT

Table 3.7-3 List of Vegetation Species Observed (Page 2 of 2)

| Scientific Name | Common Name | Upland Big Sagebrush Shrubland | Lowland Big Sagebrush Shrubland |
|---|-------------------------------|---|--|
| ANNUAL FORBS | | | |
| <i>Alyssum desertorum</i> | Desert Alyssum | | x |
| <i>Chenopodium album</i> | Goosefoot | | x |
| <i>Chenopodium leptophyllum</i> | Narrowleaf Goosefoot | | x |
| <i>Cordylanthus ramosus</i> | Cordylanthus | | x |
| <i>Cryptantha minima</i> | Small Cryptantha | | x |
| <i>Descurainia pinnata</i> | Tansy Mustard | | x |
| <i>Gayophytum ramossissimum</i> | Gaywings | | x |
| <i>Lupinus kingii</i> | Annual Lupine | x | |
| <i>Microsteris micrantha</i> | Microsteris | | x |
| <i>Navarettia breweri</i> | Navarettia | | x |
| <i>Polygonum aviculare</i> | Devil's Shoestrings | | x |
| <i>Polygonum sawatchense</i> | Sawatch Knotweed | | x |
| <i>Sisymbrium altissimum</i> | Tumbling Hedge Mustard | | x |
| SEMI-SHRUBS | | | |
| <i>Artemisia frigida</i> | Fringed Sagewort | x | |
| <i>Artemisia spinescens</i> | Bud Sage | x | |
| <i>Ceratoides lanata</i> | Winterfat | x | x |
| <i>Gutierrezia sarothrae</i> | Broom Snakeweed | x | |
| <i>Leptodactylon pungens</i> | Leptodactylon | x | x |
| CACTI | | | |
| <i>Opuntia polyacantha</i> | Plains Prickly Pear Cactus | x | x |
| SHRUBS | | | |
| <i>Artemisia tridentata</i> | Big Sagebrush | x | x |
| <i>Chrysothamnus nauseosus</i> | Rubber Rabbitbrush | x | x |
| <i>Chrysothamnus viscidiflorus</i> | Rabbitbrush | x | x |
| LICHENS | | | |
| <i>Parmelia chlorochroa</i> (lichen) | Parmelia | x | x |
| Total Species in Each Vegetation Type | | 36 | 43 |
| Total Number of Species = 58 | | | |

Figure 3.7-4 Photo of the Upland Big Sagebrush Shrubland

* Photo taken at N42° 07' 04.2"; W107° 53' 10.7", looking south, September 2006

The major species in the Upland Big Sagebrush Shrubland type is big sagebrush, which occurs at a mean absolute cover of 14 percent, and accounts for 54 percent of the cover by all species. Sandberg bluegrass (*Poa secunda*), needle-and-thread grass (*Stipa comata*), Indian ricegrass (*Oryzopsis hymenoides*), and thickspike wheatgrass (*Agropyron dasystachyum*) occur as the most prevalent perennial grass species. Together, these four species had a mean cover of eight percent and accounted for 31 percent of the cover by all species. Cushion plants are common in this vegetation type, but collectively accounted for only six percent of the cover by all species (**Table 3.7-4**). Even though the mean cover values for these species are low, they were commonly encountered along all the sample transects. The mean total vegetation cover in this type was 26 percent, the cover by litter and rock combined was 22 percent, the bare soil category was 52 percent, and the total ground cover (vegetation plus litter and rock) was 48 percent. The percent cover by bare soil is a reflection of the sparseness of the vegetation in the Upland Big Sagebrush Shrubland type. Even though there is a considerable amount of bare soil, the vegetation development is very homogeneous across the upland parts of the Permit Area. In general, vegetation development in the region is restricted because of the limited amount of annual precipitation.

Table 3.7-4 Cover Parameters of the Upland Big Sagebrush Shrubland (Page 1 of 3)

| Species | Mean Cover (percent) | Relative Cover (percent) | Lowest Cover Value (percent) | Highest Cover Value (percent) | Frequency (percent) | Relative Frequency (percent) | Importance Value | Rank |
|---|----------------------|--------------------------|------------------------------|-------------------------------|---------------------|------------------------------|------------------|------|
| COOL SEASON PERENNIAL GRASSES AND GRASSLIKE PLANTS | | | | | | | | |
| <i>Agropyron dasystachyum</i> | 0.9 | 3.45 | 0 | 6 | 95 | 6.69 | 10.14 | 5 |
| <i>Agropyron spicatum</i> | 0.6 | 2.30 | 0 | 4 | 50 | 3.52 | 5.82 | 10 |
| <i>Koeleria macrantha</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.35 | 0.35 | 23 |
| <i>Oryzopsis hymenoides</i> | 1.5 | 5.75 | <1 | 10 | 100 | 7.04 | 12.79 | 4 |
| <i>Poa secunda</i> | 3.5 | 13.41 | <1 | 10 | 100 | 7.04 | 20.45 | 2 |
| <i>Sitanion longifolium</i> | <0.1 | <0.1 | 0 | <1 | 45 | 3.17 | 3.17 | 15 |
| <i>Stipa comata</i> | 2.3 | 8.81 | 0 | 16 | 80 | 5.63 | 14.45 | 3 |
| Sub-Total | 8.8 | | | | | | | |
| PERENNIAL FORBS | | | | | | | | |
| <i>Allium textile</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.35 | 0.35 | 23 |
| <i>Arabis sp.</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.35 | 0.35 | 23 |
| <i>Astragalus mollissimus</i> | <0.1 | <0.1 | 0 | <1 | 30 | 2.11 | 2.11 | 18 |
| <i>Cryptantha thrysiflora</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.35 | 0.35 | 23 |
| <i>Erigeron pumilus</i> | <0.1 | <0.1 | 0 | <1 | 90 | 6.34 | 6.34 | 9 |
| <i>Hymenoxis acaulis</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.35 | 0.35 | 23 |
| <i>Machaeranthera canescens</i> | <0.1 | <0.1 | 0 | <1 | 15 | 1.06 | 1.06 | 20 |
| <i>Trifolium gymnocarpon</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.35 | 0.35 | 23 |
| Sub-Total | <0.1 | | | | | | | |

Table 3.7-4 Cover Parameters of the Upland Big Sagebrush Shrubland (Page 2 of 3)

| Species | Mean Cover (percent) | Relative Cover (percent) | Lowest Cover Value (percent) | Highest Cover Value (percent) | Frequency (percent) | Relative Frequency (percent) | Importance Value | Rank |
|--------------------------------|----------------------|--------------------------|------------------------------|-------------------------------|---------------------|------------------------------|------------------|------|
| CUSHION PLANTS | | | | | | | | |
| <i>Arenaria hookeri</i> | 0.2 | 0.77 | 0 | <1 | 75 | 5.28 | 5.28 | 11 |
| <i>Astragalus spatulatus</i> | 0.1 | 0.38 | 0 | 2 | 15 | 1.06 | 1.06 | 20 |
| <i>Eriogonum acaule</i> | <0.1 | <0.1 | 0 | <1 | 10 | 0.70 | 0.70 | 22 |
| <i>Eriogonum ovalifolium</i> | <0.1 | <0.1 | 0 | <1 | 55 | 3.87 | 3.87 | 13 |
| <i>Haplopappus acaulis</i> | <0.1 | <0.1 | 0 | <1 | 65 | 4.58 | 4.58 | 12 |
| <i>Paronychia sessiliflora</i> | 0.2 | 0.77 | 0 | 2 | 45 | 3.17 | 3.17 | 15 |
| <i>Phlox hoodii</i> | 1.6 | 6.13 | 0 | 6 | 100 | 7.04 | 7.04 | 8 |
| Sub-Total | 2.1 | | | | | | | |
| SEMI-SHRUBS | | | | | | | | |
| <i>Artemisia frigida</i> | 0.1 | 0.38 | 0 | 2 | 30 | 2.11 | 2.11 | 18 |
| <i>Artemisia spinescens</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.35 | 0.35 | 23 |
| <i>Ceratoides lanata</i> | 0.5 | 1.92 | 0 | <1 | 55 | 3.87 | 3.87 | 13 |
| <i>Leptodactylon pungens</i> | <0.1 | <0.1 | 0 | <1 | 40 | 2.82 | 2.82 | 17 |
| Sub-Total | 0.6 | | | | | | | |
| CACTI | | | | | | | | |
| <i>Opuntia polyacantha</i> | 0.2 | 0.77 | 0 | 2 | 95 | 6.69 | 7.46 | 7 |

Table 3.7-4 Cover Parameters of the Upland Big Sagebrush Shrubland (Page 3 of 3)

| Species | Mean Cover (percent) | Relative Cover (percent) | Lowest Cover Value (percent) | Highest Cover Value (percent) | Frequency (percent) | Relative Frequency (percent) | Importance Value | Rank |
|--|----------------------|--------------------------|------------------------------|-------------------------------|---------------------|------------------------------|------------------|------|
| SHRUBS | | | | | | | | |
| <i>Artemisia tridentata</i> | 14.1 | 54.02 | 6 | 26 | 100 | 7.04 | 61.07 | 1 |
| <i>Chrysothamnus viscidiflorus</i> | 0.3 | 1.15 | 0 | 2 | 95 | 6.69 | 7.84 | 6 |
| Sub-Total | 14.4 | | | | | | | |
| LICHENS | | | | | | | | |
| <i>Parmelia chlorochroa</i> (lichen) | 1.0 | | 0 | 8 | 90 | | | |
| Number of Species per 100 m ² | 15.1 | | | | | | | |
| | | SD¹ | | | | | | |
| Total Vegetation Cover | 26.1 | 4.962 | | | | | | |
| Total Cover by Perennial Species | 24.0 | 5.272 | | | | | | |
| Litter and Rock Combined | 22 | 5.657 | | | | | | |
| Litter (and lichens) | 22 | 5.657 | | | | | | |
| Rock | | | | | | | | |
| Bare Soil | 51.9 | 6.973 | | | | | | |
| Total Ground Cover | 48.1 | 6.973 | | | | | | |

Shrubs are abundant in this vegetation type. Big sagebrush occurred at a density of 12,332 individuals per acre (about three individuals per square meter) and rabbitbrush (*Chrysothamnus viscidiflorus*) occurred at a density of 1,490 individuals per acre (0.4 individuals per square meter). While these shrub species occur at high densities, none of the plants are tall. In general, most of the plants are less than 0.5 meters in height and many are less than 0.25 meters in height. Semi-shrubs are also common in these upland areas. The total density for semi-shrub species was 2,583 individuals per acre (0.64 individuals per square meter), with winterfat (*Ceratoides lanata*) and prickly gilia (*Leptodactylon pungens*) occurring as the most prevalent of the semi-shrub species (**Table 3.7-5**).

In all, 36 species were observed in the Upland Big Sagebrush Shrubland type (**Table 3.7-2**), with a mean density of about 15 species per 50 square meters.

Table 3.7-5 Shrub, Semi-Shrub, and Cactus Densities of the Upland Big Sagebrush Shrubland

| Species | Upland Big Sagebrush Shrubland | | | Lowland Big Sagebrush Shrubland | | |
|------------------------------------|--------------------------------|-------------------------|-----------------|---------------------------------|-------------------------|-----------------|
| | Frequency (percent) | Mean # per square meter | Mean # per acre | Frequency (percent) | Mean # per square meter | Mean # per acre |
| SHRUBS | | | | | | |
| <i>Artemisia tridentata</i> | 100 | 3.046 | 12,332 | 100 | 3.561 | 14,417 |
| <i>Chrysothamnus nauseosus</i> | 0 | 0 | 0 | 35 | 0.027 | 109 |
| <i>Chrysothamnus viscidiflorus</i> | 95 | 0.368 | 1490 | 95 | 0.64 | 2,591 |
| Total Shrubs | | 3.414 | 13,822 | | 4.228 | 17,117 |
| SEMI-SHRUBS | | | | | | |
| <i>Artemisia frigida</i> | 30 | 0.048 | 194 | 0 | 0 | 0 |
| <i>Artemisia spinescens</i> | 5 | 0.003 | 12 | 0 | 0 | 0 |
| <i>Ceratoides lanata</i> | 55 | 0.467 | 1,891 | 15 | 0.003 | 12 |
| <i>Leptodactylon pungens</i> | 40 | 0.120 | 486 | 35 | 0.055 | 223 |
| Total Semi-Shrubs | | 0.638 | 2,583 | | 0.058 | 235 |
| CACTI | | | | | | |
| <i>Opuntia polyacantha</i> | 95 | 0.09 | 364 | 50 | 0.069 | 279 |

3.7.2.2 Lowland Big Sagebrush Shrubland Type

The Lowland Big Sagebrush Shrubland type on the Permit Area occurs along and immediately adjacent to the ephemeral drainages that cross the Permit Area from north to south (**Figure 3.7-1**). **Figure 3.7-5** is a photograph of an area typical of this vegetation type. Overall this type covers approximately 15 percent of the main Permit Area and four percent of the area along the East and West Access Roads. The soils along the drainages have the potential for holding more moisture than the upland areas. The increased potential soil moisture allows for more growth by big sagebrush so that the individual shrubs growing along the drainages tend to be much larger than the shrubs growing on the upland areas. Along some of the drainages, there are individual big sagebrush plants that are more than two meters tall that have stem diameters greater than 20 centimeters. Slope measurements along the sampled transects in this type ranged between zero and three percent; and all of the transects were either flat or had a southerly aspect component (**Table 3.7-1**).

Figure 3.7-5 Photo of the Lowland Big Sagebrush Shrubland



* Photo taken at N42° 08' 27.2"; W107° 49' 13.7", looking south, September, 2006

The major species in the Lowland Big Sagebrush Shrubland type is big sagebrush, which occurred at a mean cover of 31 percent and accounted for 72 percent of the cover by all species. Rabbitbrush had a mean cover of three percent and accounted for eight percent of the total vegetation cover. These two dominant

shrub species tend to overwhelm the vegetation to the degree that herbaceous species account for only limited amounts of cover in this type. All native perennial grasses combined had a mean cover of seven percent (16 percent of the total vegetation cover), with Sandberg bluegrass (*Poa secunda*), thickspike wheatgrass (*Agropyron dasystachyum*), and squirreltail grass (*Sitanion longifolium*) occurring as the most prevalent perennial grass species. Forb species occur throughout this type, but all occurred at mean cover values that were less than one percent. As a group, all forbs and cushion plants accounted for approximately three percent of the total vegetation cover. The mean total vegetation cover in this type was 43 percent, the cover by litter and rock combined was 34 percent, the bare soil category was 23 percent, and the total ground cover (vegetation plus litter and rock) was 77 percent (**Table 3.7-6**). Overall, the vegetation cover in the Lowland Big Sagebrush Shrubland type was 17 percent greater than the cover in the Upland Big Sagebrush Shrubland type.

Shrubs are abundant in this vegetation type. Big sagebrush occurred at a density of 14,417 individuals per acre (3.6 individuals per square meter), and rabbitbrush (*Chrysothamnus viscidiflorus*) occurred at a density of 2,591 individuals per acre (0.6 individuals per square meter). Semi-shrubs occur in this type, but the overall densities are lower than the densities for semi-shrubs in the upland areas. The total density for semi-shrub species was 235 individuals per acre (0.1 individuals per square meter), with prickly gilia (*Leptodactylon pungens*) occurring as the most common of the semi-shrub species (**Table 3.7-5**).

In all, 43 species were observed in this type (**Table 3.7-2**) with a mean density of about 13 species per 50 square meters. All of the raw data for vegetation cover and shrub density in this vegetation type are presented in Appendix D8 of the WDEQ-LQD Permit to Mine (LCI, 2011b).

3.7.2.3 Endangered or Threatened Species

Threatened and endangered species known to the region include the blowout penstemon (*Penstemon haydenii*) and the desert yellowhead (*Yermo xanthocephalus*). An additional 12 rare plant species are known to occur in Sweetwater County (**Table 3.7-2**). No threatened, endangered, or plant species of special concern were observed on the Permit Area; and no rare plants or appropriate habitat for them were found along the roadways.

Table 3.7-6 Cover Parameters of the Lowland Big Sagebrush Shrubland (Page 1 of 3)

| Species | Mean Cover (percent) | Relative Cover (percent) | Lowest Cover Value (percent) | Highest Cover Value (percent) | Frequency (percent) | Relative Frequency (percent) | Importance Value | Rank |
|---|----------------------|--------------------------|------------------------------|-------------------------------|---------------------|------------------------------|------------------|------|
| COOL SEASON PERENNIAL GRASSES AND GRASSLIKE PLANTS | | | | | | | | |
| <i>Agropyron dasystachyum</i> | 1.2 | 2.78 | 0 | 8 | 90 | 7.09 | 9.87 | 4 |
| <i>Agropyron spicatum</i> | 0.3 | 0.70 | 0 | 2 | 25 | 1.97 | 2.66 | 16 |
| <i>Carex douglasii</i> | 0.2 | 0.46 | 0 | 2 | 20 | 1.57 | 2.04 | 20 |
| <i>Carex eleocharis</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.39 | 0.39 | 32 |
| <i>Elymus cinereus</i> | 0.2 | 0.46 | 0 | 2 | 15 | 1.18 | 1.65 | 22 |
| <i>Koeleria macrantha</i> | 0.1 | 0.23 | 0 | 2 | 10 | 0.79 | 1.02 | 26 |
| <i>Muhlenbergia richardsonis</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.39 | 0.39 | 32 |
| <i>Oryzopsis hymenoides</i> | 0.7 | 1.62 | 0 | 4 | 65 | 5.12 | 6.74 | 7 |
| <i>Poa secunda</i> | 2.3 | 5.34 | 0 | 8 | 90 | 7.09 | 12.42 | 3 |
| <i>Sitanion longifolium</i> | 0.4 | 0.93 | 0 | 4 | 95 | 7.48 | 8.41 | 5 |
| <i>Stipa comata</i> | 0.8 | 1.86 | 0 | 4 | 55 | 4.33 | 6.19 | 8 |
| <i>Stipa lettermannii</i> | 0.7 | 1.62 | 0 | 4 | 45 | 3.54 | 5.17 | 9 |
| Sub-Total | 6.9 | | | | | | | |
| PERENNIAL FORBS | | | | | | | | |
| <i>Allium textile</i> | <0.1 | <0.1 | 0 | <1 | 20 | 1.57 | 1.57 | 23 |
| <i>Antennaria rosea</i> | <0.1 | <0.1 | 0 | <1 | 10 | 0.79 | 0.79 | 27 |
| <i>Arabis sp.</i> | <0.1 | <0.1 | 0 | <1 | 35 | 2.76 | 2.76 | 13 |
| <i>Crepis occidentalis</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.39 | 0.39 | 32 |
| <i>Senecio integerrimus</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.39 | 0.39 | 32 |
| <i>Trifolium gymnocarpon</i> | 0.1 | 0.23 | 0 | 2 | 30 | 2.36 | 2.59 | 17 |
| Sub-Total | 0.1 | | | | | | | |

Table 3.7-6 Cover Parameters of the Lowland Big Sagebrush Shrubland (Page 2 of 3)

| Species | Mean Cover (percent) | Relative Cover (percent) | Lowest Cover Value (percent) | Highest Cover Value (percent) | Frequency (percent) | Relative Frequency (percent) | Importance Value | Rank |
|---------------------------------|----------------------|--------------------------|------------------------------|-------------------------------|---------------------|------------------------------|------------------|------|
| CUSHION PLANTS | | | | | | | | |
| <i>Arenaria hookeri</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.39 | 0.39 | 32 |
| <i>Eriogonum acaule</i> | 0.1 | 0.23 | 0 | 2 | 25 | 1.97 | 2.20 | 18 |
| <i>Eriogonum ovalifolium</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.39 | 0.39 | 32 |
| <i>Phlox hoodii</i> | <0.1 | <0.1 | 0 | <1 | 35 | 2.76 | 2.76 | 13 |
| Sub-Total | 0.1 | | | | | | | |
| ANNUAL FORBS | | | | | | | | |
| <i>Alyssum desertorum</i> | 0.2 | 0.46 | 0 | 2 | 20 | 1.57 | 2.04 | 19 |
| <i>Chenopodium album</i> | <0.1 | <0.1 | 0 | <1 | 10 | 0.79 | 0.79 | 27 |
| <i>Chenopodium leptophyllum</i> | <0.1 | <0.1 | 0 | <1 | 10 | 0.79 | 0.79 | 27 |
| <i>Cordylanthus ramosus</i> | 0.7 | 1.62 | 0 | 4 | 85 | 6.69 | 8.32 | 6 |
| <i>Cryptantha minima</i> | <0.1 | <0.1 | 0 | <1 | 20 | 1.57 | 1.57 | 23 |
| <i>Descurainia pinnata</i> | <0.1 | <0.1 | 0 | <1 | 25 | 1.97 | 1.97 | 21 |
| <i>Gayophytum ramosissimum</i> | 0.2 | 0.46 | 0 | 2 | 50 | 3.94 | 4.40 | 10 |
| <i>Microsteris micrantha</i> | <0.1 | <0.1 | 0 | <1 | 5 | 0.39 | 0.39 | 32 |
| <i>Navaretia breweri</i> | <0.1 | <0.1 | 0 | <1 | 10 | 0.79 | 0.79 | 27 |
| <i>Polygonum sawatchense</i> | <0.1 | <0.1 | 0 | <1 | 10 | 0.79 | 0.79 | 27 |
| Sub-Total | 1.1 | | | | | | | |
| SEMI-SHRUBS | | | | | | | | |
| <i>Ceratoides lanata</i> | <0.1 | <0.1 | 0 | <1 | 15 | 1.18 | 1.18 | 25 |
| <i>Leptodactylon pungens</i> | <0.1 | <0.1 | 0 | <1 | 35 | 2.76 | 2.76 | 13 |
| Sub-Total | <0.1 | | | | | | | |

Table 3.7-6 Cover Parameters of the Lowland Big Sagebrush Shrubland (Page 3 of 3)

| Species | Mean Cover (percent) | Relative Cover (percent) | Lowest Cover Value (percent) | Highest Cover Value (percent) | Frequency (percent) | Relative Frequency (percent) | Importance Value | Rank |
|--|----------------------|--------------------------|------------------------------|-------------------------------|---------------------|------------------------------|------------------|------|
| CACTI | | | | | | | | |
| <i>Opuntia polyacantha</i> | 0.1 | 0.23 | 0 | 2 | 50 | 3.94 | 4.17 | 11 |
| SHRUBS | | | | | | | | |
| <i>Artemisia tridentata</i> | 30.9 | 71.69 | 10 | 48 | 100 | 7.87 | 79.57 | 1 |
| <i>Chrysothamnus nauseosus</i> | 0.5 | 1.16 | 0 | 6 | 35 | 2.76 | 3.92 | 12 |
| <i>Chrysothamnus viscidiflorus</i> | 3.4 | 7.89 | 0 | 18 | 95 | 7.48 | 15.37 | 2 |
| Sub-Total | 34.8 | | | | | | | |
| LICHENS | | | | | | | | |
| <i>Parmelia chlorochroa (lichen)</i> | 0.1 | | | | | | | |
| | | | | | | | | |
| Number of Species per 100 m ² | 12.8 | | | | | | | |
| | | SD ¹ | | | | | | |
| Total Vegetation Cover | 43.1 | 8.813 | | | | | | |
| Total Cover by Perennial Species | 42.0 | 8.360 | | | | | | |
| Litter and Rock Combined | 33.8 | 11.678 | | | | | | |
| Litter (and lichens) | 33.8 | 11.678 | | | | | | |
| Rock | | | | | | | | |
| Bare Soil | 23.1 | 15.874 | | | | | | |
| Total Ground Cover | 76.9 | 15.874 | | | | | | |

[†] Based on data from twenty 25-meter point intercept transects sampled June 10 to 12, 2006

¹ SD = standard deviation

3.7.2.4 Weeds and Vegetation Communities with Limited Reclamation Potential

Overall, the Permit Area has very few weeds. In reference to the List of Prohibited and Restricted Noxious (Designated) Weeds in WDEQ-LQD Guideline No. 2 (1997), only one noxious weed species, tansy mustard (*Descurainia pinnata*), was noted on the Permit Area (**Table 3.7-3**). Tansy mustard is designated as a restricted noxious weed and was observed as scattered individuals in the Lowland Big Sagebrush Shrubland. Tansy mustard was not actually encountered as part of the cover sampling; however, it did occur within one meter of either side of five of the 20 Lowland Big Sagebrush Shrubland transects and has a relative frequency of 1.97 percent. No areas dominated by weedy species were observed on the Permit Area.

No vegetation communities with limited reclamation potential (LRP) or plant species indicative of soils with LPR were found on the Permit Area. Halophytes and salt-tolerant herbaceous species were among the vegetation species observed (e.g., Narrowleaf Goosefoot [*Chenopodium leptophyllum*] and Western Wheatgrass [*Agropyron smithii*]), but the vegetation communities are dominated by Big Sagebrush (*Artemisia tridentata*) rather than Greasewood (*Sarcobatus* spp.) or Saltbush (*Atriplex* spp.). No selenium indicator species, such as Prince's Plume (*Stanleya pinnata*), were observed on the site, and none of the soils on the Permit Area are considered to be seleniferous (**Section 3.4.6**). As noted in the discussion of the soil data, there was surface disturbance prior to LCI exploration within the Permit Area. Most of this disturbance was due to historical exploration activities for oil and gas, as well as for uranium, and to livestock and wildlife grazing. In general, there were no reclamation requirements historically, so the areas of prior disturbance may be bare or some vegetation has naturally established. However, the extent of the historic disturbance in areas to be redisturbed and then reclaimed as part of the proposed action is limited and is not anticipated to interfere with the future reclamation.

3.8 Wildlife

The Permit Area is located in the Wyoming Basin ecoregion (Chapman et al., 2004) at an elevation of approximately 7,000 feet above mean sea level. With approximately 260 feet of relief, sub-zero winter temperatures, and less than ten inches of annual precipitation, vegetation development and species diversity are limited. The topography is characterized by rolling plains with small, ephemeral drainages dissecting the area. There are no perennial water sources within the Permit Area (**Section 3.5**). Crooked Well Reservoir, a stock pond located in Section 16 of Township 25 North, Range 92 West, contains water only seasonally (**Figure 3.5-4**). The Permit Area covers approximately 4,254 acres, which includes the 4,194-acre main Permit Area and the East and West Access Roads, which extend to the east (26 acres) and west (34 acres). Land ownership of the Permit Area is under the jurisdiction of the BLM and the State of Wyoming.

Wildlife inventories of the Permit Area were conducted in 2006 through 2011. The inventories provided baseline data for permitting the ISR Project and ensured that wildlife species and habitats would be afforded adequate protection during Construction, Operation, and Reclamation. At the request of the BLM, additional baseline studies for the spadefoot toad and Wyoming pocket gopher were performed in 2010. Additionally, the Greater sage-grouse monitoring area was expanded in 2010 to more accurately address the SGIT stipulations (Mead, 2011 and Wyoming Interagency, 2011). Detailed results of the 2010 and 2011 wildlife inventories are included in the Project's 2010 and 2011 Annual Wildlife Monitoring Reports [LWR Consultants, Inc. and Wyoming Wildlife Consultants, Inc., 2011 and 2012, respectively (**Appendix C**)].

Data collection for the wildlife surveys included file searches of state and federal agency documents. Wildlife studies focused on threatened and endangered (T&E) species, Migratory Birds of High Federal Interest (MBHFI), raptors, Greater sage-grouse leks and nesting habitat, breeding birds, Pygmy rabbits, big game, Wyoming pocket gopher, and spadefoot toad as well as a general wildlife inventory of the Permit Area.

In order to identify the off-site habitat and individuals that could be affected by Project activities, a two-mile perimeter around the Permit Area was included for Greater sage-grouse and big game, and a one-mile perimeter around the Permit Area was included for raptors. In 2010, the area surveyed for Greater sage-grouse was expanded even further.

3.8.1 Habitat Description and Wildlife Species

The vegetation in the Permit Area is described in detail in **Section 3.7**. The wildlife habitat in the Permit Area is predominantly Upland and Lowland Big

Sagebrush Shrublands (**Figure 3.7-1**). Other wildlife habitats include cushion plant communities, small isolated patches of grassland, and disturbed lands.

The Upland Big Sagebrush Shrubland wildlife habitat dominates the Permit Area and is generally found on flat and rolling hills. This habitat is important for pronghorn, mule deer, Greater sage-grouse, white-tailed prairie dogs, and reptiles. Raptors often hunt in Big Sagebrush Shrubland habitat, and Greater sage-grouse leks are typically located on ridge tops or other open areas.

The Lowland Big Sagebrush Shrubland wildlife habitat is found along drainages and swales. This habitat type has significantly more vegetation cover than the Upland Big Sagebrush Shrubland. The Lowland Big Sagebrush Shrubland wildlife habitat also provides important cover for resident and migratory birds, reptiles, and small mammals. The taller big sagebrush provides potential nesting sites for raptors and critical forage for ungulates and Greater sage-grouse during winters with extreme snowfall.

A list of wildlife species that potentially occur in the Permit Area is provided in **Table 3.8-1**. A total of 224 wildlife species potentially occur in the Permit Area. Of these, 164 species are birds, 51 species are mammals, four species are amphibians, and five species are reptiles. Species with known occurrence in or around the Permit Area are also indicated in the table.

3.8.2 Methods

3.8.2.1 File and Data Searches

Locations of raptor nest sites, Greater sage-grouse leks, prairie dog towns, big game ranges, and T&E species were obtained by request from GIS data from the BLM, WGFD, and the University of Wyoming. WGFD publications and the computerized WGFD Wildlife Observation System (WOS) of the Permit Area were reviewed (WGFD, 2008a) and are presented in Attachment D9-1 of the WDEQ-LQD Permit to Mine (LCI, 2011b).

A copy of the Sweetwater Uranium Facility Environmental Report (Shepherd Miller, Inc., 1994) that covered a study area southwest of the Permit Area was also reviewed. The Shepherd Miller study was used as an initial survey reference for the area for T&E plant and animal species, big game ranges, Greater sage-grouse leks, and raptor nest sites.

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 1 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|---------------------------|----------------------------------|----------------|--------|--|
| BIRDS | | | | |
| Pied-billed Grebe | <i>Podilymbus podiceps</i> | Fairly Common | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Eared Grebe | <i>Podiceps nigricollis</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| American White Pelican | <i>Pelecanus erythrorhynchos</i> | Fairly Common | NSS3 | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Great Blue Heron | <i>Ardea herodias</i> | Uncommon | NSS4 | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Snowy Egret | <i>Egretta thula</i> | Rare | NSS3 | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Black-crowned Night-Heron | <i>Nycticorax nycticorax</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Canada Goose | <i>Branta canadensis</i> | Uncommon | | x |
| Green-winged Teal | <i>Anas crecca</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Mallard | <i>Anas platyrhynchos</i> | Fairly Common | | x |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page □ of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|-------------------|---------------------------|----------------|--------|--|
| Northern Pintail | <i>Anas acuta</i> | Uncommon | NSS3 | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Gadwall | <i>Ana strepera</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Blue-winged Teal | <i>Anas discors</i> | Fairly Common | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Cinnamon Teal | <i>Anas cyanoptera</i> | Fairly Common | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Northern Shoveler | <i>Anas clypeata</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| American Wigeon | <i>Anas americana</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Canvasback | <i>Aythya valisineria</i> | Rare | NSS3 | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Redhead | <i>Aythya americana</i> | Rare | NSS3 | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Common Goldeneye | <i>Bucephala clangula</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 3 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|--------------------|---------------------------------|----------------|-----------------|--|
| Bufflehead | <i>Bucephala albeola</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Hooded Merganser | <i>Lophodytes cucullatus</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Common Merganser | <i>Mergus merganser</i> | Fairly Common | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Ruddy Duck | <i>Oxyura jamaicensis</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Turkey Vulture | <i>Cathartes aura</i> | Common | | x |
| Osprey | <i>Pandion haliaetus</i> | Rare | | No lake, pond or stream foraging habitat present |
| Bald Eagle | <i>Haliaeetus leucocephalus</i> | Unknown | MBHFI, FT, NSS2 | |
| Northern Harrier | <i>Circus cyaneus</i> | Common | | x |
| Sharp-shinned Hawk | <i>Accipiter striatus</i> | Uncommon | | x |
| Cooper's Hawk | <i>Accipiter cooperii</i> | Uncommon | | |
| Northern Goshawk | <i>Accipiter gentilis</i> | Uncommon | SSS, NSS4 | No forested habitat present, nearest potential habitat on Green Mountain |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page □ of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|-------------------|----------------------------------|----------------|--------------------------------|-------------------|
| Swainson's Hawk | <i>Buteo swainsoni</i> | Common | BCC, MBHFI, NSS4 | x |
| Red-tailed Hawk | <i>Buteo jamaicensis</i> | Common | | x |
| Ferruginous Hawk | <i>Buteo regalis</i> | Common | BCC, MBHFI, SSS, NSS3 | x |
| Rough-legged Hawk | <i>Buteo lagopus</i> | Common | | x |
| Golden Eagle | <i>Aquila chrysaetos</i> | Common | BCC | x |
| American Kestrel | <i>Falco sparverius</i> | Common | | x |
| Merlin | <i>Falco columbarius</i> | Unknown | MBHFI, NSS3 | |
| Prairie Falcon | <i>Falco mexicanus</i> | Uncommon | BCC | x |
| Peregrine Falcon | <i>Falco peregrinus</i> | Unknown | BCC, MBHFI, SSS, NSS3 | |
| Sage Grouse | <i>Centrocercus urophasianus</i> | Common | MBHFI, SSS, NSS2, FC | x |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 1 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|--------------------|--------------------------------|----------------|--------------------------------|--|
| Sora | <i>Porzana carolina</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| American Coot | <i>Fulica americana</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Sandhill Crane | <i>Grus canadensis</i> | Rare | NSS3 | |
| Killdeer | <i>Charadrius vociferus</i> | Common | | x |
| Mountain Plover | <i>Charadrius montanus</i> | Unknown | BCC, MBHFI, SSS, NSS4 | Thick sagebrush cover provides poor nesting habitat on Permit Area |
| American Avocet | <i>Recurvirostra americana</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Greater Yellowlegs | <i>Tringa melanoleuca</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Lesser Yellowlegs | <i>Tringa flavipes</i> | Uncommon | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Spotted Sandpiper | <i>Actitis macularia</i> | Fairly Common | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Upland Sandpiper | <i>Bartramia longicauda</i> | Rare | BCC, MBHFI, NSS4 | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page □ of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|---------------------|----------------------------------|----------------|-----------------------|--|
| Long-billed Curlew | <i>Numenius americanus</i> | Uncommon | BCC, MBHFI, SSS, NSS3 | |
| Marbled Godwit | <i>Limosa fedoa</i> | Rare | BCC | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Wilson's Snipe | <i>Gallinago delicata</i> | Fairly Common | | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Wilson's Phalarope | <i>Phalaropus tricolor</i> | Uncommon | BCC | Nearest potential habitat at the Chain Lakes, approx. 7 miles south of Permit Area |
| Franklin's Gull | <i>Larus pipixcan</i> | Uncommon | | |
| Ring-billed Gull | <i>Larus delawarensis</i> | Uncommon | | |
| California Gull | <i>Larus californicus</i> | Uncommon | | |
| Rock Dove | <i>Columba livia</i> | Common | | |
| Band-tailed Pigeon | <i>Columba fasciata</i> | Unknown | | |
| Mourning Dove | <i>Zenaida macroura</i> | Abundant | | x |
| Black-billed Cuckoo | <i>Coccyzus erythrophthalmus</i> | Rare | MBHFI | |
| Great Horned Owl | <i>Bubo virginianus</i> | Fairly Common | | x |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 1 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|--------------------------|---------------------------------|----------------|------------------------|---|
| Snowy Owl | <i>Nyctea scandiaca</i> | Unknown | | Could only occur as a rare winter migrant |
| Western Burrowing Owl | <i>Athene cunicularia</i> | Uncommon | MBHFI, SSS, NSS4 | |
| Long-eared Owl | <i>Asio otus</i> | Uncommon | | |
| Short-eared Owl | <i>Asio flammeus</i> | Uncommon | MBHFI, NSS4 | |
| Common Nighthawk | <i>Chordeiles minor</i> | Common | | x |
| Common Poorwill | <i>Phalaenoptilus nuttallii</i> | Uncommon | | |
| White-throated Swift | <i>Aeronautes saxatalis</i> | Uncommon | | |
| Broad-tailed Hummingbird | <i>Selasphorus platycercus</i> | Rare | | |
| Rufous Hummingbird | <i>Selasphorus rufus</i> | Rare | | |
| Downy Woodpecker | <i>Picoides pubescens</i> | Uncommon | | |
| Hairy Woodpecker | <i>Picoides villosus</i> | Rare | | |
| Northern Flicker | <i>Colaptes auratus</i> | Uncommon | | |
| Western Wood-Pewee | <i>Contopus sordidulus</i> | Fairly Common | | |
| Empidonax Species | <i>Empidonax spp.</i> | Common | | |
| Willow Flycatcher | <i>Empidonax traillii</i> | Fairly Common | NSS3 | |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 8 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|-------------------------------|-----------------------------------|----------------|--------|-------------------|
| Hammond's Flycatcher | <i>Empidonax hammondi</i> | Uncommon | | |
| Gray Flycatcher | <i>Empidonax wrightii</i> | Common | | |
| Dusky Flycatcher | <i>Empidonax oberholseri</i> | Common | | |
| Say's Phoebe | <i>Sayornis saya</i> | Common | | |
| Cassin's Kingbird | <i>Tyrannus vociferans</i> | Uncommon | MBHFI | |
| Western Kingbird | <i>Tyrannus verticalis</i> | Common | | |
| Eastern Kingbird | <i>Tyrannus tyrannus</i> | Fairly Common | | |
| Horned Lark | <i>Eremophila alpestris</i> | Abundant | | x |
| Tree Swallow | <i>Tachycineta bicolor</i> | Fairly Common | | |
| Violet-green Swallow | <i>Tachycineta thalassina</i> | Fairly Common | | |
| Northern Rough-winged Swallow | <i>Stelgidopteryx serripennis</i> | Fairly Common | | |
| Bank Swallow | <i>Riparia riparia</i> | Common | | |
| Cliff Swallow | <i>Petrochelidon pyrrhonota</i> | Common | | |
| Barn Swallow | <i>Hirundo rustica</i> | Fairly Common | | |
| Steller's Jay | <i>Cyanocitta stelleri</i> | Uncommon | | |
| Pinyon Jay | <i>Gymnorhinus cyanocephalus</i> | Rare | | |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 18 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|-------------------------|------------------------------|----------------|--------|-------------------|
| Clark's Nutcracker | <i>Nucifraga columbiana</i> | Fairly Common | | |
| Black-billed Magpie | <i>Pica pica</i> | Abundant | | x |
| American Crow | <i>Corvus brachyrhynchos</i> | Fairly Common | | x |
| Common Raven | <i>Corvus corax</i> | Abundant | | x |
| Black-capped Chickadee | <i>Poecile atricapillus</i> | Uncommon | | |
| Mountain Chickadee | <i>Poecile gambeli</i> | Uncommon | | |
| Red-breasted Nuthatch | <i>Sitta canadensis</i> | Fairly Common | | |
| White-breasted Nuthatch | <i>Sitta carolinensis</i> | Rare | | |
| Brown Creeper | <i>Certhia americana</i> | Uncommon | | |
| Rock Wren | <i>Salpinctes obsoletus</i> | Common | | |
| House Wren | <i>Troglodytes aedon</i> | Uncommon | | |
| Western Bluebird | <i>Sialia mexicana</i> | Rare | | |
| Mountain Bluebird | <i>Sialia currucoides</i> | Common | | x |
| Townsend's Solitaire | <i>Myadestes townsendi</i> | Uncommon | | |
| Veery | <i>Catharus fuscescens</i> | Uncommon | | |
| Swainson's Thrush | <i>Catharus ustulatus</i> | Uncommon | | |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 1 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|-----------------------|-------------------------------|----------------|------------------------|-------------------|
| Hermit Thrush | <i>Catharus guttatus</i> | Uncommon | | |
| American Robin | <i>Turdus migratorius</i> | Common | | x |
| Gray Catbird | <i>Dumetella carolinensis</i> | Uncommon | | |
| Northern Mockingbird | <i>Mimus polyglottos</i> | Uncommon | | |
| Sage Thrasher | <i>Oreoscoptes montanus</i> | Common | MBHFI, SSS, NSS4 | x |
| European Starling | <i>Sturnus vulgaris</i> | Fairly Common | | |
| Bohemian Waxwing | <i>Bombycilla garrulus</i> | Uncommon | | |
| Cedar Waxwing | <i>Bombycilla cedrorum</i> | Uncommon | | |
| Northern Shrike | <i>Lanius excubitor</i> | Uncommon | | |
| Loggerhead Shrike | <i>Lanius ludovicianus</i> | Common | BCC, MBHFI, SSS | x |
| Warbling Vireo | <i>Vireo gilvus</i> | Uncommon | | |
| Yellow Warbler | <i>Dendroica petechia</i> | Fairly Common | | |
| Yellow-rumped Warbler | <i>Dendroica coronata</i> | Fairly Common | | |
| American Redstart | <i>Setophaga ruticilla</i> | Uncommon | | |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 11 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|------------------------|----------------------------------|----------------|--------|-------------------|
| Northern Waterthrush | <i>Seiurus noveboracensis</i> | Rare | | |
| MacGillivray's Warbler | <i>Oporornis tolmiei</i> | Uncommon | | |
| Common Yellowthroat | <i>Geothlypis trichas</i> | Uncommon | | |
| Yellow-breasted Chat | <i>Icteria virens</i> | Uncommon | | |
| Western Tanager | <i>Piranga ludoviciana</i> | Uncommon | | |
| Black-headed Grosbeak | <i>Pheucticus melanocephalus</i> | Rare | | |
| Blue Grosbeak | <i>Guiraca caerulea</i> | Rare | | |
| Lazuli Bunting | <i>Passerina amoena</i> | Uncommon | | |
| Indigo Bunting | <i>Passerina cyanea</i> | Unknown | | |
| Green-tailed Towhee | <i>Pipilo chlorurus</i> | Common | | |
| Spotted Towhee | <i>Pipilo maculatus</i> | Fairly Common | | |
| American Tree Sparrow | <i>Spizella arborea</i> | Uncommon | | x |
| Chipping Sparrow | <i>Spizella passerina</i> | Uncommon | | x |
| Clay-colored Sparrow | <i>Spizella pallida</i> | Rare | | x |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 1 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|----------------------------|----------------------------------|----------------|--------------------------------|-------------------|
| Brewer's Sparrow | <i>Spizella breweri</i> | Common | BCC, MBHFI, SSS, NSS4 | x |
| Vesper Sparrow | <i>Pooecetes gramineus</i> | Common | MBHFI | x |
| Lark Sparrow | <i>Chondestes grammacus</i> | Common | MBHFI | x |
| Sage Sparrow | <i>Amphispiza belli</i> | Fairly Common | MBHFI, SSS, NSS4 | x |
| Lark Bunting | <i>Calamospiza melanocorys</i> | Common | MBHFI, NSS4 | |
| Savannah Sparrow | <i>Passerculus sandwichensis</i> | Uncommon | | |
| Grasshopper Sparrow | <i>Ammodramus savannarum</i> | Uncommon | MBHFI, NSS4 | |
| Song Sparrow | <i>Melospiza melodia</i> | Uncommon | | |
| White-crowned Sparrow | <i>Zonotrichia leucophrys</i> | Uncommon | | |
| Dark-eyed Junco | <i>Junco hyemalis</i> | Common | | |
| McCown's Longspur | <i>Calcarius mccownii</i> | Uncommon | BCC, MBHFI, NSS4 | |
| Chestnut-collared Longspur | <i>Calcarius ornatus</i> | Unknown | MBHFI, NSS4 | x |
| Snow Bunting | <i>Plectrophenax nivalis</i> | Unknown | | |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 13 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|-------------------------|--------------------------------------|----------------|----------------|-------------------|
| Bobolink | <i>Dolichonyx oryzivorus</i> | Rare | MBHFI, NSS4 | |
| Red-winged Blackbird | <i>Agelaius phoeniceus</i> | Abundant | | |
| Western Meadowlark | <i>Sturnella neglecta</i> | Abundant | | x |
| Yellow-headed Blackbird | <i>Xanthocephalus xanthocephalus</i> | Rare | | |
| Brewer's Blackbird | <i>Euphagus cyanocephalus</i> | Abundant | | |
| Common Grackle | <i>Quiscalus quiscula</i> | Fairly Common | | |
| Brown-headed Cowbird | <i>Molothrus ater</i> | Fairly Common | | |
| Bullock's Oriole | <i>Icterus bullockii</i> | Rare | | |
| Gray-crowned Rosy Finch | <i>Leucosticte tephrocotis</i> | Fairly Common | | |
| Cassin's Finch | <i>Carpodacus cassinii</i> | Uncommon | | |
| House Finch | <i>Carpodacus mexicanus</i> | Uncommon | | |
| Red Crossbill | <i>Loxia curvirostra</i> | Uncommon | | |
| Pine Siskin | <i>Carduelis pinus</i> | Uncommon | | |
| American Goldfinch | <i>Carduelis tristis</i> | Fairly Common | | |
| House Sparrow | <i>Passer domesticus</i> | Uncommon | | |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 1 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|-----------------------------|----------------------------------|----------------|--------------|-------------------|
| MAMMALS | | | | |
| Masked Shrew | <i>Sorex cinereus</i> | Fairly Common | | |
| Pygmy Shrew | <i>Sorex hoyi</i> | Rare | | |
| Dusky Shrew | <i>Sorex monticolus</i> | Fairly Common | | |
| Dwarf Shrew | <i>Sorex nanus</i> | Rare | NSS3 | |
| Vagrant Shrew | <i>Sorex vagrans</i> | Rare | NSS3 | |
| Western Small-footed Myotis | <i>Myotis ciliolabrum</i> | Uncommon | NSS3 | |
| Long-eared Myotis | <i>Myotis evotis</i> | Uncommon | SSS | |
| Little Brown Myotis | <i>Myotis lucifugus</i> | Fairly Common | NSS3 | |
| Long-legged Myotis | <i>Myotis volans</i> | Unknown | NSS2 | |
| Hoary Bat | <i>Lasiurus cinereus</i> | Rare | NSS4 | |
| Silver-haired Bat | <i>Lasionycteris noctivagans</i> | Uncommon | NSS4 | |
| Big Brown Bat | <i>Eptesicus fuscus</i> | Fairly Common | NSS3 | |
| Townsend's Big-eared Bat | <i>Plecotus townsendii</i> | Rare | SSS, NSS2 | |
| Pallid Bat | <i>Antrozous pallidus</i> | Rare | NSS2 | |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 1 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|--------------------------------|--------------------------------------|----------------|--------------|-------------------|
| Pygmy Rabbit | <i>Brachylagus idahoensis</i> | Common | SSS, NSS3 | x |
| Desert Cottontail | <i>Sylvilagus audubonii</i> | Common | | x |
| Mountain Cottontail | <i>Sylvilagus nuttallii</i> | Fairly Common | | |
| White-tailed Jackrabbit | <i>Lepus townsendii</i> | Common | | x |
| Least Chipmunk | <i>Tamias minimus</i> | Common | | x |
| Wyoming Ground Squirrel | <i>Spermophilus elegans</i> | Common | | x |
| Thirteen-lined Ground Squirrel | <i>Spermophilus tridecemlineatus</i> | Common | | x |
| White-tailed Prairie Dog | <i>Cynomys leucurus</i> | Uncommon | SSS, NSS4 | |
| Wyoming Pocket Gopher | <i>Thomomys clusius</i> | Uncommon | SSL, NSS4 | x |
| Northern Pocket Gopher | <i>Thomomys talpoides</i> | Common | | x |
| American Beaver | <i>Castor canadensis</i> | Common | | |
| Olive-backed Pocket Mouse | <i>Perognathus fasciatus</i> | Common | NSS3 | |
| Ord's Kangaroo Rat | <i>Dipodomys ordii</i> | Common | | x |
| Western Harvest Mouse | <i>Reithrodontomys megalotis</i> | Uncommon | | |
| Deer Mouse | <i>Peromyscus maniculatus</i> | Abundant | | x |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 1 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|----------------------------|------------------------------|----------------|---------|-------------------|
| Northern Grasshopper Mouse | <i>Onychomys leucogaster</i> | Fairly Common | | x |
| Bushy-tailed Woodrat | <i>Neotoma cinerea</i> | Fairly Common | | |
| House Mouse | <i>Mus musculus</i> | Uncommon | | |
| Long-tailed Vole | <i>Microtus longicaudus</i> | Fairly Common | | |
| Montane Vole | <i>Microtus montanus</i> | Common | | |
| Prairie Vole | <i>Microtus ochrogaster</i> | Fairly Common | NSS3 | |
| Sagebrush Vole | <i>Lemmiscus curtatus</i> | Fairly Common | | |
| Western Jumping Mouse | <i>Zapus princeps</i> | Uncommon | | |
| Common Porcupine | <i>Erethizon dorsatum</i> | Uncommon | | |
| Coyote | <i>Canis latrans</i> | Abundant | | x |
| Red Fox | <i>Vulpes vulpes</i> | Common | | x |
| Raccoon | <i>Procyon lotor</i> | Rare | | x |
| Long-tailed Weasel | <i>Mustela frenata</i> | Fairly Common | | x |
| Black-footed Ferret | <i>Mustela nigripes</i> | Unknown | FE/NSS1 | |
| American Badger | <i>Taxidea taxus</i> | Common | | x |
| Western Spotted Skunk | <i>Spilogale gracilis</i> | Unknown | | |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 1 of 18)

| Common Name | Scientific Name | Abundance Code | Status | Confirmed on Site |
|----------------------------------|------------------------------|----------------|--------|-------------------|
| Striped Skunk | <i>Mephitis mephitis</i> | Common | | x |
| Mountain Lion | <i>Felis concolor</i> | Uncommon | | |
| Bobcat | <i>Lynx rufus</i> | Fairly Common | | x |
| American Elk | <i>Cervus elaphus</i> | Common | | x |
| Mule Deer | <i>Odocoileus hemionus</i> | Abundant | | x |
| Pronghorn | <i>Antilocapra americana</i> | Common | | x |
| Feral Horse | <i>Equus caballus</i> | Common | | x |
| AMPHIBIANS | | | | |
| Tiger Salamander | <i>Ambystoma tigrinum</i> | Fairly Common | | |
| Great Basin Spadefoot Toad | <i>Spea intermontana</i> | Unknown | SSS | |
| Western Chorus Frog | <i>Pseudacris triseriata</i> | Unknown | | |
| Northern Leopard Frog | <i>Rana pipiens</i> | Rare | SSS | |
| REPTILES | | | | |
| Northern Sagebrush Lizard | <i>Sceloporus graciosus</i> | Common | | |
| Greater Short-horned Lizard | <i>Phrynosoma hernandesi</i> | Common | | x |
| Great Basin Gopher Snake | <i>Pituophis catenifer</i> | Rare | | |
| Western Terrestrial Garter Snake | <i>Thamnophis elegans</i> | Fairly Common | | x |
| Prairie Rattlesnake | <i>Crotalus viridis</i> | Uncommon | | x |

Table 3.8-1 Wildlife Species Observed or Potentially Occurring in the Permit Area (Page 18 of 18)

Notes:

Abundance Code

- Abundant** - A species that inhabits much of the preferred habitat within its range. The species or its sign is typically encountered while using survey techniques that could be expected to indicate its presence.
- Common** - A species that inhabits much of the preferred habitat within its range. The species or its sign is usually encountered while using survey techniques that could be expected to indicate its presence.
- Uncommon** - A species that is common only in limited areas within its range or is found throughout its range in relatively low densities. Intensive surveying is usually required to locate the species or its sign.
- Rare** - A species that occupies only a small percentage of the preferred habitat within its range or is found throughout its range in extremely low densities. The species or its sign is seldom encountered while using survey techniques that could be expected to indicate its presence.
- Unknown** - Insufficient information is available to determine abundance. Species is difficult to observe without specialized survey techniques.

Status:

Federal – Endangered Species Act

- FT - Federally listed threatened species
- FC - Federal candidate species

Federal – Migratory Bird Treaty Act

- BCC - Birds of Conservation Concern species identified by the USFWS as those migratory non-game birds that without additional conservation actions are likely to become candidates for listing under the Endangered Species Act.

Federal – Migratory Birds of High Federal Interest in Wyoming

- MBHFI - List used by the USFWS, Wyoming Field Office for reviews concerning existing or proposed coal mine leased land.

BLM – Special Status Species

- SSS - BLM Special Status Species are species protected under the Endangered Species Act and those designated by the State Director as Sensitive. Sensitive species are those under status review by the USFWS/National Marine and Fisheries Service (NMFS), or whose numbers are declining so rapidly that Federal listing may become necessary, or with typically small or widely dispersed populations, or those inhabiting ecological refugia or other specialized or unique habitats. The minimum level of policy protection for these designated sensitive species will be the same as the policy for candidate species.

State – Native Species Status

- NSS1 - Native Species Status 1 - Populations are greatly restricted or declining, extirpation appears possible and on-going significant loss of habitat.
- NSS2 - Native Species Status 2 - Populations are declining, extirpation appears possible; habitat is restricted or vulnerable but no recent or on-going significant loss; species may be sensitive to human disturbance.
- NSS3 - Native Species Status 3 - Populations are greatly restricted or declining, extirpation appears possible; habitat is not restricted, vulnerable but no loss; species is not sensitive to human disturbance.
- NSS4 - Native Species Status 4 - Populations are greatly restricted or declining, extirpation appears possible; habitat is stable and not restricted.