Appendix C

Biological Survey Report

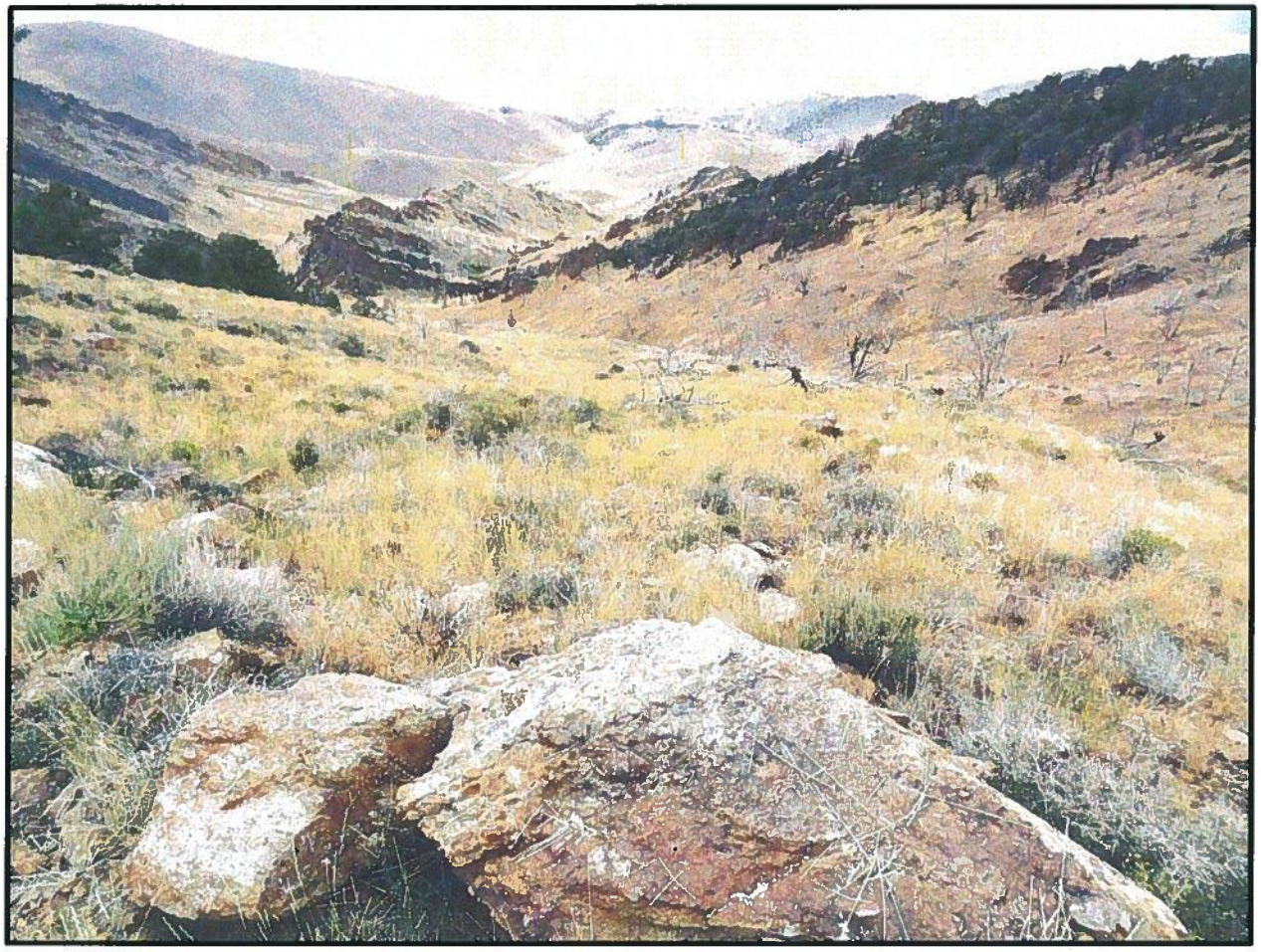
SIERRA PACIFIC POWER COMPANY
D/B/A NV ENERGY

NEW PASS DISTRIBUTION PROJECT
CHURCHILL and LANDER COUNTIES, NEVADA

2014 BASELINE BIOLOGICAL SURVEY REPORT

November 6, 2014

***FINALIZED* December 16, 2014**



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***FINALIZED* December 16, 2014**

Prepared for

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Submitted to

Bureau of Land Management
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Stillwater Field Office
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1 INTRODUCTION

Enviroscientists, Inc. (Enviroscientists) was retained by Sierra Pacific Power Company d/b/a NV Energy (NVE) to complete resource surveys necessary to document baseline biological conditions for the New Pass Distribution Project (Project) located largely within Churchill County, although a portion of the Project is located within Lander County, Nevada. The Project is located approximately 25 miles west of the unincorporated town of Austin, Nevada. The Project will involve construction of a new 24.9-kilovolt (kV) distribution line from an existing distribution line within Edwards Creek Valley to the communications site located on top of New Pass Peak. The total length of the distribution line will be approximately 5.8 miles and is located on public lands administered by the Bureau of Land Management (BLM) Carson City Field Office (CCFO).

1.1 Purpose and Need

The purpose of the Project is to provide reliable electric service to the New Pass Peak communication site, which is utilized by several communication companies. The specific request for electrical service was made by Verizon Communications (Verizon). The need for the Project is derived from Verizon's request for reliable power for their telecommunications facility, which is currently provided by propane generators and solar panels. In addition, the BLM CCFO Resource Management Plan (RMP) identified New Pass as one of four preferred communication sites within the RMP's boundary.

1.2 Project Description

The new distribution line will originate from the existing Austin 201 distribution line, which parallels Alpine Road within Edwards Creek Valley near two private parcels currently in use as agricultural fields. The line will travel east across the valley and up the western slope of New Pass Peak to the communications site located adjacent to New Pass Peak. The total length of the distribution line will be approximately 5.8 miles. The origination point of the distribution line in Edwards Creek Valley can be accessed from the unincorporated town of Austin by traveling approximately 25 miles west on U.S. Highway 50, to Edwards Creek Valley, turning north on Alpine Road, and travelling approximately seven miles arriving at the western edge of the Project. The portion of Project located on New Pass Peak can be accessed by travelling approximately 18 miles west on U.S. Highway 50 from the unincorporated town of Austin to Antelope Valley, turning north on an unnamed dirt road, and travelling approximately ten miles arriving at the eastern edge of the Project. Figure 1 shows the location of the Project, access, and land status. All figures and tables are located in Appendix A and B, respectively, and Appendix C contains a photographic log.

1.3 Survey Area Description

The Biological Survey Area (BSA) consists of the Project corridor, defined as 300 feet wide for the overhead portion of the line (150 feet on either side of the distribution line), while the underground portion consists of a 900-foot wide area up the "switchbacks" to an existing access

road. At this point, the Project corridor transitions into a 100-foot wide corridor that extends along the mountain ridge to the communications site (50 feet on either side of the distribution line) (Figure 2). The Raptor Survey Area is a one-mile buffer around the distribution line and the Golden Eagle Survey Area is a two-mile buffer. The BSA serves as the primary area targeted for baseline surveys while the raptor survey areas are limited to identifying habitat for all raptor species and golden eagles (*Aquila chrysaetos*), respectively.

1.4 Environmental Setting

The BSA is located within Edwards Creek Valley and adjacent to New Pass Peak. The elevation within the BSA ranges between 5,160 and 9,000 feet above mean sea level (amsl). According to the Western Regional Climate Center (WRCC), the average maximum temperature in Austin, Nevada, located approximately 25 miles east of the BSA, is approximately 87 degrees (°) Fahrenheit (F) in July, and the average minimum temperature is approximately 19 °F in January. The average annual precipitation is approximately 12 inches and tends to peak in May (WRCC 2014).

Existing and previous land uses within the vicinity of the BSA include livestock grazing in the Gilbert Creek and Clan Alpine grazing allotments (BLM 2013a) and mineral exploration (BLM 2014).

2 PROJECT ACTIVITIES

2.1 Proposed Route Description

The proposed distribution line will originate off a section of the existing Austin 201 distribution line adjacent to an agricultural field located on Alpine Road in Section 23, Township 21 North, Range 39 East (T21N, R39E), Mount Diablo Base and Meridian (MDB&M). The proposed distribution line will cross Sections 19, 24, and 28 through 30, T21N, R40E, as it travels up the western slope of New Pass Peak. The length of the overhead portion of the line is approximately 4.1 miles, and it begins at the existing Austin 201 distribution line and terminates at the bottom of the mountain adjacent to the existing switchbacks. The line will be converted to an underground configuration within Section 28 of T21N, R40E, and will travel up the switchbacks to an existing access road. The underground line will be located immediately adjacent to the existing access road from the top of the switchbacks to the telecommunication site located in Section 33, T21N, R40E. The length of the underground portion of the line is approximately 1.7 miles.

2.2 Proposed Distribution Line

The proposed distribution line will have an overhead and an underground component. The overhead tangent and angle structures will consist of single 45 foot tall poles (approximately 6.5 feet of the pole buried for a total of 38.5 feet above ground) and will be initially installed as a single-phase power with two conductors (#2 ACSR- Aluminum Conductor, Steel Reinforced Conductors). Angle poles may have an anchor depending upon the degree of the angle. The overhead portion will include height allowances to allow for future reconstruction as a three-phase line, if needed; however, the line will be initially constructed as a single-phase line. A riser pole will be installed where the overhead and the underground section meet (NVE 2014).

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2.2 Proposed Distribution Line

The proposed distribution line will have an overhead and an underground component. The overhead tangent and angle structures will consist of single 45 foot tall poles (approximately 6.5 feet of the pole buried for a total of 38.5 feet above ground) and will be initially installed as a single-phase power with two conductors (#2 ACSR- Aluminum Conductor, Steel Reinforced Conductors). Angle poles may have an anchor depending upon the degree of the angle. The overhead portion will include height allowances to allow for future reconstruction as a three-phase line, if needed; however, the line will be initially constructed as a single-phase line. A riser pole will be installed where the overhead and the underground section meet (NVE 2014).

The underground portion of the Project will be installed within a six-inch-wide trench traveling up the "switchback" area and then immediately adjacent to the existing access road at the top of the mountain. Additional conduits will be installed at the time of construction to allow for emergency repair and future expansion to a three-phase system, if needed. Junction enclosures will be installed approximately 900 feet apart along the distribution route and adjacent to the access road to allow for splicing of the conductors (1-1/0 PECN- Primary Encased Concentric Neutral Conductors). The junction enclosures are small aboveground boxes that measure approximately three cubic feet in size (NVE 2014).

2.3 Proposed Access Road and Right-Of-Way

An eight-foot-wide proposed access road will be constructed as close as topographically possible to the distribution line from Alpine Road to the bottom of the existing "switchbacks." The existing "switchbacks" may be utilized for vehicular access through the steeper section of the construction. The proposed access road will serve as the primary construction, maintenance, and inspection corridor of the line. An access control gate will be installed within the SW ¼ NW ¼ of Section 29, T21N, R40E, across the access road to deter usage of the access road by off-road vehicles as a travel corridor up the western slope of the mountain. Existing access roads will be improved as needed to complete and maintain the Project (NVE 2014).

NVE will require a permanent 40-foot-wide right-of-way (ROW) along the length of the proposed distribution line. The distribution line will be centered within the proposed ROW. The proposed access road will be immediately adjacent to the distribution line where topography allows. The proposed access road may not always be directly adjacent to the distribution line, but will still be considered to be appropriately covered under the 40-foot-wide ROW.

2.4 Proposed Temporary Disturbance

The Project corridor will be 300 feet wide for the overhead portion, 900 feet wide for the "switchback" area, and 100 feet wide for the underground portion located along the ridgeline of New Pass Peak. All construction related activities would be confined to the Project corridor.

Table 1 in Appendix B lists each workspace that is required to construct the distribution line, the surface area of each workspace, the number of items of each workspace, and the total approximate acreage of temporary disturbance associated with each workplace activity. A brief overview of each workspace and associated temporary disturbance will be discussed below.

Distribution Structure Sites

The distribution structures (poles) can be installed from the edge of the proposed access road and will disturb approximately four square feet at each pole location. The number of poles necessary to complete the Project will be determined once a final route has been selected and the route is engineered. For discussion purposes, if it is assumed that, a pole is needed every 250 feet on average for the 4.1 miles of the overhead distribution line; approximately 85 poles would be required. The total estimated surface area to be temporarily disturbed is 0.01 acre.

Pull Sites and Junction Boxes

A total of six pull sites, which will have a diameter of approximately 100 feet each, will be necessary for conductoring of the line. The total estimated temporary surface disturbance area is approximately 1.1 acres.

Within the underground portion of the Project, junction enclosures will be installed approximately 900 feet apart along the distribution route and adjacent to the access road to allow for splicing of the conductors. The junction enclosures are small aboveground boxes that measure approximately three cubic feet in size. A total of six junction boxes are proposed with an estimated temporary surface disturbance area of 0.0012 acre.

Staging Areas

In order to stage construction equipment and materials, crews will utilize two staging areas. Each staging area will measure approximately 200 feet by 200 feet. One staging area will be located immediately off Alpine Road and the second staging area will be located in the vicinity of the communications tower. The total area of temporary disturbance associated with the staging areas is approximately 0.92 acre.

Proposed Access Roads

NVE proposes to install an access road adjacent to the distribution line from Alpine Road to the existing "switchbacks" on the western slope of New Pass Peak. The existing access road from the "switchbacks" to the intersection with the primary access road and the communications site will be improved to a width of eight feet. The portion of the road from the intersection to the communications site does not require improvement at this time, although if road conditions decline by the time of construction, rough grading may be necessary. The length of the proposed access road and significant road improvement is approximately 5.27 miles, resulting in approximately 4.5 acres of temporary disturbance.

2.5 Proposed Permanent Disturbance

After Project construction is complete, NVE will require a permanent ROW for the New Pass Distributions Line in order to conduct operations and maintenance activities.

3 PRE-FIELD SURVEY ANALYSIS

3.1 Agency Coordination

The BLM reviewed the proposed Project and provided a general overview of the survey requirements, which included delineating a raptor survey area of one mile, and a golden eagle survey area of two miles surrounding the BSA. In addition, to minimize any potential impacts to greater sage-grouse (*Centrocercus urophasianus*), NVE agreed to bury portions of the distribution line starting at the switchbacks and traveling up the western slope of New Pass, then adjacent along the access road on top of the peak to the communications site.

Enviroscientists (Laura Megill, Biology Program Manager) spoke by phone with the BLM (Chris Kula, Wildlife Biologist) regarding the notification of baseline survey dates and confirmed the survey requirements for the Project on July 24, 2104. The BLM recommended surveys commence as soon as possible and that areas of proposed disturbance should be assessed to determine if potential bat roosting and foraging habitat exists. Specific surveys identified to be conducted for this Project are discussed in Section 3 of this report.

3.2 Pre-Field Data Review

Prior to conducting field surveys, Enviroscientists reviewed literature and corresponded with the resource agencies to identify potential biological resources and special status species that have the potential to occur within the BSA. The following pre-field activities were completed to characterize potential habitat for special status species and identify potential water resources:

1. Reviewed the 2011 BLM Nevada Sensitive Species List for the Carson City District and the State list for plant species with potential habitat (Appendix D);

2. Reviewed the Habitat Assessment Form located in Appendix A of the *2014 Draft Statewide Wildlife Survey Protocols for BLM Nevada* (Appendix D) for wildlife species with potential habitat;

3. Utilized the United States Fish and Wildlife Service (USFWS) Information, Planning and Conservation System to perform a search for a site-specific list of federally endangered, threatened, or candidate species that have the potential to occur in the BSA (Appendix E);

4. Requested site-specific species information from the Nevada Department of Wildlife (NDOW), including general wildlife and special status species information that have the potential to occur within the BSA (Appendix E);

5. Requested a list of endangered, threatened, candidate, or at-risk taxa from the Nevada Natural Heritage Program (NNHP) recorded within or near the BSA (Appendix E); and

6. Reviewed and evaluated additional sources of information including the United States Geological Survey (USGS) National Southwest Regional Gap Analysis Program (SWReGAP) vegetation community data, the Natural Resources Conservation Service (NRCS) soils data, the USGS National Hydrography Dataset (NHD) for potential water sources, fire history, Google aerial imagery, USGS topographic maps, slope analysis for potential golden eagle habitat, site photographs (Groesbeck 2014), and known species accounts in the BSA.

The data responses for the site-specific requests for special status species known to occur or potentially occur within the BSA from the USFWS, the NDOW, and the NNHP are located in Appendix F and are summarized below. The relevant preliminary data gathered from number six under Section 3.2 is also summarized below.

United States Fish and Wildlife Service

The USFWS determined that three federally Threatened or Candidate species could have potential habitat within the BSA: the Lahontan cutthroat trout (*Oncorhynchus clarkia henshawi),* a federal Threatened species; the greater sage-grouse entire population, a federal Candidate species; and the Columbia spotted frog (*Rana luteiventris*) Great Basin Distinct Population Segment (DPS), a federal Candidate species (USFWS 2014). No perennial drainages are located in the BSA (USGS 2011); therefore, there is no suitable habitat present for the Lahontan cutthroat trout or the Columbia spotted frog.

Nevada Department of Wildlife

The NDOW identified occupied habitat relative to the BSA for mule deer (*Odocoileus hemionus*) and pronghorn antelope (*Antilocapra americana*). Pronghorn antelope occupied habitat exists within the entire BSA, while mule deer tend to utilize the areas that are within the mountainous portions of the BSA. There is no known occupied habitat for elk (*Cervus canadensis*) or desert bighorn sheep (*Ovis canadensis nelsoni*) in the vicinity of the BSA (NDOW 2014a).

According to the greater sage-grouse habitat characterization map published by the NDOW in March 2012, the NDOW reported that there are three mapped greater sage-grouse habitats within the BSA. Unsuitable greater sage-grouse habitat is located in the lower elevations within the flats, then transitions to low value habitat/transitional range within the rolling hills and up the western slope of New Pass Peak where the habitat transitions again to essential/irreplaceable habitat along the ridgeline of the summit (Appendix E). The NDOW also reported that there are no known locations of radio-marked greater sage-grouse or lek sites in the vicinity of the BSA (NDOW 2014a).

The NDOW also reported six known raptor nests within ten miles of the BSA consisting of two historical eagle nests, one recent eagle nest (last checked in 2011), and three ferruginous hawk (*Buteo regalis*) nests. According to the NDOW, the Cooper's hawk (*Accipiter cooperii*) is the only raptor species that has been directly observed in the vicinity of the BSA (NDOW 2014a).

Nevada Natural Heritage Program

The NNHP determined that there are no known sensitive species occurrences within the vicinity of the BSA. However, the NNHP did specify that potential habitat may be available within three miles of the BSA for Reese River phacelia (*Phacelia glaberrima*), a taxon determined to be *Vulnerable* by the NNHP, Lahontan beardtongue (*Penstemon palmeri* var. *macranthus*), a BLM sensitive species, and Beatley buckwheat (*Eriogonum beatleyae*), a taxon determined to be *Imperiled* by the NNHP (2014).

United States Geological Survey National Southwest Regional Gap Analysis Program

The BSA is located within the Intermountain Region, Great Basin Division floristic zone (Cronquist et al. 1972). Within the Great Basin floristic zone, the USGS SWReGAP mapped the following 11 vegetation communities within the BSA: 1) Great Basin Pinyon-Juniper Woodland; 2) Great Basin Xeric Mixed Sagebrush Shrubland; 3) Intermountain Basins Big Sagebrush Shrubland; 4) Intermountain Basins Cliff and Canyon; 5) Intermountain Basins Greasewood

Flat; 6) Intermountain Basins Montane Sagebrush Steppe; 7) Intermountain Basins Mountain Mahogany Woodland and Shrubland; 8) Intermountain Basins Semi-Desert Grassland; 9) Invasive Annual Grassland; 10) Invasive Annual and Biennial Forbland; and 11) Recently Burned (USGS 2005). A complete description of each field-verified vegetation community for the BSA is discussed in Section 4 of this report.

United States Geological Survey National Hydrography Dataset

No perennial drainages or springs are located in the BSA according to the USGS NHD (USGS 2011). One intermittent drainage was identified in the BSA, which flows west from the "switchbacks" through the foothills and terminates within the flats. Surface water runoff from the BSA generally flows west into Edwards Creek Valley.

Fire History

Two wildfires have been recorded within the BSA in the last 15 years. An unnamed wildfire occurred in 1999 and was recorded to burn approximately 47,435 acres, which included almost all of the BSA except for portions of the access road along the top of New Pass Peak (Figure 3). In 2012, the Gilbert Fire burned approximately 31,503 acres and most of the BSA burned except for the western-most portions of the flats in the BSA (Figure 3) (BLM 2013b).

3.3 Previous Surveys

Enviroscientists is not aware of any prior biological surveys that have been conducted in or within the vicinity of the BSA.

3.4 Pre-Field Analysis Results

A pre-field review was completed with the information gathered from Sections 2.1, 2.2, and 2.3 of this report. A list of special status species with potential habitat that may be present in the BSA were identified and subsequently refined. The following special status species were eliminated from further review during the pre-field analysis: pygmy rabbit (*Brachylagus idahoensis*) and various species of bats that commonly roost in trees and/or rock outcrops. The specific factors used to exclude potential habitat within the BSA for each of the species is discussed below.

Potential pygmy rabbit habitat was excluded from further analysis because areas that support sagebrush along the distribution line were burned during 1999 and 2012. In addition, site photographs provided by R. Groesbeck (2014), the NVE area manager, show the approximate location of the distribution line in relation to the landscape starting from Alpine Road in the valley to the top of the New Pass ridge and shows a lack of sagebrush in the BSA (see Appendix C, Photo Plate 1).

The site photographs shown on Photo Plates 1 and 10 (Appendix C) not only show a lack of bat roosting and maternity habitat within the BSA but a highly degraded foraging habitat as well. The wildfires appeared to have greatly reduced the amount of potential bat foraging habitat within the BSA. The two photo plates (1 and 10) also show a lack of rock outcrops except for one small outcrop. Photographs 3 and 4 on Photo Plate 10 provide a closer look at the rock

outcrop and it is visually apparent that there is a lack of large crevices and cavities within the rock outcrop. Therefore, it is unlikely that the rock outcrop would provide suitable bat roosting/maternity habitat. In addition, the rock outcrop will not be impacted by Project activities. Lastly, the review of the USGS Edwards Creek Valley quadrangle topographic map also confirms a lack of existing mine features within the BSA that could potentially provide maternity or roosting habitat. Therefore, due to a highly degraded foraging habitat compounded with a lack of suitable roosting/maternity habitat within the BSA, various bat species have been excluded from further analysis.

If field observations result in different determinations, those observations are addressed in the results section of this report. Below is a list of special status species with potential habitat that may be present in the BSA:

Special Status Plants

Beatley's buckwheat (*Eriogonum rosense beatleyae*)
Eastwood milkweed (*Asclepias eastwoodiana*)
Lahontan beardtongue (*Penstemon palmeri macranthus*)
Reese River phacelia (*Phacelia glaberrima*)
Toquima milkvetch (*Astragalus toquimanus*)
Wind-loving buckwheat (*Eriogonum anemophilum*)

Special Status Wildlife

Brewer’s sparrow (*Spizella breweri*)
Desert bighorn sheep (*Ovis canadensis nelsoni*)
Ferruginous hawk (*Buteo regalis*)
Golden eagle (*Aquila chrysaetos*)
Greater sage-grouse (*Centrocercus urophasianus*)
Loggerhead shrike (*Lanius ludovicianus*)
Sage thrasher (*Oreoscoptes montanus*)
Western burrowing owl (*Athene cunicularia hypugaea*)

4 SURVEY PROTOCOL

Baseline biological surveys followed the 2014 *Draft Statewide Wildlife Survey Protocols for BLM Nevada* received from the BLM Battle Mountain District in 2013 (Appendix F) and relevant portions of the *Vegetation and Soils – Baseline Data Collection* methods (Appendix F). The following field work was performed: a vegetation community assessment which includes vegetation community mapping; a special status plant species survey and habitat assessment; a noxious weed inventory; a wildlife habitat assessment and species inventory; an ungulate survey; a western burrowing owl habitat assessment; a migratory bird survey; a general raptor survey; and a golden eagle survey. In addition, pre-field analysis determinations for the lack of habitat for the pygmy rabbit and various bat species were also evaluated during the field survey.

5 SURVEY RESULTS

5.1 Introduction

Baseline biological surveys were conducted July 28 through 31, 2014, within the BSA by Daniel Robison, Enviroscientists' biologist. A Global Positioning System (GPS) track log was taken during the surveys in order to document proper coverage of the BSA with emphasis on areas of potential habitat for special status species. All survey tracks and waypoints were recorded with a Trimble Geo XT 6000 series unit running TerraSync with Windows Mobile 6.5.10 in the Universal Transverse Mercator (UTM) coordinate system in the North American Datum of 1983 (NAD83) for Zone 11. The survey tracks are shown on Figure 4.

5.1.1 Survey Limitations

Some migratory bird species or winter residents, which could potentially use the BSA, may not have been detected during this field investigation. However, the timing of the survey was appropriate to detect special status species that were identified as having potential habitat in the BSA.

5.2 Botanical Survey

5.2.1 Vegetation Community Assessment

5.2.1.1 Survey Activities

Vegetation community mapping was performed during baseline biological surveys.

5.2.1.2 Survey Results

Field surveys confirmed the presence of eight of the 11 SWReGAP vegetation communities within the BSA. The field-verified vegetation communities and remapped boundaries are show on Figure 5. A floral compendium of all of the plant species observed during the field survey is presented in Appendix G.

The following vegetation communities identified during the pre-field analysis are not present in the BSA: Great Basin Xeric Mixed Sagebrush Shrubland; Intermountain Basins Mountain Mahogany Woodland and Shrubland; and Invasive Annual Grassland. The community composition matched the following vegetation communities: Great Basin Pinyon-Juniper Woodland; Intermountain Basins Big Sagebrush Shrubland; Intermountain Basins Cliff and Canyon; Intermountain Basins Greasewood Flat; Intermountain Basins Montane Sagebrush Steppe; Intermountain Basins Semi-Desert Grassland; Invasive Annual and Biennial Forbland; and Recently Burned.

Great Basin Pinyon-Juniper Woodland

According to the SWReGAP vegetation community description, the Great Basin Pinyon-Juniper Woodland reference community occurs on dry mountain ranges of the Great Basin region on warm, dry sites, on mountain slopes, mesas, plateaus, and ridges. The community is typically

observed at lower elevations ranging from 5,250 to 8,530 feet amsl and is dominated by the following species: singleleaf piñon (*Pinus monophylla*); Utah juniper (*Juniperus osteosperma*); a variety of shrubs including sagebrush (*Artemisia* spp.), mountain mahogany (*Cercocarpus* spp.), and oak (*Quercus* spp.); and by bunchgrasses such as needle and thread (*Hesperostipa comata*), Idaho fescue (*Festuca idahoensis*), bluebunch wheatgrass (*Pseudoroegnaria spicata*), basin wildrye (*Leymus cinereus*), and muttongrass (*Poa fendleriana*) (USGS 2005).

The Great Basin Pinyon-Juniper Woodland spans approximately 11.3 acres in the eastern portion of the BSA (Appendix C, Photo Plate 2). The Great Basin Pinyon-Juniper Woodland within the BSA did match the SWReGAP reference vegetation community description. The following species were observed in the field: singleleaf piñon; Utah juniper; mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*); Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*); bluebunch wheatgrass; and basin wildrye. Other species that were observed in this community included the following: desert snowberry (*Symphorocarpus longiflorus*); prickly phlox (*Leptodactylon pungens*); Sandberg's bluegrass (*Poa secunda*); stemless mock goldenweed (*Stenotus acaulis*); and tapertip hawksbeard (*Crepis acuminata*).

Intermountain Basins Big Sagebrush Shrubland

According to the SWReGAP vegetation community description, the reference community occurs within broad basins between mountain ranges, plains and foothills from 4,921 to 7,545 feet amsl. Soils are typically deep, well-drained and non-saline. The dominant species typically include basin big sagebrush (*Artemisia tridentata ssp. tridentata*) and/or Wyoming big sagebrush. Scattered juniper (*Juniperus* spp.), greasewood (*Sarcobatus vermiculatus*), and saltbrush (*Atriplex spp*.) may be present in some stands. Rubber rabbitbrush (*Ericameria nauseosa*), yellow rabbitbrush (*Chrysothamnus viscidiflorus*), antelope bitterbrush (*Purshia tridentata*), or mountain snowberry (*Symphoricarpos oreophilus*) may co-dominate disturbed stands. Perennial herbaceous components typically contribute less than 25 percent vegetative cover. Common graminoid species include Indian ricegrass (*Achnatherum hymenoides*), blue gramma (*Bouteloua gracilis*), thickspike wheatgrass (*Elymus lanceolatus*), Idaho fescue, needle and thread, basin wildrye, James' galleta grass (*Pleuraphis jamesia*), western wheatgrass (*Pascopyrum smithii*), Sandberg's bluegrass, or bluebunch wheatgrass (USGS 2005).

The Intermountain Basins Big Sagebrush Shrubland measures approximately 20.8 acres and is located in the central portion of the BSA (Appendix C, Photo Plate 3). The Intermountain Basins Big Sagebrush Shrubland within the BSA did match the reference vegetation community described by the SWReGAP reference vegetation community description. The following species observed in the field included Wyoming big sagebrush, shadscale (*Atriplex confertifolia*), yellow rabbitbrush, Indian ricegrass, basin wildrye, Sandberg's bluegrass, and bluebunch wheatgrass. Additional species that were observed in this community included the following: northwestern Indian paintbrush (*Castilleja angustifolia*); shaggy fleabane (*Erigeron pumulis*); slender buckwheat (*Eriogonum microthecum*); smoothstem blazingstar (*Mentzelia laevicaulis*); spiny phlox (*Phlox hoodii*); squirreltail (*Elymus elymoides*); and woollypod milkvetch (*Astragalus purshii*). Cheatgrass (*Bromus tectorum*) is also present in this community with higher concentrations located along the boundaries of the community near recently burned areas.

Intermountain Basins Cliff and Canyon

According to the SWReGAP vegetation community description, the Intermountain Basins Cliff and Canyon reference community typically occurs from the foothills to subalpine elevations and includes barren and sparsely vegetated landscapes (generally <10 percent plant cover) of steep cliff faces, narrow canyons, and smaller rock outcrops of various igneous, sedimentary, and metamorphic bedrock types. Additionally, vegetation associated with unstable scree and talus slopes that typically occur below cliff faces is also considered part of this community. Typically, widely scattered trees and shrubs of white fir (*Abies concolor*), limber pine (*Pinus flexilis*), singleleaf piñon, juniper, sagebrush, antelope bitterbrush, mountain mahogany, jointfir (*Ephedra* spp.), and oceanspray (*Holodiscus discolor*) comprise plant species of this community (USGS 2005).

The Intermountain Basins Cliff and Canyon covers approximately 0.9 acre in the eastern portion of the BSA (Appendix C, Photo Plate 4). The Intermountain Basins Cliff and Canyon within the BSA matched the general description of the reference community but lacked the tree component. The community consisted of barren and sparsely vegetated landscapes of igneous rock piles with scattered sagebrush and cheatgrass.

Intermountain Basins Greasewood Flat

The Intermountain Basins Greasewood Flat community, according to the SWReGAP description, occurs throughout much of the western U.S. in intermountain basins. Typically, the community is observed near drainages on stream terraces and flats or may form rings around more sparsely vegetated playas. Sites typically have saline soils, a shallow water table and flood intermittently, but remain dry for most growing seasons. The water table remains high enough to maintain vegetation, despite salt accumulations. This system usually occurs as a mosaic of multiple communities, with open to moderately dense shrublands dominated or co-dominated by greasewood. Fourwing saltbush (*Atriplex canescens*), shadscale, or winterfat (*Krascheninnikovia lanata*) may be present to co-dominant. Occurrences are often surrounded by mixed salt desert scrub. The herbaceous layer, if present, is usually dominated by graminoids. There may be inclusions of alkali sacaton (*Sporobolus airoides*), inland saltgrass (*Distichlis spicata*) (where water remains ponded the longest), or common spikerush (*Eleocharis palustris*) (USGS 2005).

The Intermountain Basins Greasewood Flat community was field-verified and remapped to occur within the beginning portions of the distribution line in the lower elevations adjacent to Alpine Road in Edwards Valley. The community measures approximately four acres within the BSA (Appendix C, Photo Plate 5). The Intermountain Basins Greasewood Flat community aligned with the SWReGAP reference description and was dominated by greasewood and to a lesser extent winterfat. Additional species observed in this community included the following: basin wildrye; cheatgrass; clasping pepperweed (*Lepidium perfoliatum*); curveseed butterwort (*Ceratocephala testiculata*); flatbud pricklypoppy (*Argemone munita*); Indian ricegrass; saltlover (*Halogeton glomerata*); and shadscale. Nonnative species such as cheatgrass, clasping pepperweed, curveseed butterwort, and saltlover were observed primarily along existing roads within this community or along the border with the Invasive Annual and Biennial Forbland.

Intermountain Basins Montane Sagebrush Steppe

The Intermountain Basins Montane Sagebrush Steppe includes sagebrush communities occurring at montane and subalpine elevations across the western U.S. The reference community primarily occurs on deep-soiled to stony flats, ridges, nearly flat ridgetops, and mountain slopes. In general, this community shows an affinity for mild topography, fine soils, and some source of subsurface moisture. Vegetation is composed primarily of mountain big sagebrush and related taxa such as (*Artemisia tridentata* ssp. *spiciformis*). Antelope bitterbrush may co-dominate or even dominate some stands. Other common shrubs include snowberry (*Symphoricarpos* spp.), serviceberry (*Amelanchier* spp.), rubber rabbitbrush, wild crab apple (*Peraphyllum ramosissimum*), wax currant (*Ribes cereum*), and yellow rabbitbrush. Most stands have an abundant perennial herbaceous layer (over 25 percent cover), but also includes mountain big sagebrush shrublands. Common graminoids include Arizona fescue (*Festuca arizonica*), Idaho fescue, needle and thread, muttongrass, thickspike wheatgrass, mountain brome (*Bromus carinatus*), Sandberg's bluegrass, spike fescue (*Leucopoa kingie*), tufted hairgrass (*Deschampsia caespitosa*), pinegrass (*Calamagrostis rubescens*), and bluebunch wheatgrass. In many areas, frequent wildfires maintain an open herbaceous-rich steppe condition, although at most sites, shrub cover can be unusually high for a steppe system (>40 percent), with the moisture providing equally high grass and forb cover (USGS 2005).

The Intermountain Basins Montane Sagebrush Steppe is located along the New Pass ridgeline within the eastern portion of the BSA. The community covers approximately 17.4 acres (Appendix C, Photo Plate 6). The plant species observed matched the expected species listed in the SWReGAP reference community and included species such as mountain big sagebrush, bluebunch wheatgrass, Sandberg's bluegrass, and yellow rabbitbrush. This community was also co-dominated by low sagebrush (*Artemisia arbuscula*). Additional species observed in this community included the following: arrowleaf balsamroot (*Balsamorhiza sagittata*); desert gooseberry (*Ribes velutinum*); desert snowberry; golden currant (*Ribes aureum*); lava aster (*Ionactis alpina*); matted buckwheat (*Eriogonum caespitosum*); roughseed cryptantha (*Cryptantha flavoculata*); silvery lupine (*Lupinus argenteus*); showy beardtongue (*Penstemon speciosa*); stemless mock goldenweed; sulphur flowered buckwheat (*Eriogonum umbellatum*); tapertip hawksbeard; whitewoolly buckwheat (*Eriogonum ochrocephalum*); and woollypod milkvetch.

Intermountain Basins Semi-Desert Grassland

The Intermountain Basins Semi-Desert Grassland is described as a widespread vegetation community that occurs throughout the Intermountain western U.S. on dry plains and mesas, at approximately 4,750 to 7,610 feet amsl by SWReGAP. More specifically, the grasslands occur in lowland and upland areas and may occupy swales, playas, mesa tops, plateau parks, alluvial flats, and plains, but sites are typically xeric. Substrates are often well-drained sandy or loamy-textured soils derived from sedimentary parent materials but are quite variable and may include fine-textured soils derived from igneous and metamorphic rocks. When the community occurs near foothills, the grasslands will be at lower elevations. The dominant perennial bunch grasses and shrubs within this community are all very drought-resistant plants. Dominant or co-dominant species typically include Indian ricegrass, threeawn (*Aristida* spp.), blue grama, needle and thread, muhly (*Muhlenbergia sp*.), or James' galleta grass and may include scattered

shrubs and dwarf shrubs of species of sagebrush, saltbush, blackbrush (*Coleogyne* spp.), jointfir, broom snakeweed (*Gutierrezia sarothrae*), or winterfat (USGS 2005).

The Intermountain Basins Semi-Desert Grassland within the BSA occurs along the western slope of New Pass Peak and measures approximately 14.6 acres (Appendix C, Photo Plate 7). The community matched the SWReGAP reference community description, which included Indian ricegrass as the dominant species and scattered shrubs of sagebrush, shadscale, and broom snakeweed. Additional species observed in this community included the following: bluebunch wheatgrass; crested wheatgrass (*Agropyron cristatum*); Sandberg's bluegrass; and spiny phlox.

Invasive Annual and Biennial Forbland

The SWReGAP identifies the Invasive Annual and Biennial Forbland as dominated by introduced annual and/or biennial forb species such as: saltlover; forage kochia (*Kochia scoparia*); and Russian thistle (*Salsola* spp.) (USGS 2005). Surveys mapped the community within the lower elevation of the distribution line located between the Intermountain Basins Greasewood Flat community and the Recently Burned area (Appendix C, Photo Plate 8). The Invasive Annual and Biennial Forbland spans approximately 9.3 acres and is dominated by clasping pepperweed, curveseed butterwort, prickly Russian thistle, saltlover, and western tansymustard (*Descurainia pinnata*).

Recently Burned

The SWReGAP classifies recently burned areas as areas that are apparent on aerial imagery. The Recently Burned area is located in the west central and east central portions of the BSA and spans approximately 108.1 acres (Appendix C, Photo Plate 9). The Recently Burned area is dominated by nonnative species such as cheatgrass, prickly Russian thistle, prickly lettuce (*Lactuca serriola*), and saltlover. Additional species observed in this community included the following: arrowleaf ragwort (*Senecio triangularis*); broom snakeweed; brown plume wire lettuce (*Stephanomeria pauciflora*); bud sagebrush (*Picrothamnus desertorum*); burningbush (*Bassia scoparia*); clasping pepperweed; prickly phlox; common mullein (*Verbascum thapsis*); curveseed butterwort; desert globemallow (*Sphaeralcea ambigua*); Humboldt River milkvetch (*Astragalus iodanthus*); Mexican whorled milkweed (*Asclepias fascivularis*); prickly pear (*Opuntia polyacantha*); shadscale; smoothstem blazingstar; squirreltail; tufted evening primrose (*Oenothera caespitosa*); western tansymustard; Wood's rose (*Rosa woodsii*); and Wyoming big sagebrush. A single occurrence of bull thistle (*Cirsium vulgare*), a nonnative species was observed within this community.

5.2.2 Special Status Plant Species Surveys

5.2.2.1 Survey Activities

Special status plant surveys followed the established protocol (Appendix F). The timing of the July 2014 survey coincided with the mid- to end-blooming periods for all of the special status plant species that were identified as having potential habitat within the BSA. The following six BLM sensitive or special status plant species were identified as having potential habitat during the pre-field analysis and were surveyed for within the BSA:

Special Status Plant Species

Beatley's buckwheat (*Eriogonum rosense beatleyae*)
Eastwood milkweed (*Asclepias eastwoodiana*)
Lahontan beardtongue (*Penstemon palmeri macranthus*)
Reese River phacelia (*Phacelia glaberrima*)
Toquima milkvetch (*Astragalus toquimanus*)
Wind-loving buckwheat (*Eriogonum anemophilum*)

5.2.2.2 Survey Results

No special status plant species or occurrences were observed during field surveys. The field survey results support the NNHP's determination, except no habitat for the Reese River phacelia was observed within the BSA.

Beatley buckwheat is a taxon determined to be Imperiled by the NNHP (Morefield 2001). Potential habitat for the species consists of dry volcanic rock outcrops (Morefield 2001) in the sagebrush and lower piñon-juniper zones (eFloras 2008), was observed in the Intermountain Basins Cliff and Canyon community and the Intermountain Basins Montane Sagebrush Steppe. The Intermountain Basins Cliff and Canyon community within the BSA experienced several wildfires recently and the understory is dominated by invasive species such as cheatgrass. It is unknown how Beatley buckwheat reacts to disturbance such as wildfire, and this may reduce the suitability of the habitat for Beatley buckwheat. Exposed bedrock and small rock piles in the Intermountain Basins Montane Sagebrush Steppe community may provide suitable habitat for Beatley buckwheat, and were surveyed during botanical surveys. No Beatley buckwheat was observed during botanical surveys, but could potentially occur within the BSA.

Eastwood milkweed is considered a BLM species of concern (BLM 2011). Potential habitat for Eastwood milkweed was observed throughout the BSA. The species typically occurs in washes and moisture-accumulating microsites containing sand and basaltic gravel (Morefield 2001). However, this species was not observed during botanical surveys, but could potentially occur within the BSA.

Lahontan beardtongue is considered a sensitive species by the BLM, which inhabits washes, roadsides, and canyon floors, particularly on carbonate-containing substrates, usually where subsurface moisture is available throughout the summer (BLM 2011). The known elevation range for this species is from 3,428 to 4,550 feet amsl (Morefield 2001). Potential habitat for Lahontan beardtongue was identified in the pre-field analysis; however, field surveys indicated that suitable habitat of calcareous substrates was not present within the BSA. In addition, the BSA is approximately 610 feet above the known elevation range of this species.

The Reese River phacelia is a taxon determined to be Vulnerable by NNHP (Morefield 2001). The species inhabits open, dry to moist, alkaline, nearly barren, sometimes scree-covered, whitish to brownish shrink-swell clay soils derived from fluviolacustrine volcanic ash and tuff deposits. This species generally occurs on the steeper slopes of low hills, bluffs, and badlands in the greasewood, sagebrush, and lower piñon-juniper zones (Morefield 2001). The NNHP indicated that potential habitat might be available for the Reese River phacelia (Appendix E);

however, field surveys identified that suitable habitat of shrink-swell clay substrates is not present within the BSA. Reese River phacelia was not observed during field surveys.

The Toquima milkvetch is a BLM species of concern that occurs on dry, stiff, sandy to gravelly, generally somewhat basic or calcareous soils in sagebrush and piñon-juniper communities (Morefield 2001; BLM 2011). This species frequently occurs on stony hillsides and canyon benches on limestone at elevations ranging from 6,480 to 7,520 feet amsl (Cronquist et al. 1989). Potential habitat for Toquima milkvetch was identified in the pre-field analysis; however, field surveys indicated that suitable habitat of limestone outcrops and calcareous substrates were not present within the BSA.

Windloving buckwheat is a BLM species of concern and occurs at high elevations on dry, exposed, relatively barren and undisturbed, limestone, or volcanic ridges and ridgeline knolls, on outcrops or shallow rocky soils over bedrock (Morefield 2001; BLM 2011). Potential habitat for windloving buckwheat was observed on barren volcanic rock ridges and exposed bedrock in the Intermountain Basins Montane Sagebrush Steppe community. However, this species was not observed during botanical surveys but could potentially occur within the BSA.

5.2.3 Noxious Weed Survey

5.2.3.1 Survey Activities

Noxious weed surveys followed the established protocol outlined in the *Vegetation and Soils – Baseline Data Collection* (Appendix F).

5.2.3.2 Survey Results

No noxious weed species listed on the 2012 Noxious Weed List (Appendix H) were observed within the BSA. Other invasive and nonnative plant species observed within the BSA, but are not considered noxious weeds in the State of Nevada include the following: bull thistle; cheatgrass; curveseed butterwort; prickly lettuce; prickly Russian thistle; and saltlover. These species were primarily observed in disturbed areas within the BSA, such as the burned areas and in microdrainages.

5.3 Wildlife Survey

5.3.1 Wildlife

5.3.1.1 Survey Activities

Intuitive controlled wildlife surveys followed the established BLM protocols (Appendix F), and were conducted between approximately 8:00 a.m. to 6:45 p.m. All photograph points and western burrowing owl broadcast call locations are shown on Figure 6. The following seven avian species and three mammal species were identified as having potential habitat within the BSA from Section 3.2:

Special Status Wildlife Species

Brewer's sparrow (*Spizella breweri*)
Desert bighorn sheep (*Ovis canadensis nelsoni*)
Ferruginous hawk (*Buteo regalis*)
Golden eagle (*Aquila chrysaetos*)
Greater sage-grouse (*Centrocercus urophasianus*)
Loggerhead shrike (*Lanius ludovicianus*)
Sage thrasher (*Oreoscoptes montanus*)
Western burrowing owl (*Athene cunicularia hypugaea*)

Mammal Species

Mule deer (*Odocoileus hemionus*)
Pronghorn antelope (*Antilocapra americana*)

5.3.1.2 Survey Results

A total of two reptiles, 15 birds, and six mammals were directly observed or detected in the BSA by tracks, scat, feathers, calls, prey remains, or burrows and are listed in Appendix I. The general wildlife species detected in the BSA are common throughout the Great Basin region. The following two reptiles were observed in the BSA: the long-nosed leopard lizard (*Gambelia wislizenii*) and the western fence lizard (*Sceloporus occidentalis*). The following 15 avian species were detected in the BSA: American kestrel (*Falco sparverius*); Clark's nutcracker (*Nucifraga columbiana*); common nighthawk (*Chordeiles minor*); common raven (*Corvus corax*); golden eagle; flycatcher (*Empidonax* spp.); horned lark (*Eremophila alpestris*); long-eared owl (*Asio otus*); mourning dove (*Zenaida macroura*); northern flicker (*Colaptes auratus*); northern harrier (*Circus cyaneus*); prairie falcon (*Falco mexicanus*); red-tailed hawk (*Buteo jamaicensis*); rock wren (*Salpinctes obsoletus*); and turkey vulture (*Cathartes aura*). The following six mammals were identified within the BSA: American badger (*Taxidea taxus*); black-tailed jackrabbit (*Lepus californicus*); chipmunk (*Neotamias* spp.); ground squirrel (*Spermophilus* spp.); pronghorn antelope; and white-tailed antelope ground squirrel (*Ammospermophilus leucurus*).

Field surveys confirmed initial pre-field analysis determinations indicating a lack of potential habitat for the pygmy rabbit and various bat species within the BSA. The sagebrush areas within the BSA that were impacted by the previous wildfires lacked the necessary height and diversity typical of pygmy rabbit occupancy as defined by Ulmschneider et al. (2008). Lastly, there were no potential maternity roosts or hibernacula observed within and immediately adjacent to the BSA. However, suitable day roosting sites may occur within the rock crevices in the Inter-Mountain Basins Cliff and Canyon habitat within the BSA. Although, field surveys also confirmed that the amount of potential bat foraging habitat is severely limited in the BSA and is likely attributed to the past wildfires (see Appendix C, Photo Plate 10).

5.3.2 Ungulate

5.3.2.1 Survey Activities

A presence/absence survey was performed for all ungulates (i.e. desert bighorn sheep, elk, mule deer, pronghorn, etc.) and feral horses including sign (e.g. scat, tracks, or foraging). The presence/absence survey was performed concurrently with other focused wildlife surveys.

5.3.2.2 Survey Results

One big game species, pronghorn antelope, was observed in the BSA. There was a herd of approximately 28 individuals present in the lower elevations of the Recently Burned and Invasive Annual and Biennial Forbland areas of the BSA. Tracks and scat were observed at various locations throughout the same two communities.

The higher elevation areas of the BSA are considered year round occupied mule deer habitat and ungulate scat, species undetermined but likely mule deer was observed in the higher elevation areas of the BSA. In addition, the higher elevations of the BSA are considered potential desert bighorn sheep habitat (NDOW 2010) with occupied habitat approximately 10.5 miles to the south of the BSA in the Desatoya Mountains south of U.S. Hwy 50 (NDOW 2014b). No sign of desert bighorn sheep was observed in the BSA and limiting factors such as escape terrain (Dunn 1996) and lack of water sources (Wehausen 2006) within and immediately adjacent to the BSA may explain the lack of detection of bighorn sheep. In addition, there was no sign of elk or feral horses in the BSA.

5.3.3 Western Burrowing Owl

5.3.3.1 Survey Activities

Field surveys were conducted to identify potential western burrowing owl habitat within the BSA and if habitat was present, broadcast calling locations were initiated and intuitive controlled surveys were conducted on foot to locate active burrows.

5.3.3.2 Survey Results

The western portion of the BSA was determined to provide suitable habitat for western burrowing owls. This area is mostly free of trees and large shrubs and supports areas of sparse vegetation. Ten western burrowing owl broadcast call locations were performed along the distribution line in the lower elevations of the BSA within the Intermountain Basins Greasewood Flat, Invasive Annual and Biennial Forbland, Recently Burned, Intermountain Basins Big Sagebrush Shrubland, and the Great Basin Pinyon-Juniper Woodland communities (Figure 6). No western burrowing owls were detected during the broadcast calls at any of the ten locations that are listed in Table 2 of Appendix B. However, one inactive western burrowing owl burrow was observed within the Intermountain Basins Greasewood Flat community (Figure 7). Photo Plate 11 in Appendix C shows the inactive burrow underneath a greasewood shrub with a single splat of whitewash on the apron. No other western burrowing owl sign (e.g., pellets, eggshells, feathers) was observed. There was minimal sign observed around the burrow and there were no indications of nesting activity. The survey was performed during the end of the western

burrowing owl nesting season, April 1 through July 31, and even though the timing was near the end of the season, if present, sign associated with active nesting burrows (i.e. fresh whitewash, pellets, downy feathers, owlets) would have been detectable.

5.3.4 Migratory Bird

5.3.4.1 Survey Activities

Incidental migratory bird sightings and nests were recorded.

5.3.4.2 Survey Results

Of the 15 avian species detected within the BSA, all 15 are classified as migratory bird species by the Migratory Bird Treaty Act (MBTA) (USFWS 2012). One of the migratory bird species, the golden eagle, is also considered a BLM sensitive species. Of the 15 migratory birds, the following two species are identified as *Conservation Priority Bird Species in Nevada* by the Great Basin Bird Observatory (GBBO): the common nighthawk and the prairie falcon (GBBO 2004). A complete list of the avian species detected within or near the BSA is included in Appendix I.

No migratory bird nests were observed within the BSA during the field survey. Within the BSA, potential nesting and foraging habitat for the BLM sensitive avian species identified during the pre-field analysis has been severely degraded as a result of the previous wildfires.

5.3.5 Raptor

5.3.5.1 Survey Activities

The raptor survey was performed in accordance with agency guidance as outlined in Appendix F. The Raptor Survey Area consisted of a one-mile buffer around the BSA and the survey was performed in conjunction with focused wildlife surveys and the golden eagle survey. The raptor survey was performed along all mapped roads within the Raptor Survey Area. In areas with no vehicle access, an ocular assessment was performed with the aid of 10X30 power binoculars to search for suitable nesting habitat and signs of nesting.

5.3.5.2 Survey Results

Four raptor nests and 11 raptor sightings were recorded within the Raptor Survey Area during the survey (Figure 7). Table 3 in Appendix B lists the nests observed during the survey and provides the following information: year of survey; raptor identification number; common name; scientific name; UTM coordinates of the nest; number of nests; status of the nest; nest substrate; nest height in feet; photograph number of the nest; distance from the BSA; and a brief description. Table 4 in Appendix B compiles all of the raptor sightings and lists the corresponding UTM locations.

One occupied nest (RTHA-01) was observed just outside of the BSA located near the beginning of the switchbacks on a small ledge of a rock outcrop. Whitewash was below the nest and two immature red-tailed hawks were nearby (Appendix C, Photo Plate 15). All indications suggest

that the RTHA-01 nest was occupied during the 2014 season and successfully fledged two chicks.

The other three raptor nests were located at various locations within the Raptor Survey Area. An unoccupied common raven nest (CORA-01) was observed at the top of a power pole along Alpine Road just prior to the start of the distribution line (Appendix C, Photo Plate 12). The other two raptor nests are located within the New Pass Range directly north and southwest of the BSA. The raptor nest, unknown species (UNK-01) located to the north of the BSA showed signs of potential use with splashes of whitewash; however, the nest appeared to be old and in poor condition (Appendix C, Photo Plate 13). Three red-tailed hawks, two adults and one immature, were observed in the vicinity of UNK-01, but the usage of the nest could not be determined with certainty. The raptor nest, unknown species (UNK-02) located to the south of the BSA was built on a rock ledge of a south-facing cliff face (Appendix C, Photo Plate 14). The nest was in good condition and a nearby outcrop had extensive whitewash present. No adults or juveniles were present and the species use could not be determined.

Suitable nesting and foraging habitat for the American kestrel is present throughout the piñon-juniper portions of the Raptor Survey Area. Suitable foraging habitat is present throughout the Raptor Survey Area for the following species: golden eagle; long-eared owl; northern harrier; prairie falcon; red-tailed hawk; and the turkey vulture. Suitable nesting habitat for cliff nesting species is present in the Raptor Survey Area both north (Appendix C, Photo Plate 16) and south (Appendix C, Photo Plates 17 and 18) of the BSA. The highest elevation areas of the Raptor Survey Area do not contain suitable cliff nesting habitat (Appendix C, Photo Plate 19).

5.3.6 Golden Eagle

5.3.6.1 Survey Activities

A golden eagle survey was conducted in conjunction with raptor surveys. Potential golden eagle nesting habitat within the Golden Eagle Survey Area was determined prior to field work using a slope analysis in which all areas with a slope greater than 45 degrees were considered suitable habitat. These areas were field verified and suitable nesting habitat was mapped (Figure 7).

The golden eagle survey was conducted within a two-mile buffer around the BSA and was performed along all mapped and unmapped roads within the Golden Eagle Survey Area. In areas with no vehicle access, an ocular assessment was performed with the aid of 10X30 power binoculars to search for suitable nesting habitat and signs of nesting.

5.3.6.2 Survey Results

An adult golden eagle was observed within the Golden Eagle Survey Area. Golden eagle nesting habitat is present within the Raptor and Golden Eagle Survey Area in the New Pass Range and is identified as orange polygons on Figure 7; however, no nests were observed. Suitable foraging habitat is present throughout the BSA, Raptor Survey Area, and the Golden Eagle Survey Area.

A historic golden eagle nest located 1.3 miles to the south of the BSA in T21N, R40E, Section 32 was not located during the field survey. According to the NDOW, the nest was last active in 1975 (NDOW 2014a).

6 SUMMARY OF FINDINGS AND CONCLUSIONS

The following is a summary of the results of the agency data responses and the baseline biological survey conducted by Enviroscientists:

- Eight vegetation communities were field-verified and mapped within the BSA;
- No BLM special status plant species were observed in the BSA;
- No state listed noxious weed species were observed in the BSA;
- To minimize any potential impacts to greater sage-grouse, NVE agreed to bury portions of the distribution line within essential/irreplaceable habitat as mapped by the NDOW;
- Field surveys confirmed initial pre-field analysis determinations indicating a lack of potential habitat for the pygmy rabbit and various bat species within the BSA;
- The pronghorn antelope was the only big game species observed and detected by sign in the BSA;
- No detections were recorded at any of the ten western burrowing owl broadcast call locations;
- One inactive western burrowing owl burrow was recorded in the Intermountain Basins Greasewood Flat community within the BSA;
- Of the 15 avian species observed or detected in the BSA, all are classified as migratory bird species;
- Two of the migratory bird species (the common nighthawk and the prairie falcon) are also considered *Conservation Priority Bird Species in Nevada* by the GBBO (GBBO 2004);
- Potential nesting habitat for the BLM sensitive migratory avian species is unlikely due to the lack of habitat caused by the previous wildfires;
- Four raptor nests and 11 raptor sightings were recorded within the Raptor Survey Area;
- Two red-tailed hawk fledglings were observed near a nest within the BSA that showed signs of occupancy during 2014;
- The golden eagle, a BLM sensitive species, was observed within the Golden Eagle Survey Area; and
- No golden eagle nests were observed but foraging habitat is present throughout all survey areas.

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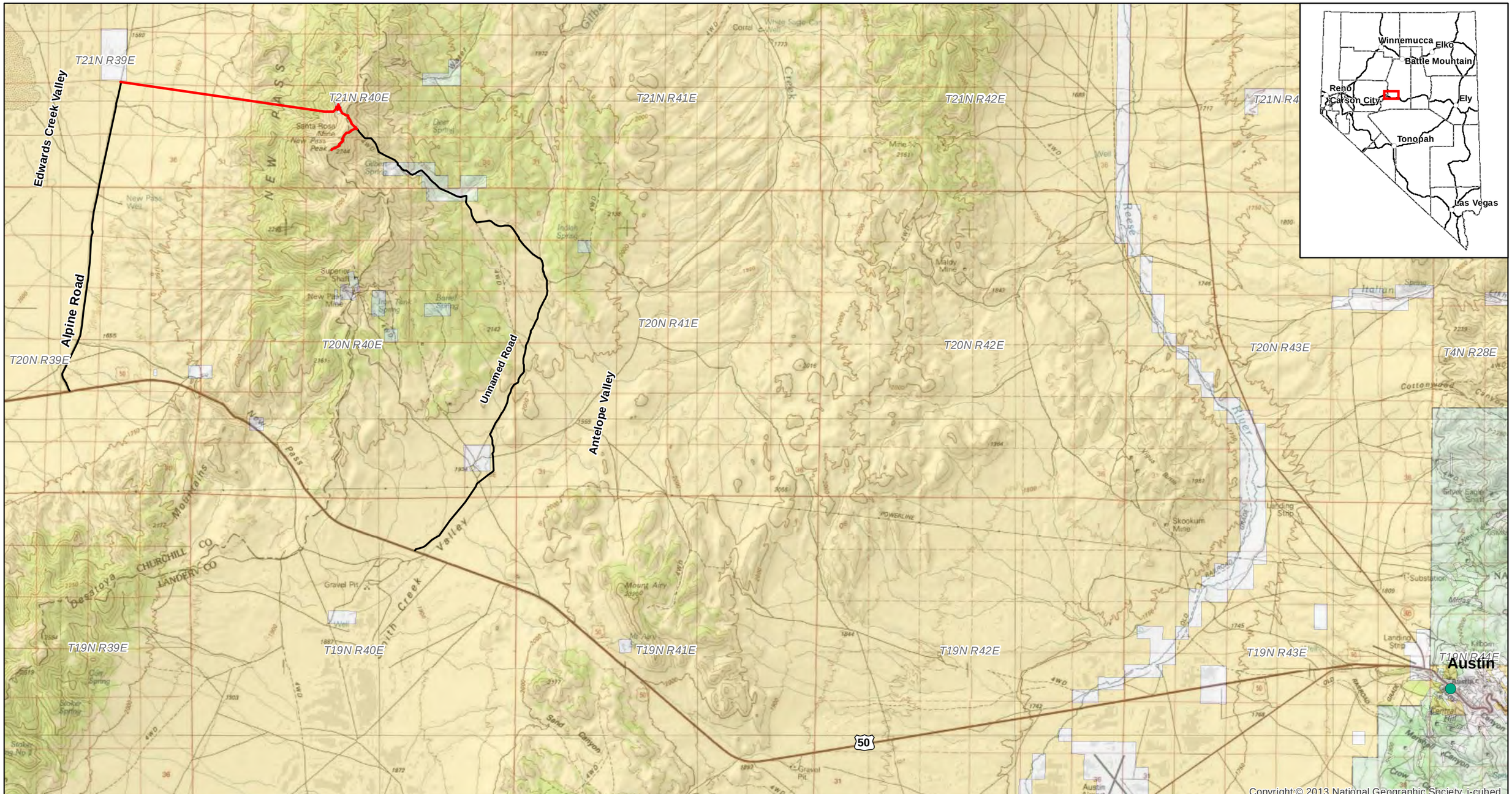
APPENDIX A

FIGURES FOR THE NEW PASS DISTRIBUTION PROJECT



Explanation

- Proposed Distribution Line
- Existing Access
- Unincorporated Town

Land Status

- Bureau of Land Management
- Forest Service
- Private

0 1 2 Miles

N

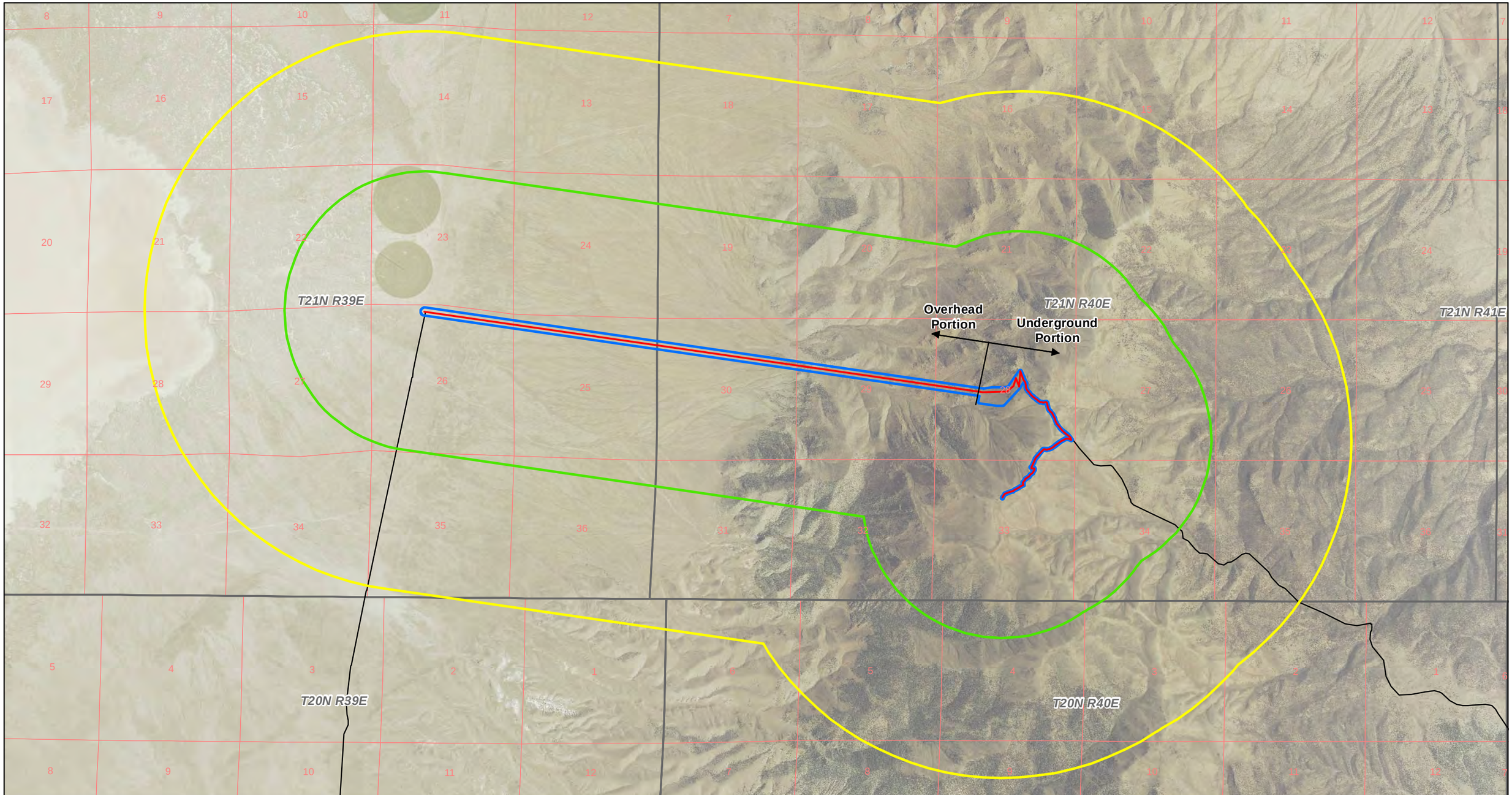
NV ENERGY

NEW PASS DISTRIBUTION PROJECT

Project Location, Access, and Land Status

Figure 1

Date: 10/23/2014	Drawn By: GSL	Envirascientists, Inc.
Revised:	Project No.: 3322	
Base Map: USGS 100K quads: Edwards Creek Valley, Smith Creek Valley		
File Name: 3322X_NewPass_Figure1_ProjLocAccess.mxd		



Explanation

- Biological Survey Area
- Raptor Survey Area (One-Mile Buffer)
- Golden Eagle Survey Area (Two-Mile Buffer)
- Proposed Distribution Line
- Existing Access

0 2,000 4,000 Feet

N

NV ENERGY

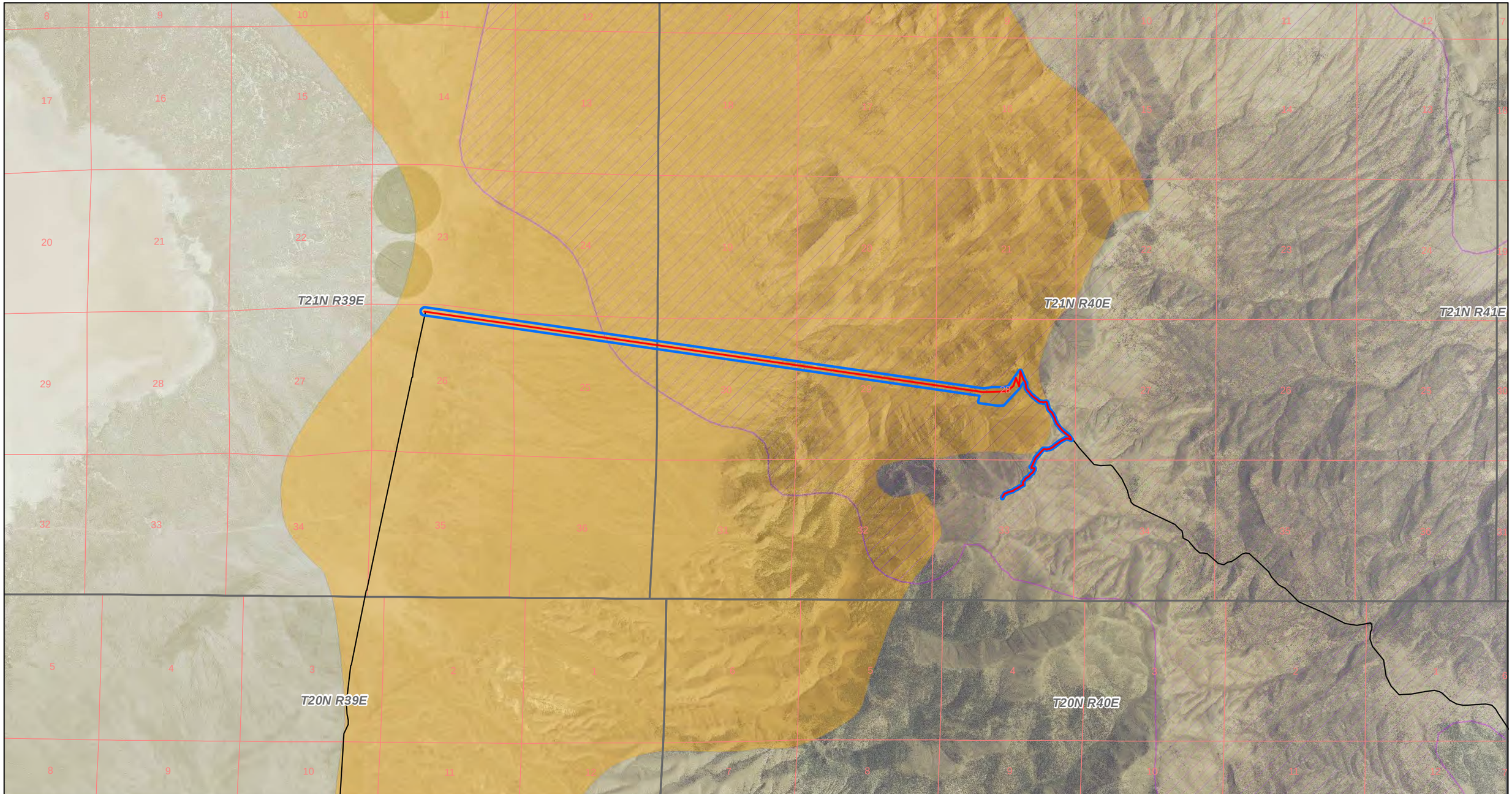
NEW PASS DISTRIBUTION PROJECT

Biological Survey Area and Buffers

Figure 2

Date: 10/23/2014	Drawn By: GSL		
Revised:	Project No.: 3322		
Base Map: NAIP Nevada 2013 1m NC			
File Name: 3322X_NewPass_Figure2_BioSurveyArea.mxd			

Envirascientists, Inc.



Explanation

- Biological Survey Area
- Proposed Distribution Line
- Existing Access
- 2012 Gilbert Fire (31,503 acres)
- 1999 Unnamed Fire (47,435 acres)

0 2,000 4,000 Feet

N

NV ENERGY

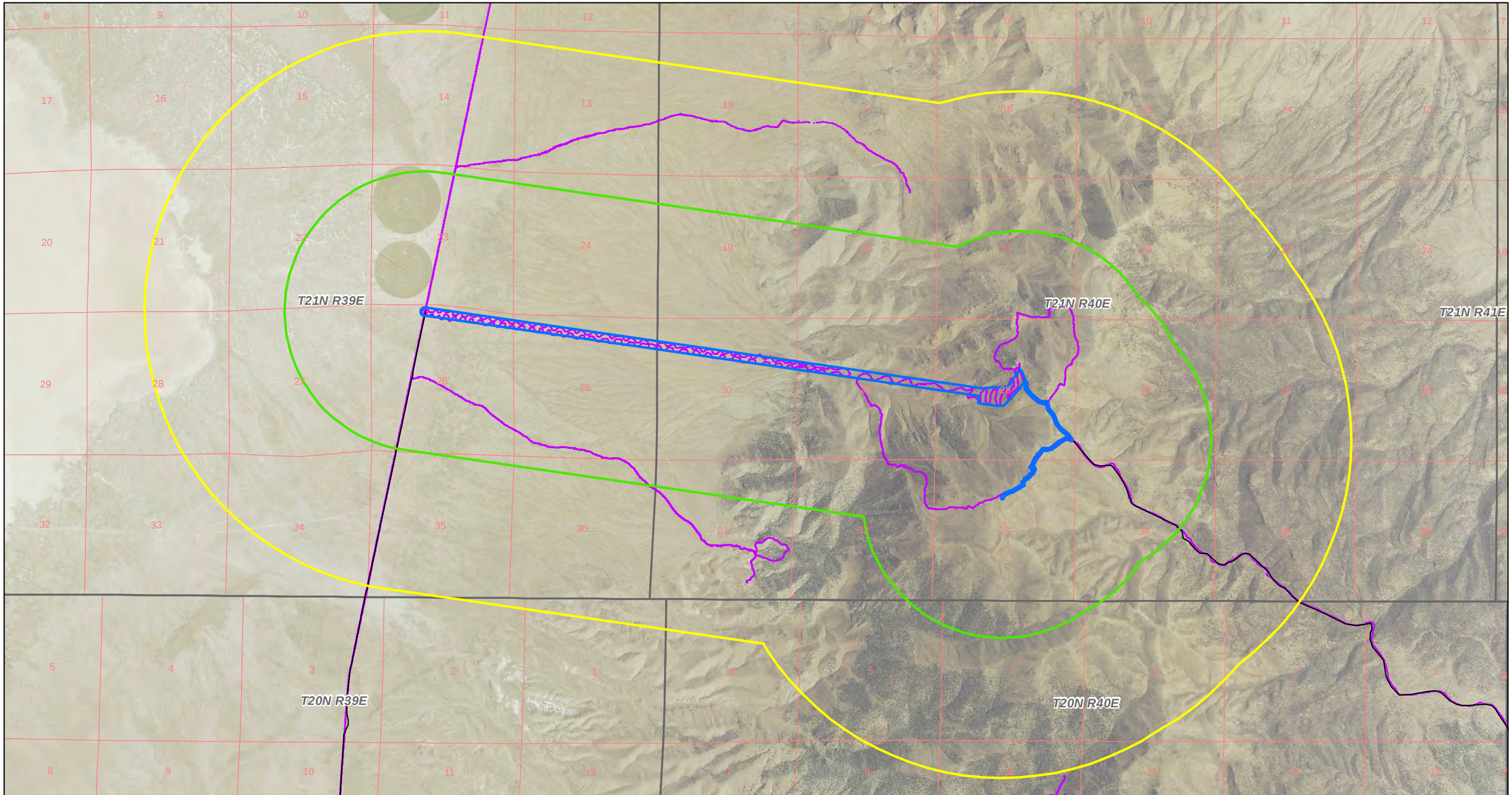
NEW PASS DISTRIBUTION PROJECT

Wildfire History

Figure 3

Date: 10/23/2014	Drawn By: GSL		
Revised:	Project No.: 3322		
Base Map: NAIP Nevada 2013 1m NC			
File Name: 3322X_NewPass_Figure3_WildfireHistory.mxd			

Enviroscientists, Inc.



Explanation

- Biological Survey Area
- Raptor Survey Area (One-Mile Buffer)
- Golden Eagle Survey Area (Two-Mile Buffer)
- Existing Access
- Survey Tracks

0 2,000 4,000 Feet

N

NV ENERGY

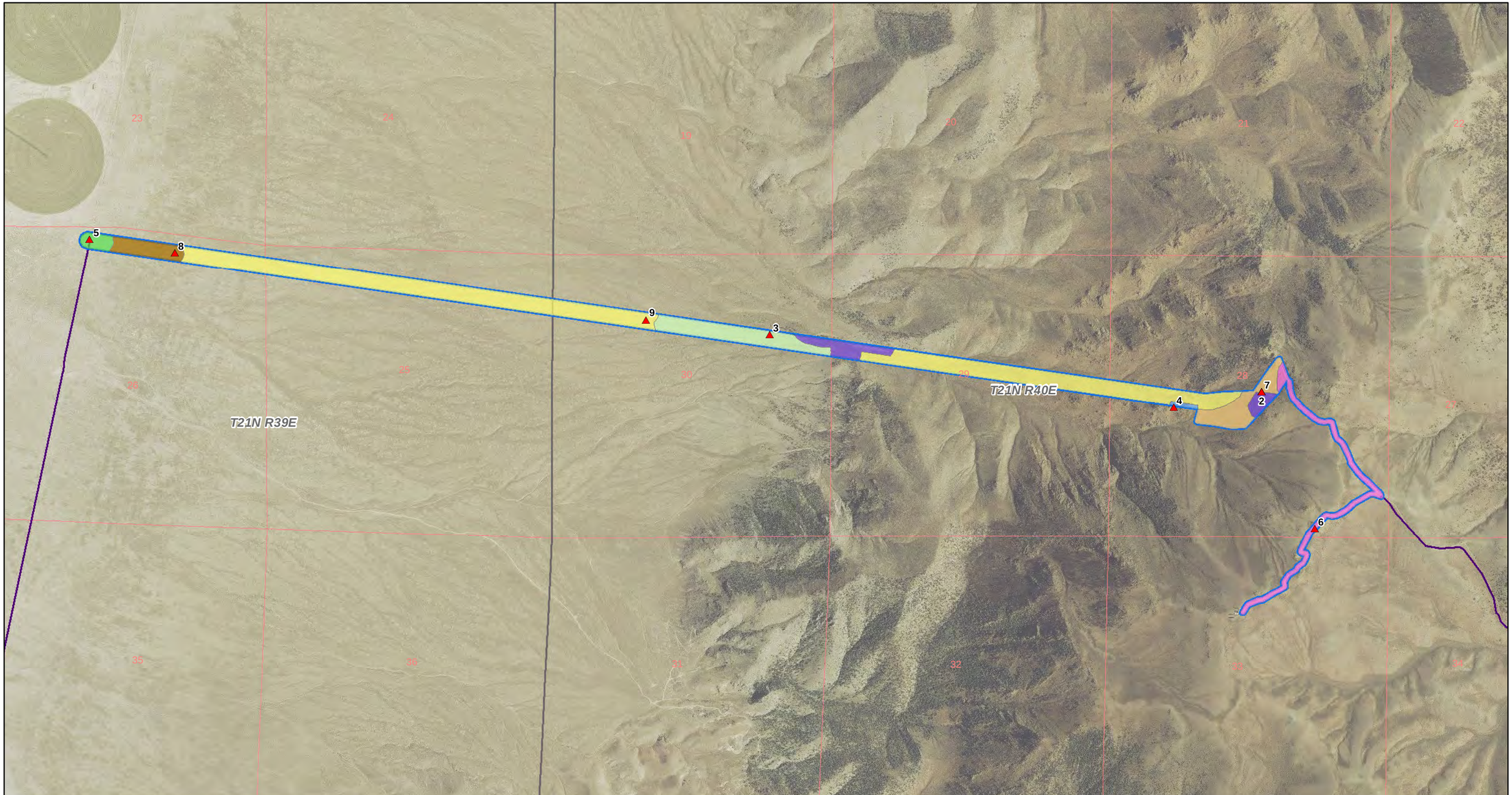
NEW PASS DISTRIBUTION PROJECT

Survey Tracks

Figure 4

Date: 10/23/2014	Drawn By: GSL		
Revised:	Project No.: 3322		
Base Map: NAIP Nevada 2013 1m NC			
File Name: 3322X_NewPass_Figure4_SurveyTracks.mxd			

Envirascientists, Inc.



Explanation

- Biological Survey Area
- Existing Access
- Photograph Plate Locations

Field-Verified Southwest Regional GAP Vegetation

- Great Basin Piñon-Juniper Woodland
- Inter-Mountain Basins Cliff and Canyon
- Inter-Mountain Basins Big Sagebrush Shrubland
- Inter-Mountain Basins Greasewood Flat
- Inter-Mountain Basins Montane Sagebrush Steppe
- Inter-Mountain Basins Semi-Desert Grassland
- Invasive Annual and Biennial Forbland
- Recently Burned

0 1,000 2,000 Feet

N

NV ENERGY

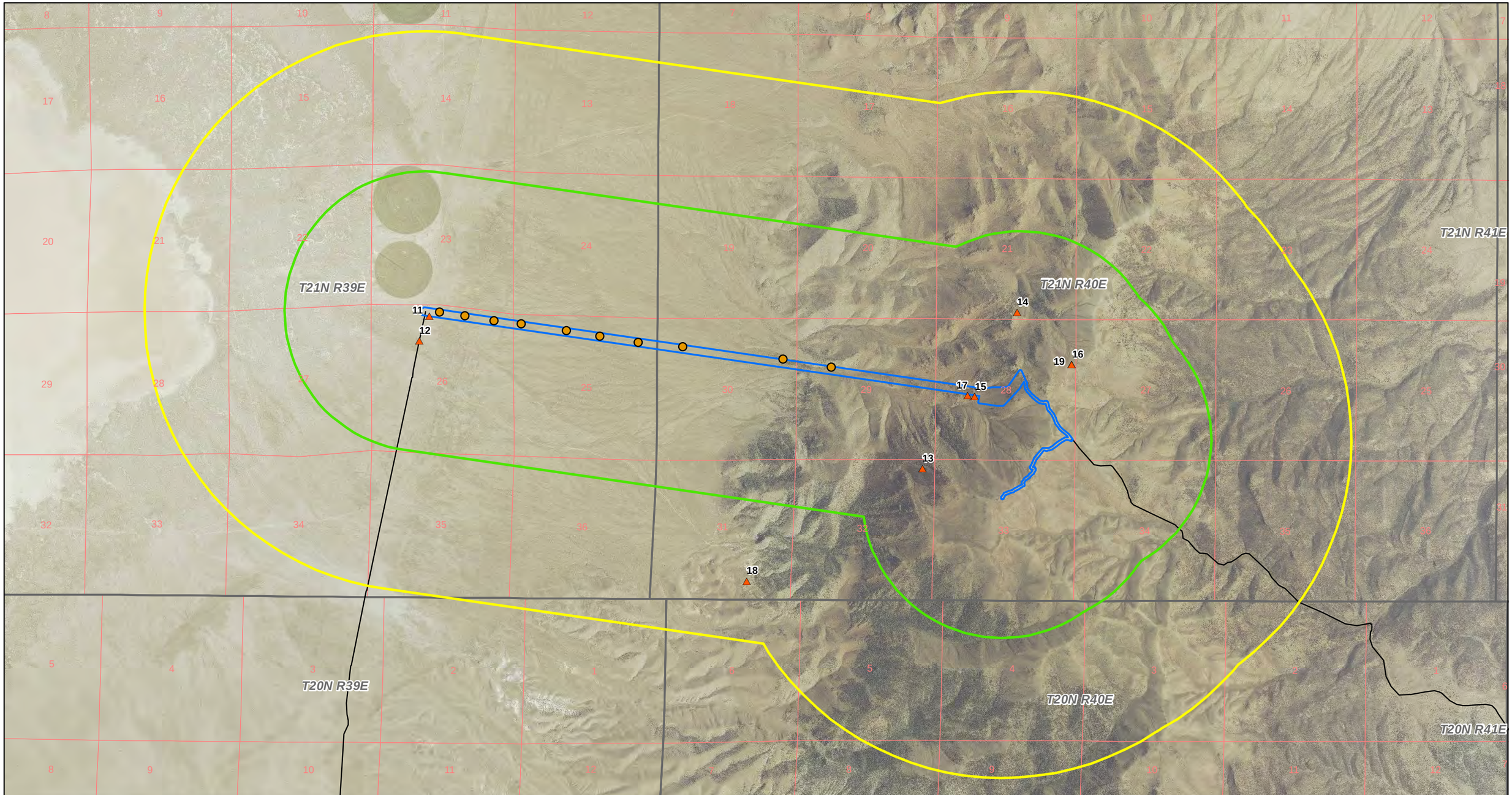
NEW PASS DISTRIBUTION PROJECT

Field-Verified Vegetation Communities

Figure 5

Date: 10/23/2014	Drawn By: GSL	
Revised:	Project No.: 3322	
Base Map: NAIP Nevada 2013 1m NC		
File Name: 3322X_NewPass_Figure5_FieldVerifiedVeg.mxd		

Enviroscientists, Inc.



Explanation

- Biological Survey Area
- Raptor Survey Area (One-Mile Buffer)
- Golden Eagle Survey Area (Two-Mile Buffer)
- Existing Access
- Broadcast-Calling Locations (Western Burrowing Owl)
- Photograph Plate Locations

0 2,000 4,000 Feet

N

NV ENERGY

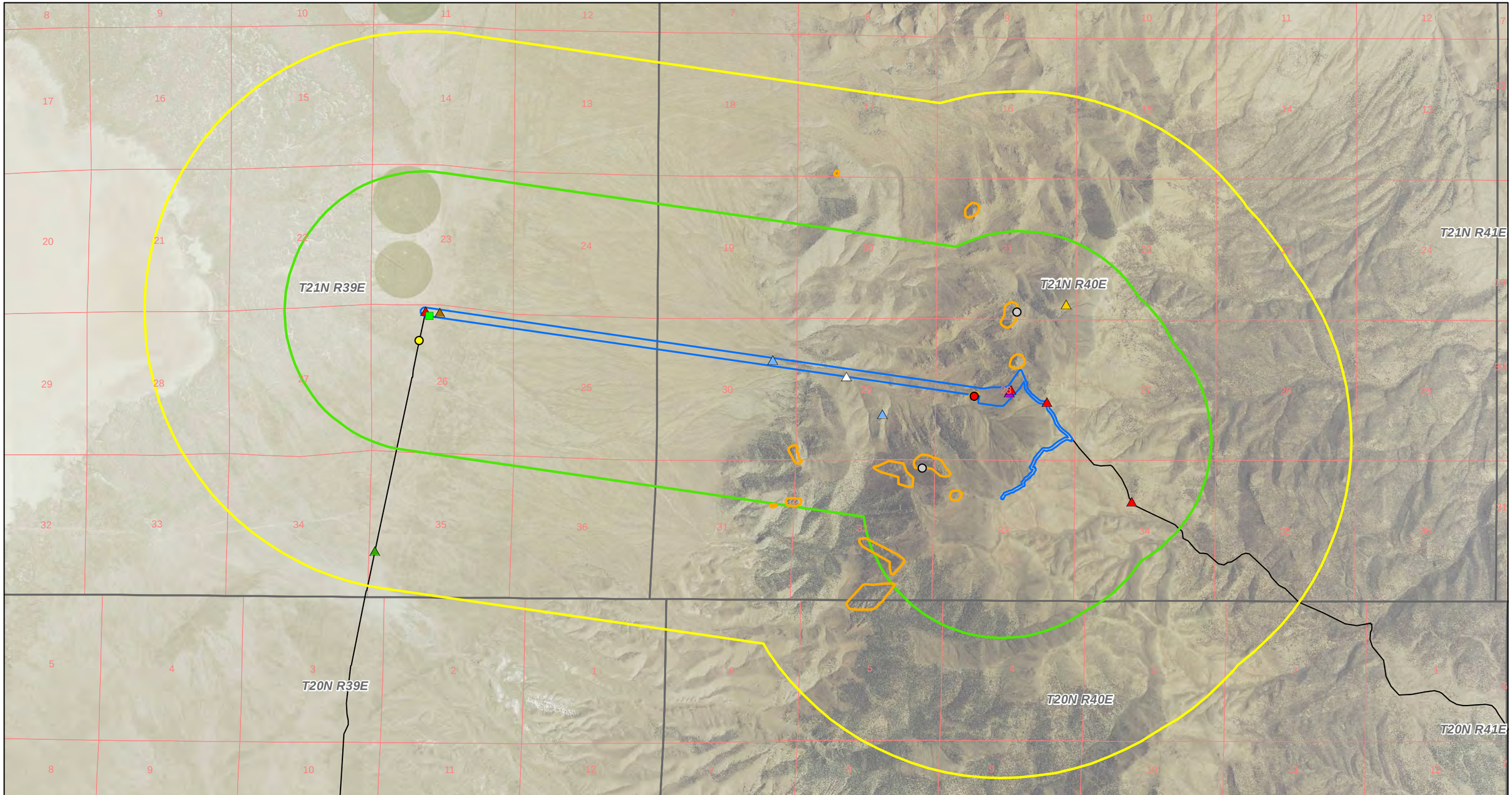
NEW PASS DISTRIBUTION PROJECT

Photograph Points and Calling Locations

Figure 6

Date: 10/23/2014	Drawn By: GSL		
Revised:	Project No.: 3322		
Base Map: NAIP Nevada 2013 1m NC			
File Name: 3322X_NewPass_Figure6_PhotosCallLocs.mxd			

Envirascientists, Inc.



Explanation

- Biological Survey Area
- Raptor Survey Area (One-Mile Buffer)
- Golden Eagle Survey Area (Two-Mile Buffer)
- Existing Access
- Golden Eagle Nesting Habitat
- Inactive Burrow (Western Burrowing Owl)

Raptor Nests

- Occupied Nest (Red-tailed Hawk)
- Unoccupied Nest (Common Raven)
- Unoccupied Nest (Unknown Species)

Raptor Sightings

- Golden Eagle
- American Kestrel
- Long-eared Owl
- Northern Harrier
- Prairie Falcon
- Red-tailed Hawk
- Turkey Vulture

0 2,000 4,000 Feet

N

NV ENERGY

NEW PASS DISTRIBUTION PROJECT

Wildlife Survey Results

Figure 7

Date: 10/23/2014	Drawn By: GSL		
Revised:	Project No.: 3322		
Base Map: NAIP Nevada 2013 1m NC			
File Name: 3322X_NewPass_Figure7_Results.mxd			

Envirascientists, Inc.

APPENDIX B

TABLES FOR THE NEW PASS DISTRIBUTION PROJECT

Table 1: Proposed Temporary Disturbance Areas for the New Pass Distribution Project

Workspace	Area required	Number	Total Approximate Acreage of Temporary Disturbance[1] (Public Lands)
Distribution Structure Sites	Two feet by two feet	85	0.0100
Pull Sites	100-foot diameter	6	1.1000
Junction Boxes	Three feet by three feet	6	0.0012
Staging Areas	200 feet by 200 feet	2	0.9200
Access Road[2]	24,540 feet long by eight feet wide	1	4.5000
Underground disturbance up to "switchbacks"	1,632 feet long by six feet wide	1	0.2200
Underground disturbance along access road	3,275 feet long by two feet wide	1	0.1500
TOTAL			**6.900**

[1] The temporary ROW is inclusive of the permanent ROW.
[2] Access road width is approximate and will be a permanent feature of the ROW.

Table 2: Western Burrowing Owl Broadcast Call Locations for the New Pass Distribution Project

Broadcast-Call Location No.	UTM Coordinates		Response	Sighting
	Easting	Northing		
BUOW-01	456456	4390138	No	No
BUOW-02	455901	4390229	No	No
BUOW-03	455459	4390256	No	No
BUOW-04	454748	4390371	No	No
BUOW-05	454241	4390426	No	No
BUOW-06	453799	4390494	No	No
BUOW-07	453418	4390556	No	No
BUOW-08	452896	4390633	No	No
BUOW-09	452580	4390673	No	No
BUOW-10	452249	4390726	No	No
BUOW-11	451958	4390770	No	No

Table 3: 2014 Raptor and Golden Eagle Survey Results for the New Pass Distribution Project

Year	Raptor ID	Common Name	Scientific Name	UTM Coordinates		No. of Nests	Status	Nest Substrate	Nest Height (Feet)	Photo No.	Distance from BSA (Feet)	Description
				Easting	Northing							
NESTS												
2014	CORA-01	Common raven	*Corvus corax*	451719.93	4390446.62	1	Unoccupied	Power pole	30	4305	965	Small nest located at top of power pole along Alpine Road near beginning of Distribution line
2014	RTHA-01	Red-tailed hawk	*Buteo jamaicensis*	458103.48	4389804.29	1	Occupied	Rock outcrop	30	4318, 4319	47	Two fledglings in area, whitewash below nest
2014	UNK-01	Unknown species	Unknown species	457504.65	4388981.36	1	Unoccupied	Rock outcrop	25	4338	3,001	Nest condition poor, three red-tailed hawks (two adults and one immature) were observed in the vicinity but the usage of the nest could not be determined with certainty
2014	UNK-02	Unknown species	Unknown species	458589.33	4390770.03	1	Unoccupied	Cliff	20	4366, 4367	2,173	Whitewash present nearby, nest in good condition

Table 4: 2014 Raptor Sightings for the New Pass Distribution Project

Year	Raptor ID	Common Name	Scientific Name	UTM Coordinates	
				Easting	Northing
SIGHTINGS					
2014	PRFA-S01	Prairie falcon	*Falco mexicanus*	451212	4388034
2014	RTHA-S01	Red-tailed hawk	*Buteo jamaicensis*	458934	4389743
2014	GOEA-S01	Golden eagle	*Aquila chrysaetos*	459153	4390863
2014	RTHA-S02	Red-tailed hawk	*Buteo jamaicensis*	459908	4388593
2014	LEOW-S01	Long-eared owl	*Asio otus*	458497	4389854
2014	RTHA-S03	Red-tailed hawk	*Buteo jamaicensis*	458520	4389884
2014	AMKE-S01	American kestrel	*Falco sparverius*	457040	4389605
2014	NOHA-S01	Northern harrier	*Circus cyaneus*	456630	4390041
2014	AMKE-S02	American kestrel	*Falco sparverius*	455785	4390226
2014	TUVU-S01	Turkey vulture	*Cathartes aura*	451957	4390770
2014	RTHA-S04	Red-tailed hawk	*Buteo jamaicensis*	451791	4390785

APPENDIX C

PHOTOGRAPHIC LOG FOR THE NEW PASS DISTRIBUTION PROJECT

New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #1

Photographic Representation of Approximate Location of the Distribution Line from Alpine Road to the top of New Pass Peak

(Red=Overhead Portion and Green =Underground Portion)

New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #2

Great Basin Piñon-Juniper Woodland

July 29, 2014

UTM 0458531E, 4389910N

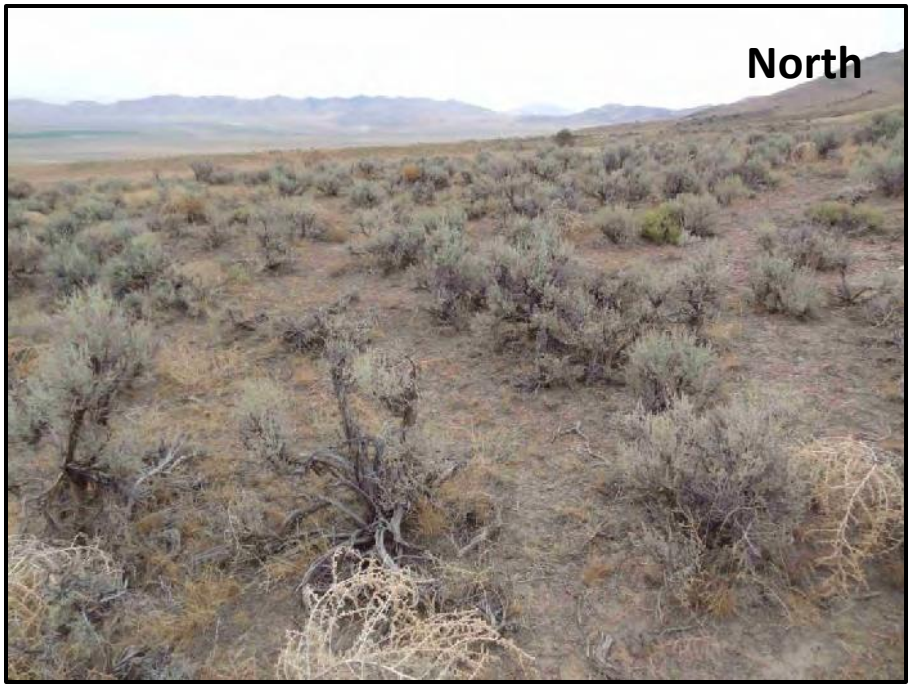
New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #3

Inter-Mountain Basins Big Sagebrush Shrubland

July 28, 2014

UTM 0455701E, 4390236N



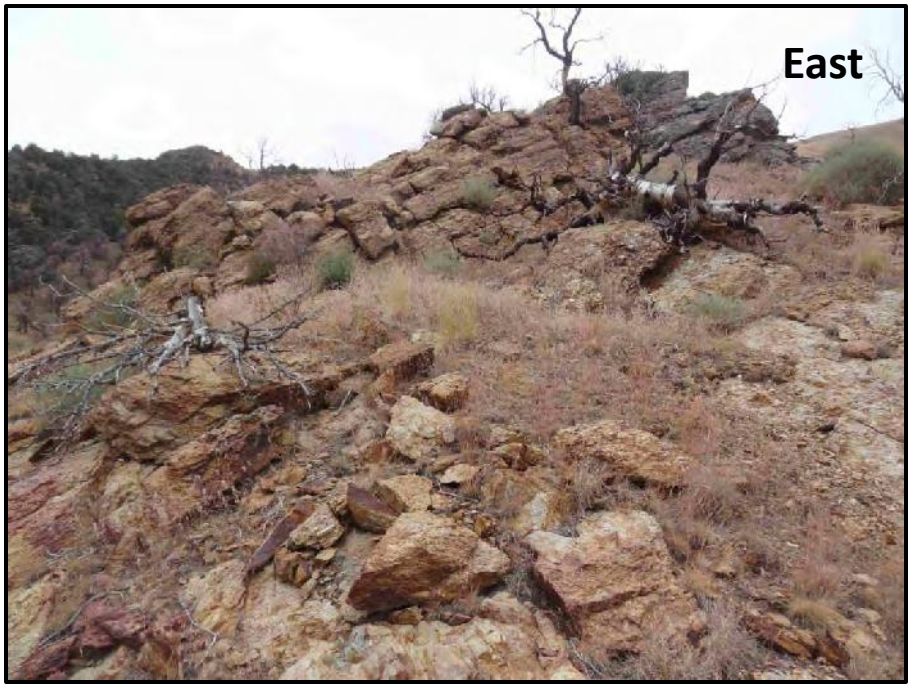
New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #4

Inter-Mountain Basins Cliff and Canyon

July 29, 2014

UTM 0458026E, 4389820N



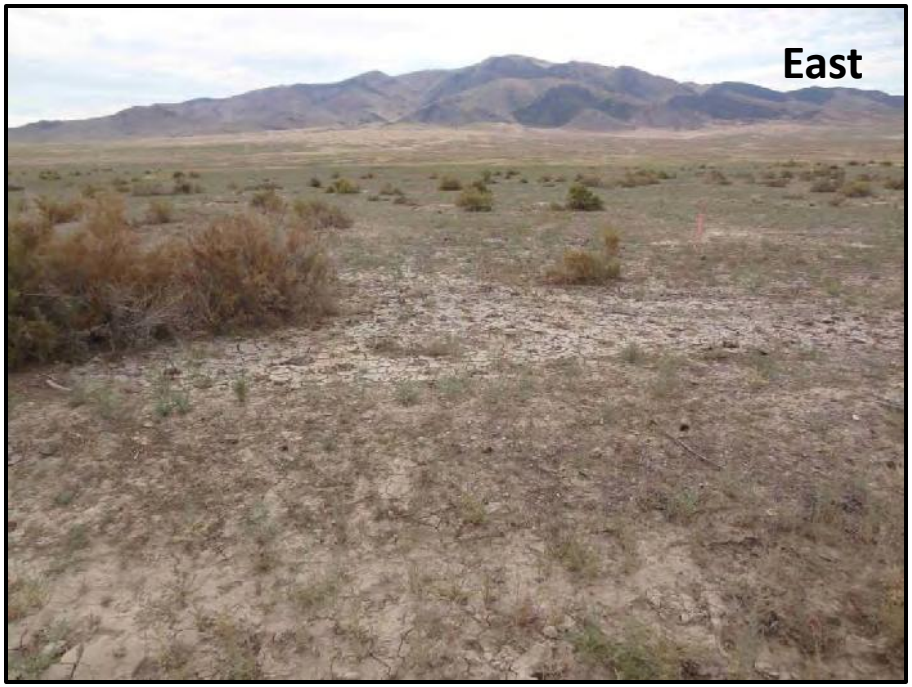
New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #5

Inter-Mountain Basins Greasewood Flat

July 28, 2014

UTM 0451791E, 4390784N



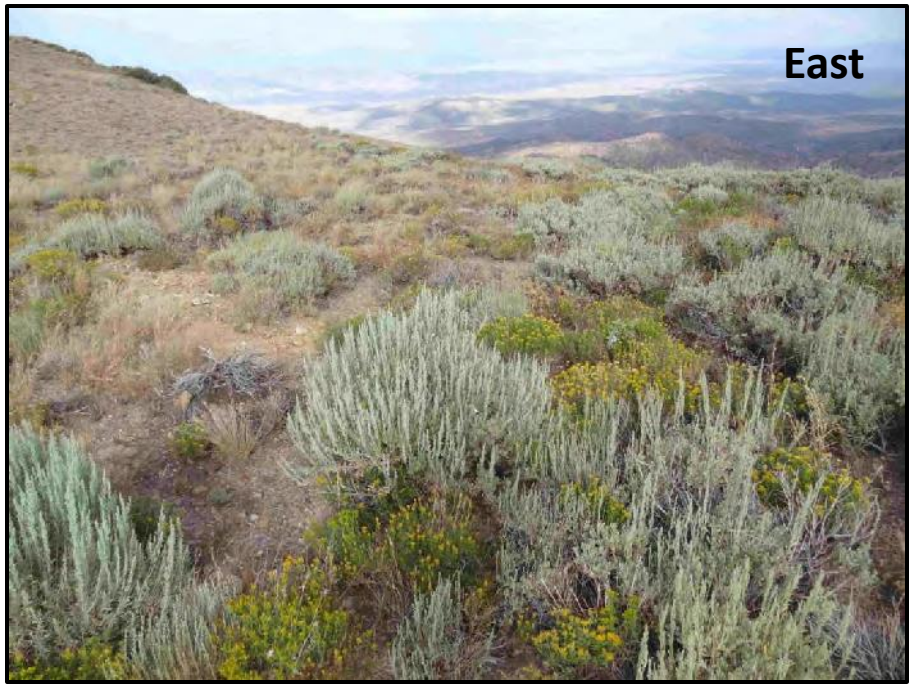
New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #6

Inter-Mountain Basins Montane Sagebrush Steppe

July 29, 2014

UTM 0458837E, 4389122N



New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #7

Inter-Mountain Basins Semi-Desert Grasslands

July 29, 2014

UTM 0458531E, 4389910N

New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #8

Invasive Annual and Biennial Forbland

July 28, 2014

UTM 0452409E, 4390685N

New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #9

Recently Burned

July 28, 2014

UTM 0455074E, 4390302N

New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #10

Lack of Potential Bat Habitat

New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #11

Inactive Western Burrowing Owl Burrow

July 28, 2014

UTM 0451838E, 4390728N

New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #12

Unoccupied Common Raven Nest (CORA-01)

July 28, 2014

UTM 0451719E, 4390446N

New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #13

Unknown Raptor Nest (UNK-01)

July 30, 2014

UTM 0457504E, 4388981N

New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #14

Unknown Raptor Nest (UNK-02)

July 29, 2014

UTM 0458589E, 4390770N

New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #15

Active Red-Tailed Hawk Nest (RTHA-01)

July 29, 2014

UTM 0458103E, 4389804N

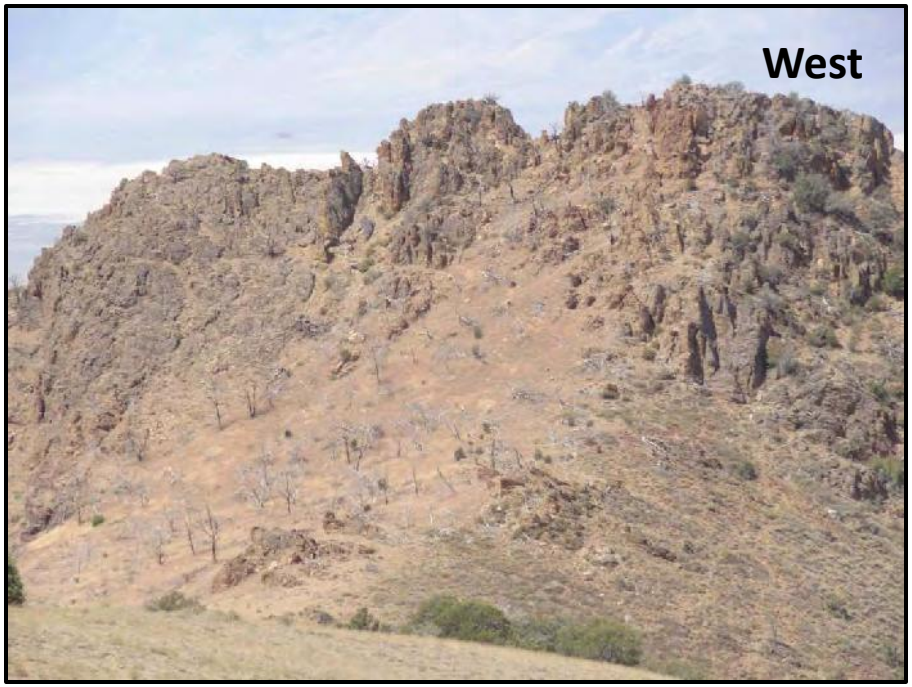
New Pass Peak Project – Baseline Biological Survey Report

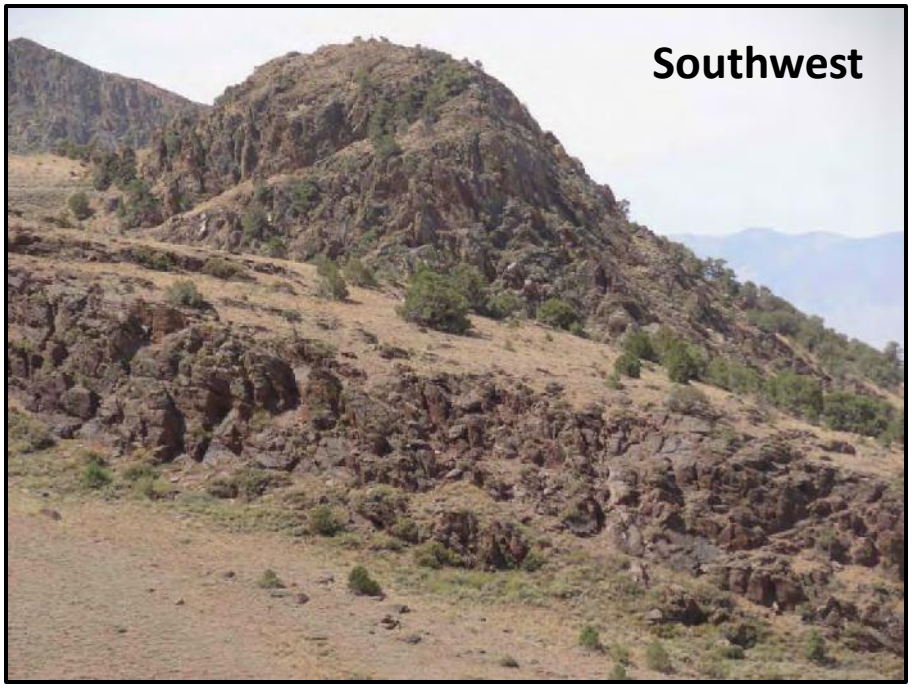
Photo Plate #16

Potential Raptor Nesting Habitat North of the BSA

July 30, 2014

UTM 0459221E, 4390175N





New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #17

Potential Raptor Nesting Habitat South of the BSA

July 29, 2014

UTM 0458026E, 4389820N

New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #18

Potential Raptor Nesting Habitat South of the BSA

July 30, 2014

UTM 0455485E, 4387687N

New Pass Peak Project – Baseline Biological Survey Report

Photo Plate #19

No Raptor Habitat in High Elevations

July 30, 2014

UTM 0459221E, 4390175N

APPENDIX D

2011 CARSON CITY SPECIAL STATUS SPECIES AND THREATENED AND ENDANGERED SPECIES LIST

AND

2014 HABITAT ASSESSMENT FORM SPECIAL STATUS SPECIES LIST

BLM Carson City District Sensitive Species List 2011

Scientific Scientific Name	Common Common Name	FWS FWS Status	Global Global Status	State State Status	NV NV Range	Districts Districts Contain
Amphibians						
Bufo boreas ssp.	Dixie Valley toad		G2	S2	YR	C
Rana pipiens	northern leopard frog		G5	S2S3	YR	C
Birds						
Accipiter gentilis	northern goshawk		G5	S2	Breeding	C
Athene cunicularia hypugaea	Western burrowing owl		G4T4	S3B	YR	statewide
Buteo regalis	ferruginous hawk		G4	S2	YR	statewide
Centrocercus urophasianus	Greater Sage-grouse	CS	G4	S3S4	YR	C
Charadrius alexandrinus nivosus	Western snowy plover	T	G4T3	S3b	Migratory	statewide
Falco peregrinus	Perigrine Falcon	delisted 1999	G4	S2	YR	statewide
Gymnorhinus cyanocephalus	pinyon jay		G5	S3S4	YR	statewide
Haliaeetus leucocephalus	Bald eagle	delisted 2009	G5	S1B, S3N	YR	statewide
Melanerpes lewis	Lewis woodpecker		G4	S3	YR	C
Oreoscoptes montanus	Sage Thrasher		G5	S5B	S	C
Spizella breweri	Brewer's Sparrow		G5	S4B	YR	statewide
Fish						
Chasmistes cujus	Cui-ui	E	G1	S1	YR	C
Catostomus sp 1	Wall Canyon Sucker		G1	S1	YR	C
Crenichthys nevadae	Railroad Valley Springfish	T	G2	S2	YR	C
Oncorhynchus clarki henshawi	Lahontan cutthroat trout	T	G4T3	S3	YR	C
Mammals						
Antrozous pallidus	pallid bat		G5	S3B	YR	statewide
Corynorhinus townsendii	Townsend's big-eared bat		G4	S2	YR	statewide
Eptesicus fuscus	big brown bat		G5	S4	YR	statewide
Euderma maculatum	spotted bat		G6	S3	YR	C
Lasionycteris noctivagans	silver-haired bat		G5	S3	YR	statewide
Lasiurus blossevillii	western red bat		G5	S1	YR	C
Lasiurus cinereus	hoary bat		G5	S3	S	statewide
Myotis californicus	California myotis		G5	S4	YR	C
Myotis ciliolabrum	western small-footed myotis		G5	S3	YR	statewide
Myotis evotis	long-eared myotis		G5	S4	YR	statewide
Myotis lucifugus	little brown myotis		G5	S?	YR	C
Myotis thysanodes	fringed myotis		G5G4	S2	YR	statewide
Myotis yumanensis	Yuma myotis		G5	S3S4	YR	C
Myotis volans	long-legged myotis		G5	S4	YR	statewide
Tadarida brasiliensis	Brazilian free-tailed bat		G5	S3S4	YR	statewide
Pipistrellus hesperus	western pipistrelle		**G5**	S4	YR	statewide
Brachylagus idahoensis	pygmy rabbit	petitioned	G4	S3	YR	C
Microdipodops megacephalus	dark kangaroo mouse		G4	S2	YR	statewide (except Clark CO)
Microdipodops pallidus	pale kangaroo mouse		G3	S2	YR	C
Ochotona princeps	pika		G5	S2	YR	C
Ovis canadensis	bighorn sheep		G4T4	S3/S4	YR	statewide
Reptiles						
Elgaria coerulea shastaensis	Shasta alligator lizard		G5T4Q	S1	YR	C
Insects						
Aegialia hardyi	Hardy's aegialian scarab	petitioned 2010	G1	S1	YR	C
Anthophora sp. nov. 1	bee		G?	S?	YR	C
Aphodius sp. 3	Sand Mountain aphodius scarab		G1Q	S1	YR	C
Cardiophorus ssp. nov.	Click beetle		G1	S1	YR	C
Coenonycha pygmaea	Sand Mountain pygmy scarab beetle		G1	S1	YR	C
Euphilotes enoptes primavera	early blue		G5T1	S1	YR	C
Euphilotes pallescens arenamontana	Sand Mountain blue		G3G4T1	S1	YR	C
Hesperapis sp. nov. 2	bee		G1	S1	YR	C
Hesperia uncas giulianii	Mono Basin skipper	petitioned 2010	G5T1	S1	YR	C
Perdita haigi	bee		G1	S1	YR	C
Perdita sp. nov. 3	bee		G1	S1	YR	C
Philotiella speciosa septentrionalis	Great Basin small blue		G3G4T1	S1	YR	C

Pseudocopaeodes eunus obscurus	Carson wandering skipper	E	G1	S1	YR	C
Speyeria nokomis carsonensis	Carson Valley silverspot		G3T1	S1	YR	C
Molluscs						
Pyrgulopsis pictilis	ovate Cain Spring pyrg		G1	S1	YR	C
Pyrgulopsis wongi	Wongs pyrg		G1	S1	YR	C
Plants						
Asclepias eastwoodiana	Eastwood milkweed	Species of Concern	G2Q	S2	Y	C
Astragalus convallarius var. *margaretiae*	Margaret rushy milkvetch		G5	S2	Y	C
Astragalus lentiginosus var. *sesquimetralis*	Sodaville milkvetch	Former proposed	G5T1	S1	Y	C
Astragalus oophorus var. *lavinii*	Lavin eggvetch	Species of Concern	G4T2	S2	Y	C
Astragalus pseudiodanthus	Tonopah milkvetch		G2Q	S2	Y	C
Astragalus pulsiferae var. *pulsiferae*	Ames milkvetch		G4T2	S1	Y	C
Boechera bodiensis	Bodie Hills rockcress	Species of Concern	G2	S2	Y	C
Cusickiella quadricostata	Brodie Hills draba		G2	S2	Y	C
Eriogonum anemophilum	Windloving buckwheat	Species of Concern	G2G3	S2S3	Y	C
Eriogonum beatleyae	Beatley buckwheat		G2Q	S2	Y	C
Eriogonum diatomaceum	Churchill Narrows buckwheat	C	G1	S1	Y	C
Eriogonum ovalifolium var. *williamsiae*	Steamboat buckwheat	LE	G5T1	S1	Y	C
Eriogonum robustum	Altered andesite buckwheat	Species of Concern	G2	S2S3	Y	C
Glossopetalon pungens var. *glabrum*	Smooth dwarf greasebush		G2G3T1Q	S1	Y	C
Glossopetalon pungens var. *pungens*	Rough dwarf greasebush		G2G3T2Q	S2	Y	C
Grusonia pulchella	Sand cholla		G4	S2S3	Y	C
Ivesia aperta var. *aperta*	Sierra Valley mousetails	Species of Concern	G2T2	S1	Y	C
Ivesia pityocharis	Pine Nut Mountains mousetails	Species of Concern	G2	S2	Y	C
Ivesia webberi	Webber ivesia	C	G2	S1	Y	C
Loeflingia squarrosa ssp. *artemisiarum*	Sagebrush pygmyleaf		G5T2T3	S1S2	Y	C
Mentzelia tiehmii	Tiehm blazingstar		G1G2	S1S2	Y	C
Orthotrichum shevockii	Shevock bristlemoss		G1	S1	Y	C
Oryctes nevadensis	Oryctes	Species of Concern	G2G3	S2S3	Y	C
Penstemon arenarius	Nevada dune beardtongue	Species of Concern	G2G3	S2S3	Y	C
Penstemon palmeri var. *macranthus*	Lahontan beardtongue		G4G5T2?	S2?	Y	C
Penstemon rubicundus	Wassuk beardtongue		G2G3	S2S3	Y	C
Phacelia inundata	Playa phacelia		G2	S2?	Y	C
Phacelia monoensis	Mono County Phacelia		G3Q	S3	Y	C
Pinus ponderosa ssp. *washoensis*	Washoe pine		G3Q	S1	Y	C
Plagiobothrys glomeratus	Altered andesite popcornflower		G2G3	S2S3	Y	C
Polyctenium williamsiae	Williams combleaf	Former candidate	G2Q	S2	Y	C
Streptanthus oliganthus	Masonic Mountain jewelflower		G3	S2	Y	C
Stroganowia tiehmii	Tiehm peppercress	Species of Concern	G2	S2	Y	C

Appendix A: Habitat Assessment Form (5 Pages)

Common Name	Scientific Name	Status*	BLM District Office	Key Habitat Type (from Nevada WAP)	Potential to Occur In Project Area (Y/N)	Rationale for Occurrence/Non-occurrence	Description of Wildlife Use (year-round, breeding, wintering, migratory/stop over)
BIRDS							
Northern goshawk	*Accipiter gentilis*	SS	BM, Carson, Elko, Ely, Winnemucca				
Golden eagle	*Aquila chrysaetos*	SS	Statewide				
Burrowing owl	*Athene cunicularia*	SS	Statewide				
Ferruginous hawk	*Buteo regalis*	SS	Statewide				
Swainson's hawk	*Buteo swainsoni*	SS	Statewide				
Greater sage-grouse (rangewide)	*Centrocercus urophasianus*	C, SS	BM, Carson, Elko, Ely, Winnemucca				
Greater sage-grouse (Bi-State DPS)	*Centrocercus urophasianus*	PT, SS	BM, Carson,				
Snowy plover	*Charadrius alexandrinus*	SS	Statewide				
Yuma clapper rail	*Rallus longirostris yumanensis*	E, SS	Southern				
Lewis' woodpecker	*Melanerpes lewis*	SS	BM, Carson, Elko, Ely, Winnemucca				
Yellow-billed cuckoo (Western U.S. DPS)	*Coccyzus americanus*	C, SS	Carson, Ely				
Southwestern willow flycatcher	*Empidonax traillii extimus*	E, SS	Ely				
Peregrine falcon	*Falco peregrinus*	SS	Statewide				
Pinyon jay	*Gymnorhinus cyanocephalus*	SS	Statewide				
Bald eagle	*Haliaeetus leucocephalus*	SS	Statewide				
Loggerhead shrike	*Lanius ludovicianus*	SS	Statewide				
Black rosy-finch	*Leucosticte atrata*	SS	BM, Elko, Ely, Winnemucca				
Sage thrasher	*Oreoscoptes montanus*	SS	BM, Carson, Elko, Ely, Winnemucca				
Le Conte's thrasher	*Toxostoma lecontei*	SS	Southern				
Bendire's thrasher	*Toxostma bendirei*	SS	Southern				
Brewer's sparrow	*Spizella breweri*	SS	Statewide				
MAMMALS							
Pronghorn	*Antilocapra Americana*		Statewide				
Pallid bat	*Antrozous pallidus*	SS	Statewide				

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Pygmy rabbit	*Brachylagus idahoensis*	SS	BM, Carson, Elko, Ely, Winnemucca				
Elk	*Cervus elaphus*						
Townsend's big-eared bat	*Corynorhinus townsendii*	SS	Statewide				
Big brown bat	*Eptesicus fuscus*	SS	Statewide				
Spotted bat	*Euderma maculatum*	SS	BM, Carson, Elko, Ely, Winnemucca				
Greater western mastiff bat	*Eumops perotis californicus*	SS	Southern				
Silver-haired bat	*Lasionycteris noctivagans*	SS	Statewide				
Western red bat	*Lasiurus blossevillii*	SS	BM, Carson, Elko, Ely, Southern				
Hoary bat	*Lasiurus cinereus*	SS	Statewide				
California leaf-nosed bat	*Macrotos californicus*	SS	Southern				
Dark kangaroo mouse	*Microdipodops megacephalus*	SS	Statewide				
Pale kangaroo mouse	*Microdipodops pallidus*	SS	BM, Carson Winnemucca				
Pahranagat Valley montane vole	*Microtus montanus focosus*	SS	Ely				
California myotis	*Myotis californicus*	SS	Statewide				
Western small-footed myotis	*Myotis ciliolabrum*	SS	Statewide				
Long-eared myotis	*Myotis evotis*	SS	Statewide				
Little brown myotis	*Myotis lucifugus*	SS	BM, Carson, Elko, Ely, Winnemucca				
Fringed myotis	*Myotis thysanodes*	SS	Statewide				
Cave myotis	*Myotis velifer*	SS	Southern				
Long-legged myotis	*Myotis volans*	SS	Statewide				
Yuma myotis	*Myotis yumanensis*	SS	Carson, Elko, Ely				
Big free-tailed bat	*Nyctiniomops macrotis*	SS	Southern				
Allen's big-eared bat	*Odionycteris phyllotis*	SS	Southern				
Mule deer	*Odocoileus hemionus*		Statewide				
Bighorn sheep	*Ovis canadensis*	SS	Statewide				
Western pipistrelle	*Pipistrellus Hesperus*	SS	Statewide				
Preble's shrew	*Sorex preblei*	SS	Elko				
Brazilian free-tailed bat	*Tadarida brasiliensis*	SS	Statewide				

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Fish Spring pocket gopher	*Thomomys bottae abstrusus*	SS	BM				
San Antonio pocket gopher	*Thomomys bottae curatus*	SS	BM				
AMPHIBIANS							
Amargosa toad	*Anaxyrus nelson*	SS	BM, Southern				
Columbia spotted frog (Great Basin DPS)	*Rana luteiventris*	C, SS	BM, Elko, Winnemucca				
Northern leopard frog	*Rana [Lithobates] pipiens*	SS	Elko, Ely, Winnemucca, Carson				
Relict leopard frog	*Rana onca*	C, SS	Ely, Southern				
REPTILES							
Desert tortoise	*Gopherus agassizii*	T, SS	BM, Ely, Southern				
Banded Gila monster	*Heloderma suspectum cinctum*	SS	Ely, Southern				
FISH							
Wall Canyon sucker	*Catostomus* sp 1	SS	Carson				
Meadow Valley Wash desert sucker	*Catostomus clarkia*	SS	Ely, Southern				
Cui-ui	*Chasmistes cujus*	E	Carson				
White River Springfish	*Crenichthys baileyi baileyi*	E	Ely				
Hiko White River springfish	*Crenichthys baileyi grandis*	E	Carson				
Railroad Valley springfish	*Crenichthys nevadae*	T	BM, Carson, Ely				
Devils Hole pupfish	*Cyrpinodon diabolis*	E	Southern				
Ash Meadows Amargosa pupfish	*Crypinodon nevadensis mionectes*	E	Southern				
Warm Springs pupfish	*Cyrpinodon nevadensis pectoralis*	E	Southern				
Pahrump poolfish	*Empetrichthys latos*	E	Ely, Southern				
Desert dace	*Eremichthys acros*	T	Winnemucca				
Independence Valley tui chub	*Gila bicolor isolata*	SS	Ely				
Fish Lake Valley tui chub	*Gila bicolor ssp. 4*	SS	BM				
Hot Creek Valley tui chub	*Gila bicolor ssp.5*	SS	BM				
Railroad Valley tui chub	*Gila bicolor ssp. 7*	SS	BM, Ely				
Independence Valley tui chub	*Gila bicolor isolata*	SS	Elko				
Newark Valley tui chub	*Gila bicolor newarkensis*	SS	Elko, Ely				
Bonytail chub	*Gila elegans*	E	Ely, Southern				

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Common Name	Scientific Name	Status*	BLM District Office	Key Habitat Type (from Nevada WAP)	Potential to Occur In Project Area (Y/N)	Rationale for Occurrence/Non-occurrence	Description of Wildlife Use (year-round, breeding, wintering, migratory/stop over)
Pahranagat roundtail chub	*Gila robusta jorndani*	E	Ely				
Virgin River chub (Muddy River pop.)	*Gila seminude pop. 2*	E	Ely, Southern				
White River spindedace	*Lepidomeda albivalis*	E	Ely				
Northern leatherside chub	*Lepidomeda copei*	SS	Elko				
Big Spring spinedace	*Lepidomeda mollispinis pratensis*	T	Ely				
Moapa dace	*Moapa coriacea*	E	Ely, Southern				
Lahontan cutthroat trout	*Oncorhynchus clarki henshawi*	T	BM, Carson, Elko, Winnemucca				
Bonneville cutthroat trout	*Oncorhynchus clarkia utah*	SS	Ely				
Inland Columbia Basin redband trout	*Oncorhynchus mykiss gairdneri*	SS	Elko, Winnemucca				
Woundfin	*Plagopterus argentissimus*	E	Southern				
Relict dace	*Relictus solitarius*	SS	Ely				
Monitor Valley speckled dace	*Rhinichthys osculus spp. 5*	SS	BM				
Oasis Valley speckled dace	*Rhinichthys osculus spp. 6*	SS	Southern				
White River speckled dace	*Rhinichthys osculus spp 7*	SS	Ely				
Meadow Valley speckled dace	*Rhinichthys osculus ssp 11*	SS	Ely, Southern				
Independence Valley speckled dace	*Rhinichthys osculus lethoporus*	E	Elko				
Clover Valley speckled dace	*Rhinichthys osculusoligoporus*	E	Elko				
Moapa speckled dace	*Rhinichthys osculus moapae*	SS	Southern				
Ash Meadows speckled dace	*Rhinichthys osculus nevadensis*	E	Southern				
Pahranagat speckled dace	*Rhinichthys osculus velifer*	SS	Ely				
Bull trout	*Salvelinus confluentus*	T	Elko				
Razorback sucker	*Xyrauchen texanus*	E	Southern				
MOLLUSCS							
Ash Meadows Naucorid	*Ambrysus amargosus*	SS	Southern				
California floater	*Anodonta californiensis*	SS	Elko				
Duckwater pyrg	*Pygulopsis aloba*	SS	Ely				
Southern Duckwater pryg	*Pyrgulopsis anatina*	SS	BM, Ely				
Elongate Cain Spring pyrg	*Pyrgulopsis augusta*	SS	Carson				
Moapa pebblesnail	*Pygulopsis avernalis*	SS	Southern				
Large-gland Carico pyrg	*Pyrgulopsis basiglans*	SS	BM				
Moapa Valley pyrg	*Pyrgulopsis carnifera*	SS	Southern				

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Transverse gland pyrg	*Pyrgulopsis cruciglans*	SS	Ely				
Crystal springsnail	*Pyrgulopsis crystalis*	SS	Southern				
Spring Mountains pyrg	*Pyrgulopsis deaconi*	SS	Southern				
Dixie Valley pyrg	*Pyrgulopsis dixensis*	SS	BM, Winnemucca				
Ash Meadows pebblesnail	*Pyrgulopsis erythropoma*	SS	Southern				
Fairbanks springsnail	*Pyrgulopsis fairbanksensis*	SS	Southern				
Humboldt pyrg	*Pygulopsis humboldtensis*	SS	Elko				
Elongate gland springsnail	*Pyrgulopsis isolatus*	SS	Southern				
Landyes pyrg	*Pyrgulopsis landyei*	SS	Ely				
Squat mud meadows pyrg	*Pyrgulopsis limaria*	SS	Winnemucca				
Pahranagat pebblesnail	*Pyrgulopsis merriami*	SS	Ely				
Oasis Valley pyrg	*Pyrgulopsis micrococcus*	SS	BM				
Northern soldier meadow pyrg	*Pyrgulopsis militaris*	SS	Winnemucca				
Distal gland springsnail	*Pyrgulopsis nanu*	SS	Southern				
Elongate mud meadows springsnail	*Pyrugulopsis notidicola*	C, SS	Winnemucca				
Sub-globose Steptoe ranch pyrg	*Pyrgulopsis orbiculata*	SS	Ely				
Bifid duct pyrg	*Pyrgulopsis peculiaris*	SS	Ely				
Ovate Cain Spring pyrg	*Pyrgulopsis pictilis*	SS	Carson				
Median gland Nevada pyrg	*Pyrgulopsis pisteri*	SS	Southern				
Flat-topped Steptoe pyrg	*Pyrgulopsis planulata*	SS	Ely				
Northern Steptoe pyrg	*Pyrgulopsis serrata*	SS	Ely				
Southern Steptoe pyrg	*Pyrgulopsis sulcata*	SS	Ely				
Southeast Nevada pyrg	*Pyrgulopsis turbatrix*	SS	Southern				
Southern soldier meadow pyrg	*Pyrgulopsis umbilicata*	SS	Winnemucca				
Duckwater Warm Springs pyrg	*Pyrgulopsis villacampae*	SS	Elko, Ely				
Vinyards pyrg	*Pyrgulopsis vinyardi*	SS	BM, Elko				
Wong's pyrg	*Pyrgulopsis wongi*	SS	BM, Carson Winnemucca				
Sportinggoods tryonia	*Tryonia angulata*	SS	Southern				
Grated tryonia	*Tryonia clathrata*	SS	Southern				
Point of Rocks tryonia	*Tryonia elata*	SS	Southern				
Minute tryonia	*Tryonia ericae*	SS	Southern				
Amargosa tryonia	*Tryonia variegata*	SS	Southern				

* E = Endangered, T = Threatened, PE = Proposed Endangered, PT = Proposed Threatened, C = Candidate for Listing, SS = Nevada BLM Sensitive Species

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APPENDIX E

AGENCY DATA RESPONSE LETTERS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nevada Fish and Wildlife Office
1340 FINANCIAL BOULEVARD, SUITE 234
RENO, NV 89502
PHONE: (775)861-6300 FAX: (775)861-6301
URL: www.fws.gov/nevada/

Consultation Tracking Number: 08ENVD00-2014-SLI-0302 July 28, 2014
Project Name: New Pass

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project.

To Whom It May Concern:

The attached species list indicates threatened, endangered, proposed, and candidate species and designated or proposed critical habitat that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act of 1973, as amended (ESA, 16 U.S.C. 1531 *et seq*.), for projects that are authorized, funded, or carried out by a Federal agency. Candidate species have no protection under the ESA but are included for consideration because they could be listed prior to the completion of your project. Consideration of these species during project planning may assist species conservation efforts and may prevent the need for future listing actions. For additional information regarding species that may be found in the proposed project area, visit http://www.fws.gov/nevada/es/ipac.html.

The purpose of the ESA is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the ESA and its implementing regulations (50 CFR 402 *et seq*.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Guidelines for preparing a Biological Assessment can be found at: http://www.fws.gov/midwest/endangered/section7/ba_guide.html.

If a Federal action agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this species list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally listed, proposed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally, as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation, for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the attached list.

The Nevada Fish and Wildlife Office (NFWO) no longer provides species of concern lists. Most of these species for which we have concern are also on the Animal and Plant At-Risk Tracking List for Nevada (At-Risk list) maintained by the State of Nevada’s Natural Heritage Program (Heritage). Instead of maintaining our own list, we adopted Heritage's At-Risk list and are partnering with them to provide distribution data and information on the conservation needs for at-risk species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. In addition, in order to avoid future conflicts, we ask that you consider these at-risk species early in your project planning and explore management alternatives that provide for their long-term conservation.

For a list of at-risk species by county, visit Heritage's website (http://heritage.nv.gov). For a specific list of at-risk species that may occur in the project area, you can obtain a data request form from the website (http://heritage.nv.gov/get_data) or by contacting the Administrator of Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the ESA. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address.

Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (http://www.leg.state.nv.us/NAC/NAC-503.html). You must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (NDOW) to take, or possess any parts of protected fish and wildlife species. Please visit http://www.ndow.org or contact NDOW in northern Nevada (775) 688-1500, in southern Nevada (702) 486-5127, or in eastern Nevada (775) 777-2300.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq*.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Service's wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

The Service’s Pacific Southwest Region developed the *Interim Guidelines for the Development of a Project Specific Avian and Bat Protection Plan for Wind Energy Facilities* (Interim Guidelines). This document provides energy facility developers with a tool for assessing the risk of potential impacts to wildlife resources and delineates how best to design and operate a bird- and bat-friendly wind facility. These Interim Guidelines are available upon request from the NFWO. The intent of a Bird and Bat Conservation Strategy is to conserve wildlife resources while supporting project developers through: (1) establishing project development in an adaptive management framework; (2) identifying proper siting and project design strategies; (3) designing and implementing pre-construction surveys; (4) implementing appropriate conservation measures for each development phase; (5) designing and implementing appropriate post-construction monitoring strategies; (6) using post-construction studies to better understand the dynamics of mortality reduction (*e.g.*, changes in blade cut-in speed, assessments of blade “feathering” success, and studies on the effects of visual and acoustic deterrents) including efforts tied into Before-After/Control-Impact analysis; and (7) conducting a thorough risk assessment and validation leading to adjustments in management and mitigation actions.

The template and recommendations set forth in the Interim Guidelines were based upon the Avian Powerline Interaction Committee’s Avian Protection Plan template (http://www.aplic.org/) developed for electric utilities and modified accordingly to address the unique concerns of wind energy facilities. These recommendations are also consistent with the Service’s wind energy guidelines. We recommend contacting us as early as possible in the planning process to discuss the need and process for developing a site-specific Bird and Bat Conservation Strategy.

The Service has also developed guidance regarding wind power development in relation to prairie grouse leks (sage-grouse are included in this). This document can be found at: http://www.fws.gov/southwest/es/Oklahoma/documents/te_species/wind%20power/prairie%20gro
.

Migratory Birds are a Service Trust Resource. Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act of 1918, as amended (MBTA; 16 U.S.C. 703 *et seq*.), we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat

requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

Guidance for minimizing impacts to migratory birds for projects involving communications towers (*e.g.*, cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

If wetlands, springs, or streams are are known to occur in the project area or are present in the vicinity of the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (ACOE) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the ACOE’s Regulatory Section regarding the possible need for a permit. For projects located in northern Nevada (Carson City, Churchill, Douglas, Elko, Esmeralda, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, and Washoe Counties) contact the Reno Regulatory Office at 300 Booth Street, Room 3060, Reno, Nevada 89509, (775) 784-5304; in southern Nevada (Clark, Lincoln, Nye, and White Pine Counties) contact the St. George Regulatory Office at 321 North Mall Drive, Suite L-101, St. George, Utah 84790-7314, (435) 986-3979; or in California along the eastern Sierra contact the Sacramento Regulatory Office at 650 Capitol Mall, Suite 5-200, Sacramento, California 95814, (916) 557-5250.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: New Pass

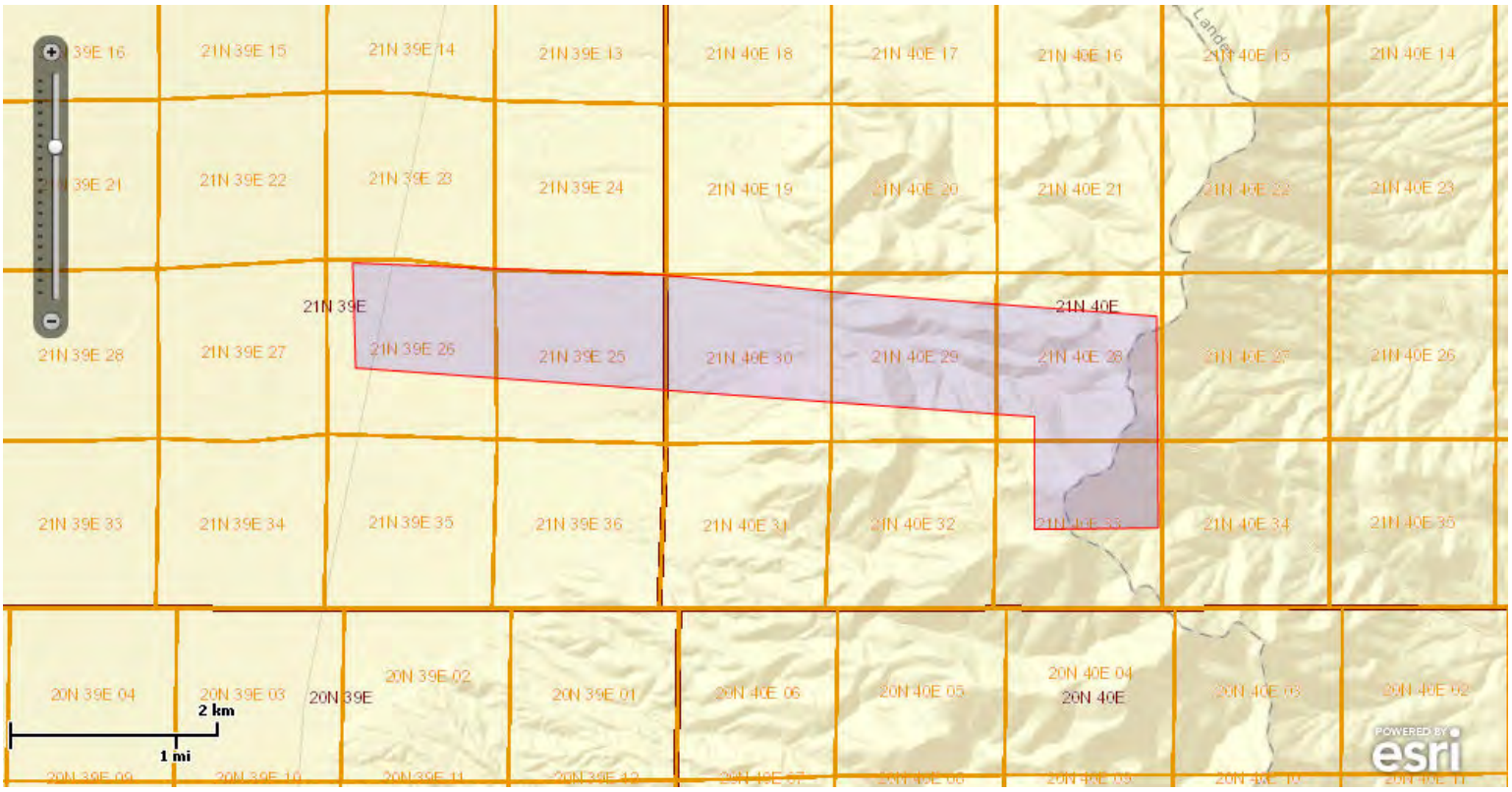
Official Species List

Provided by:

Nevada Fish and Wildlife Office
1340 FINANCIAL BOULEVARD, SUITE 234
RENO, NV 89502
(775) 861-6300
http://www.fws.gov/nevada/

Consultation Tracking Number: 08ENVD00-2014-SLI-0302
Project Type: Transmission Line
Project Description: Churchill & Lander Counties, Nevada; 186 Acres

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-117.5309966 39.6648552, -117.5119508 39.6634082, -117.4755586 39.6612939, -117.4753869 39.6429225, -117.4894632 39.6427903, -117.4894632 39.6525714, -117.5660156 39.656794, -117.5663589 39.6659124, -117.5309966 39.6648552)))

Project Counties: Churchill, NV | Lander, NV

United States Department of Interior
Fish and Wildlife Service

Project name: New Pass

Endangered Species Act Species List

There are a total of 3 threatened, endangered, or candidate species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	**Status**	**Has Critical Habitat**	**Condition(s)**
Columbia Spotted frog *(Rana luteiventris)* Population: Great Basin DPS	Candidate		
Birds			
Greater sage-grouse *(Centrocercus urophasianus)* Population: entire	Candidate		
Fishes			
Lahontan cutthroat trout *(Oncorhynchus clarkii henshawi)* Population: Entire	Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

STATE OF NEVADA

DEPARTMENT OF WILDLIFE

1100 Valley Road

Reno, Nevada 89512

(775) 688-1500 • Fax (775) 688-1595

BRIAN SANDOVAL
Governor

TONY WASLEY
Director

RICHARD L. HASKINS, II
Deputy Director

PATRICK O. CATES
Deputy Director

Heidi Guenther
Botanist/Ecologist
Enviroscientists, Inc.
1650 Meadow Wood Lane
Reno, Nevada 89502

August 5, 2014

Re: New Pass Project

Dear Ms. Guenther:

I am responding to your request for information from the Nevada Department of Wildlife (NDOW) on the known or potential occurrence of wildlife resources in the vicinity of the New Pass Project located in Churchill and Lander Counties, Nevada. In order to fulfill your request an analysis was performed using the best available data from the NDOW's wildlife occurrences, raptor nest sites and ranges, greater sage-grouse leks and habitat, and big game distributions databases. No warranty is made by the NDOW as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data. These data should be considered **sensitive** and may contain information regarding the location of sensitive wildlife species or resources. All appropriate measures should be taken to ensure that the use of this data is strictly limited to serve the needs of the project described on your GIS Data Request Form. Abuse of this information has the potential to adversely affect the existing ecological status of Nevada's wildlife resources and could be cause for the denial of future data requests.

To adequately provide wildlife resource information in the vicinity of the proposed project the NDOW delineated an area of interest that included a four-mile buffer around the project area provided by you (email, July 28, 2014). Wildlife resource data was queried from the NDOW databases based on this area of interest. The results of this analysis are summarized below.

Big Game – Occupied pronghorn antelope distribution exists throughout the entire project area and four-mile buffer area. Occupied mule deer distribution exists within portions of the project area and four-mile buffer area. No known occupied bighorn sheep or elk distributions exist in the vicinity of the project area. Please refer to the attached maps for details regarding big game distributions relative to the proposed project area.

Greater Sage-Grouse – Greater sage-grouse habitat in the vicinity of the project area is primarily categorized as Low Value Habitat/Transitional Range. Essential/Irreplaceable Habitat, Important Habitat, Habitat of Moderate Importance, and Unsuitable Habitat also exist in the vicinity of the project area. Please refer to the attached maps for details regarding greater sage-grouse habitat relative to the proposed project area. There are no known radio-marked greater sage-grouse tracking locations in the vicinity of the project area. There are no known greater sage-grouse lek sites in the vicinity of the project area.

Raptors – Various species of raptors, which use diverse habitat types, may reside in the vicinity of the project area. American kestrel, bald eagle, barn owl, burrowing owl, Cooper's hawk, ferruginous hawk, flammulated owl, golden eagle, great horned owl, long-eared owl, merlin, northern goshawk, northern harrier, northern saw-whet owl, osprey, peregrine falcon, red-tailed hawk, rough-legged hawk, sharp-shinned hawk, short-eared owl, Swainson's hawk, turkey vulture, and western screech owl have distribution ranges that include the project area and four-mile buffer area. Furthermore, Cooper's hawk

has been directly observed in the vicinity of the project area.

Raptor species are protected by State and Federal laws. In addition, bald eagle, burrowing owl, California spotted owl, ferruginous hawk, flammulated owl, golden eagle, northern goshawk, peregrine falcon, prairie falcon, and short-eared owl are NDOW species of special concern and are target species for conservation as outlined by the Nevada Wildlife Action Plan. Per the *Interim Golden Eagle Technical Guidance: Inventory and Monitoring Protocols; and Other Recommendations in Support of Golden Eagle Management and Permit Issuance* (United States Fish and Wildlife Service 2010) we have queried our raptor nest database to include raptor nest sites within ten miles of the proposed project area. There are six known raptor nest sites within ten miles of the project area:

Probable Use	Last Check	Last Active	Township/Range/Section
Eagle	2/1/1975	2/1/1975	21 0210N 0400E 032
Eagle	5/22/1975		21 0190N 0410E 008
Eagle	7/22/2011		21 0210N 0380E 022
Ferruginous Hawk	6/16/1992	6/16/1992	21 0190N 0400E 018
Ferruginous Hawk	6/16/1992		21 0190N 0400E 018
Ferruginous Hawk	6/16/1992		21 0190N 0400E 018

Other Wildlife Resources

The following species have also been observed in the vicinity of the project area:

Common Name	ESA	State	SWAP SoCP
gophersnake			
horse			

ESA: Endangered Species Act Status
State: State of Nevada Special Status
SWAP SoCP: Nevada State Wildlife Action Plan (2012) Species of Conservation Priority

The proposed project area may also be in the vicinity of abandoned mine workings, which may provide habitat for many sensitive wildlife species, especially bat species. To request data regarding known abandoned mine workings in the vicinity of the project area please contact the Nevada Division of Minerals (http://minerals.state.nv.us/).

Please be aware that NRS 701.600-701.640 requires a payment of $5000 to the Nevada Department of Wildlife for powerline projects greater than 50kv and less than 50 miles in length. A form, Application for Energy Projects “Fund for the Recovery of Costs” is available at:
(http://www.ndow.org/uploadedFiles/ndoworg/Content/Our_Agency/Energy-Project-Application-Form.pdf)

The above information is based on data stored at our Reno Headquarters Office, and does not necessarily incorporate the most up to date wildlife resource information collected in the field. Please contact the Habitat Division Supervising Biologists at our Eastern Region Elko Office (775.777.2300) and Western Region Reno Office (775.688.1500) to discuss the current environmental conditions for your project area and the interpretation of our analysis. Furthermore, it should be noted that the information detailed above is preliminary in nature and not necessarily an identification of every wildlife resource concern associated with the proposed project. Consultation with the Supervising Habitat biologist will facilitate the development of appropriate survey protocols and avoidance or mitigation measures that may be required to address potential impacts to wildlife resources.

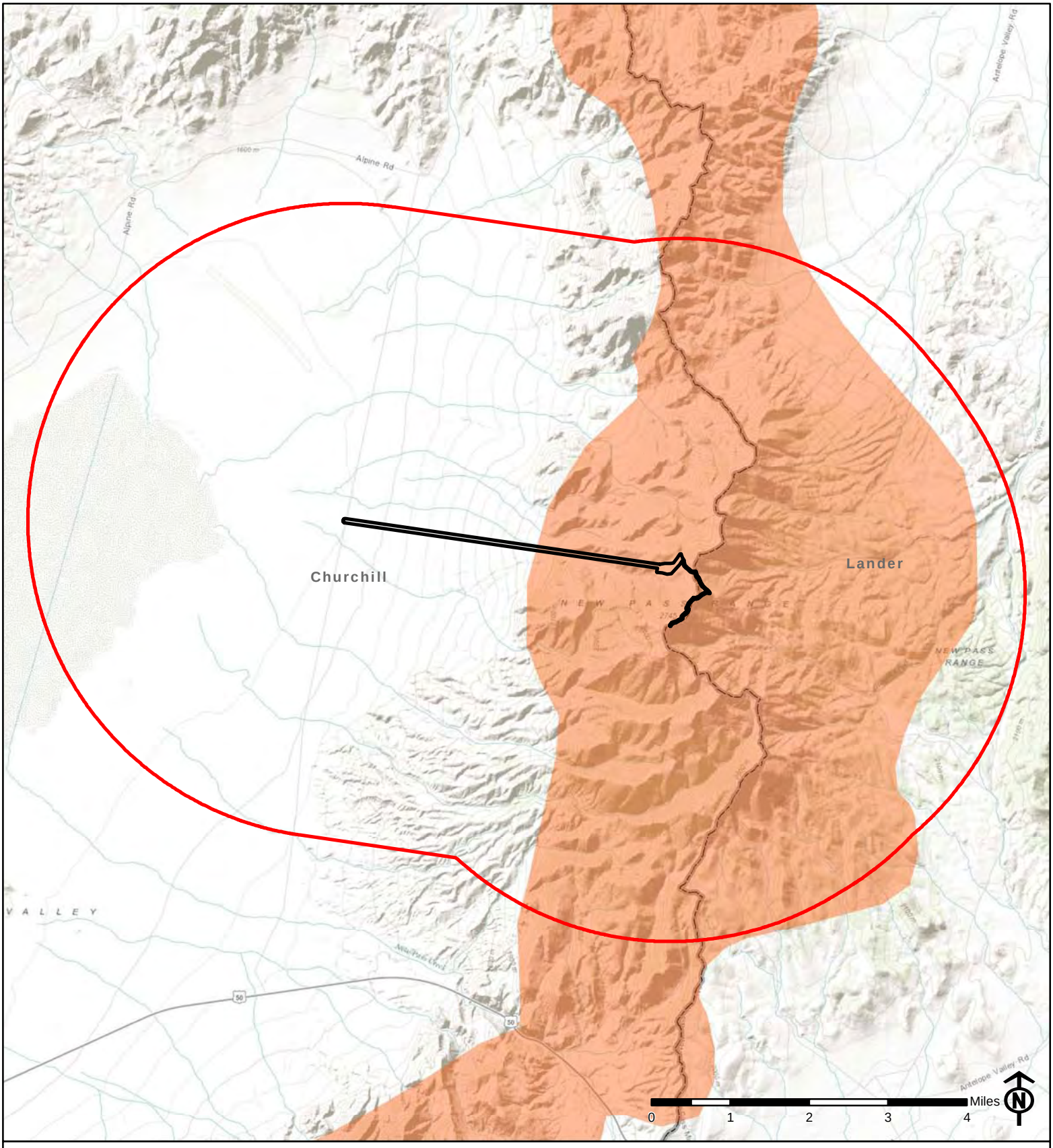
Mark Freese - Western Region Supervising Habitat Biologist (775.688.1145)
Steve Foree - Eastern Region Supervising Habitat Biologist (775.777.2306)

Federally listed Threatened and Endangered species are also under the jurisdiction of the United States Fish and Wildlife Service. Please contact them for more information regarding these species.

If you have any questions regarding the results or methodology of this analysis please do not hesitate to contact our GIS office at (775) 688-1565.

Sincerely,

Timothy M. Herrick
Biologist



Project Area

Four Mile Buffer Area Boundary

Mule Deer Distribution

County Boundary

New Pass Project
Mule Deer Distribution

August 05, 2014

Projection: UTM Zone 11 North, NAD83

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.

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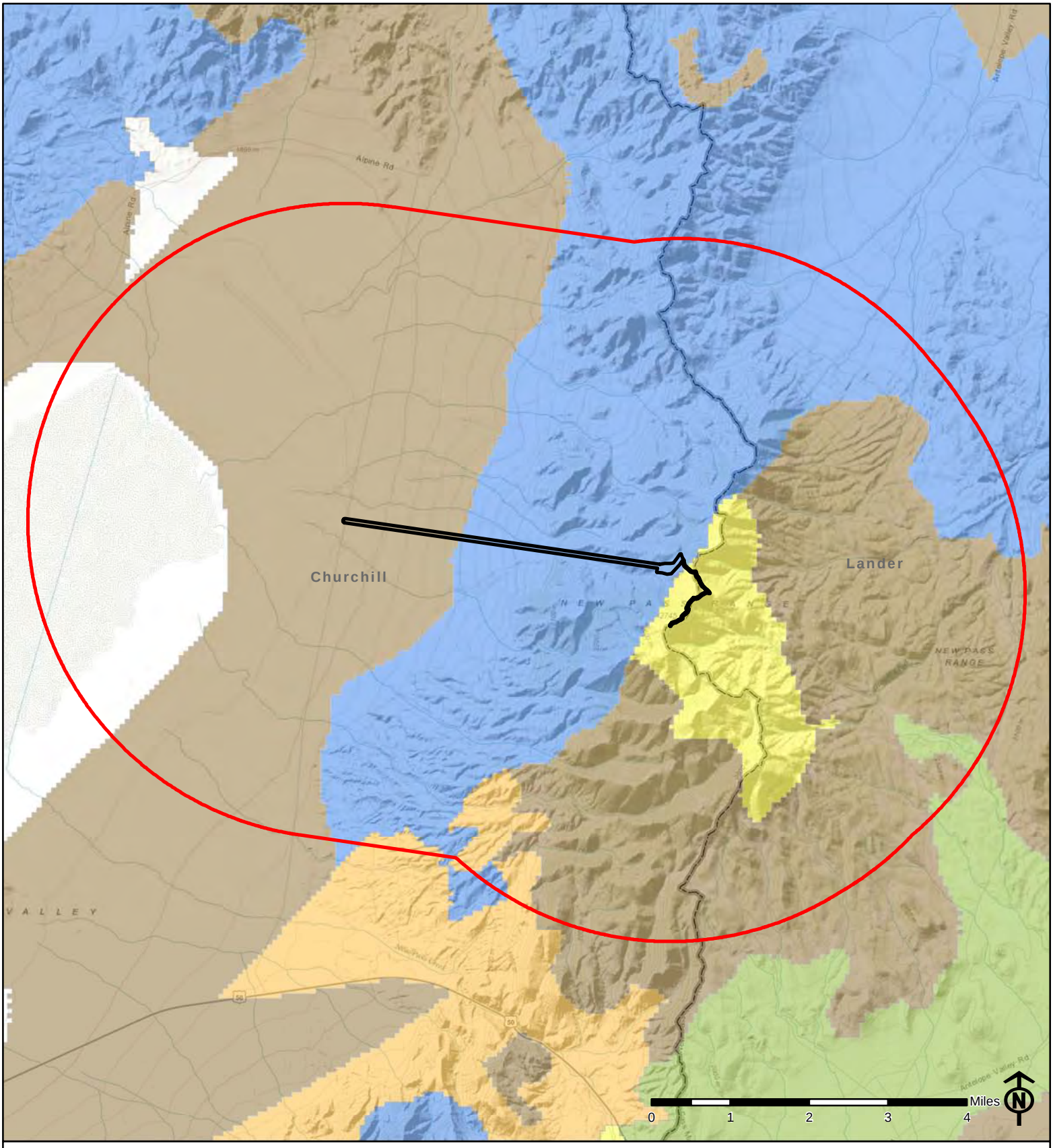

Project Area

Four Mile Buffer Area Boundary

County Boundary

Greater Sage-Grouse Habitat

- 1 - Essential/Irreplaceable Habitat
- 2 - Important Habitat
- 3 - Habitat of Moderate Importance
- 4 - Low Value Habitat/Transistional Range
- 5 - Unsuitable Habitat
- Pending Completion

New Pass Project
Greater Sage-Grouse Habitat

August 05, 2014

Projection: UTM Zone 11 North, NAD83

No warranty is made by the Nevada Department of Wildlife as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.

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Nevada Natural Heritage Program

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
Nevada Natural Heritage Program

Brian Sandoval
Governor

Leo Drozdoff
Director

Jennifer Newmark
Administrator

29 July 2014

Heidi Guenther
Enviroscientists, Inc.
1650 Meadow Wood Lane
Reno, NV 89502

RE: Data request received 28 July 2014

Dear Ms. Guenther:

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or at risk plant and animal taxa recorded within or near the New Pass Project, in Churchill County. We searched our database and maps for the following, a three kilometer radius around:

Township 21N Range 39E Sections 25 and 26
Township 21N Range 40E Sections 28-30 and 33

There are no at risk taxa recorded within the given area. However, habitat may be available for: the Reese River phacelia, *Phacelia glaberrima*, a Taxon determined to be Vulnerable by the Nevada Natural Heritage Program (NNHP); the Lahontan beardtongue, *Penstemon palmeri* var. *macranthus*, a Nevada Bureau of Land Management Sensitive Species; and the Beatley buckwheat, *Eriogonum beatleyae*, a Taxon determined to be Imperiled by the NNHP. The Nevada Department of Wildlife (NDOW) manages, protects, and restores Nevada's wildlife resources and associated habitat. Please contact Chet Van Dellen, NDOW GIS Coordinator (775.688.1565) to obtain further information regarding wildlife resources within and near your area of interest. Removal or destruction of state protected flora species (NAC 527.010) requires a special permit from Nevada Division of Forestry (NRS 527.270).

Please note that our data are dependent on the research and observations of many individuals and organizations, and in most cases are not the result of comprehensive or site-specific field surveys. Natural Heritage reports should never be regarded as final statements on the taxa or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for checking with our program. Please contact us for additional information or further assistance.

Sincerely,

Eric S. Miskow
Biologist/Data Manager

901 S. Stewart Street, Suite 5002 Carson City, NV 89701-5245 Tel: 775-684-2900 Fax: 775-684-2909 http://heritage.nv.gov

APPENDIX F

2014 BLM NEVADA STATEWIDE WILDLIFE SURVEY PROTOCOLS

AND

VEGETATION AND SOILS – BASELINE DATA COLLECTION METHODS

STATEWIDE WILDLIFE SURVEY PROTOCOLS

BLM NEVADA

2014

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Photos on Cover (clockwise from top left): California floater, pronghorn, long-eared owl, turkey vulture, black-crowned night heron, pallid bat, relict leopard frog, desert bighorn sheep, burrowing owl, greater sage-grouse, scrub jay, desert tortoise.

General Guidelines for Wildlife Surveys

Following the Guidelines

This document describes a set of survey standards to determine the occurrence of **target** wildlife species in areas of proposed activities. A goal of wildlife surveys is to gather relevant data to enable the BLM to make an informed NEPA decision regarding the relative magnitude or significance of effects to target species. See ***Target Species Survey Protocols*** and coordinate with wildlife biologists from the Bureau of Land Management (BLM), Nevada Department of Wildlife (NDOW), and the United States Fish and Wildlife Service (USFWS). Deviation from the survey protocols described in this document requires scientifically valid justification with reference to scientific literature. Surveys must be rigorous (see *Survey Effort*) and meet current scientific standards for the species. BLM must approve any deviation from the survey protocols described in this document before surveys are conducted. NDOW does not require permits for surveys of wildlife, but permits are required for handling. Permit applications are available at: http://www.ndow.org/uploadedFiles/ndoworg/Content/Forms_and_Resources/Application-Scientific-Collection-Possession-Banding-Permit.pdf. The protocols in this document may change or be added to as new information on surveys becomes available. Modifications of this document may be made at the discretion of the BLM based on new information or site-specific conditions. Target species may be added. This document will be updated annually.

Surveyor Experience

Surveys must be conducted by qualified wildlife biologists or be supervised by someone with experience conducting field surveys. Surveyors need to be able to identify target species and their habitats, as well as any similar species they may be confused with. Surveyors may be required to have or attend protocol training for certain species (i.e., Southwestern willow flycatcher).

Survey Effort

All potential habitat for a target species must be surveyed. See *Habitat Assessment* to identify potential habitats.

- See *Target Species Survey Protocols* for the species-specific protocols. Any deviation from the protocols provided in this document must be accepted by BLM before surveys are conducted.
- Surveys must be temporally comprehensive. Conduct surveys at the appropriate time of day and season, for appropriate lengths of time, and at the appropriate frequency. Surveys for some species (e.g., migratory birds) must be conducted annually because results from one year do not necessarily carry over to the next. See *Target Species Survey Protocols* to determine acceptable survey times.
- Surveys must be spatially comprehensive. All potential habitats must be surveyed. See *Target Species Survey Protocols* to determine acceptable survey areas.
- **Note:** While the presence of a target species can be confirmed at a location, it is often difficult to confirm a species' absence without extensive survey effort. Regardless of the outcome of species surveys, the occurrence of potential habitats must still be addressed in a NEPA document and any potential effects to habitat analyzed and disclosed. Appropriate mitigation to avoid or minimize effects to potential habitat will be applied.

Survey Area

The survey area should be accurately identified before beginning field surveys. The survey area will generally be larger than the proposed project area because it includes any adjacent potential habitat where

target species could be directly or indirectly affected by proposed activities. See *Target Species Survey Protocols* and consult BLM, NDOW, and USFWS wildlife biologists to determine acceptable survey areas.

Habitat Assessment

A habitat assessment will occur prior to surveys to identify areas of potential habitat. Surveys will focus on the areas of potential habitat identified in the habitat assessment. Focused surveys are more efficient because they save time and money, and are more likely to document the occurrence of target species. **A completed Habitat Assessment Form (HAF; Appendix A) with shapefiles must be reviewed and accepted by BLM prior to beginning surveys.**

Determine Which Target Species to Survey

Before surveys begin, proponents should determine which target species have potential to occur in the proposed project area by completing the HAF (Appendix A). The HAF is a tool to evaluate the potential of target species to occur in an area.

To complete the HAF, proponents need to review the 2012 Nevada Wildlife Action Plan (WAP; Wildlife Action Plan Team 2012; per BLM IM 2006-114 regarding BLM support and use of State Wildlife Action Plans). The WAP describes 22 key habitats and identifies wildlife species assemblages for each (http://www.ndow.org/Nevada_Wildlife/Conservation/Nevada_Wildlife_Action_Plan/). The project area should be compared to the WAP key habitats GIS to determine which key habitats occur in the project area. Proponents should be careful to identify certain habitat types (e.g., aspen, riparian, meadow, springs, mesquite-acacia, Joshua tree/Yucca) that are often poorly delineated with spatial data.

Proponents need to review current BLM, NDOW, USFWS, and Nevada Natural Heritage Program (NNHP) wildlife spatial data, and any other current spatial data such as: 1) state- and regional-level data and maps identifying wildlife corridors and crucial habitat (Western Wildlife Crucial Habitat Assessment Tool [CHAT] per BLM IM 2012-039), 2) cave data, 3) mine data, and 4) springs/stream data. Coordinate with NDOW for raptor nest spatial data. Proponents can obtain electronic information on federally listed (threatened and endangered) species by referring to the USFWS Information, Planning, and Conservation System (IPaC; http://ecos.fws.gov/ipac). The information provided by IPaC is generated by the USFWS. The USFWS will continue to process hard copy requests for species lists if a proponent chooses not to use IPAC. **A completed HAF, along with all spatial data and other information used to complete it, must be reviewed and accepted by BLM prior to beginning surveys. Any deviation from the survey protocols provided in this document must be accepted by BLM before conducting surveys. If any deviation is to occur, include with the HAF a thorough description of the protocols to be used.** As stated above, surveys must be rigorous (see *Survey Effort*) and meet current scientific standards for target species. Justify protocols by referencing scientific literature.

Target species surveys will be done for the target species documented on the HAF as having potential to occur in the project area. **If a proponent chooses not to do target species surveys or surveys aren't feasible, then target species are assumed present in potential habitat and appropriate mitigation will be applied.**

Survey Report

A Survey Report must be reviewed and accepted by BLM prior to beginning project activities. See

the Wildlife Survey Report Template (Appendix B) to ensure that reporting standards are met. All hard copy data sheets and GIS data must be included. The Survey Report will not be reviewed without this data. If there was deviation from the survey protocols described in this document, thoroughly describe the protocols used. These protocols must have been previously accepted by BLM before conducting surveys.

Include the completed HAF. Provide a detailed map showing the project area, survey area, and specific survey routes and locations. Surveyors will use GPS units with tracking capabilities to record all surveys. Provide information regarding the survey area covered as well as failed to cover. Discuss significant problems and obstacles that may have interfered with surveys (e.g., weather). Report and map the locations where target species or their sign were observed.

Target Species Survey Protocols

Birds

The need to conduct surveys to determine the presence/absence of target bird species is primarily driven by federal legislation including the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA), and the Endangered Species Act (ESA). Disturbance of breeding birds at nests, eggs, or nestlings during the nesting season risks violation of the MBTA. Actions resulting in the death of birds or eggs are violations of the MBTA. The BGEPA includes "disturb" in its definition of "take." Disturb means to agitate or bother an eagle to a degree that causes, or is likely to cause, injury, a decrease in productivity, or nest abandonment by substantially interfering with normal breeding, feeding, or sheltering behavior.

Migratory Birds

Regulatory Setting – In 2001, President Clinton signed Executive Order (EO) 13186 placing emphasis on the conservation and management of migratory birds. The BLM management for migratory birds is based on Information Bulletin (IB) 2010-110 which transmits the Memorandum of Understanding (MOU) between the BLM and USFWS concerning conservation of migratory bird populations. For MOU implementation, BLM Priority Migratory Birds are those that are listed in the periodic USFWS report Birds of Conservation Concern and game birds below desired condition (GBBDC) as identified by the USFWS Division of Migratory Bird Management.

Nesting Season Clearance Surveys – Nesting season clearance surveys will be conducted when a proposed activity would involve ground disturbance during the nesting season and potential impacts to nesting migratory birds are not mitigated by applying a seasonal restriction. Table 1 provides the nesting season dates. **These dates may be modified depending on weather, elevation, et cetera. Coordinate with the local BLM District on the appropriate nesting season dates prior to beginning surveys.** For the purposes of this document, ground disturbance is defined as those activities that involve moving or penetrating the ground surface (soil, rocks) or destroying or removing vegetation. Ground disturbance includes mechanical excavation and grading, and manual activities such as driving posts and stakes, drilling, digging, trenching, blasting, and others. Clearance surveys are not necessary for activities that do not involve any new ground disturbance (i.e., activities restricted to existing roads and trails). Livestock grazing is not considered a ground-disturbing activity.

The skill level needed for successful nest searches (clearance surveys) is high. Nest searches require biologists who have good bird identification skills and an intimate knowledge of the natural history and

behaviors associated with nesting of the bird species that may occur in the project area. The success of any nest searches in the field is directly proportional to the surveyor's field experience with finding nests, their patience level, their familiarity with the species encountered, and their observational skills. This skill level generally requires years of practice.

The following are basic methods of finding nests:

- Following the bird to the nest - This method works best during the nest building and nestling phases of the nest cycle (need to know the approximate times). The method relies on birds frequently visiting the nest to construct it or to feed the young. However, if the surveyor comes into close proximity to a nest during the early phase of the nesting cycle, there is a high likelihood for nest abandonment. Once a nest location is determined with the use of binoculars, the surveyor is to refrain from walking up to the nest.

- Visually locating nests - This method requires a significant amount for experience to be effective. Nests are generally located in the most concealed parts of the ground vegetation layer, shrub canopy, or tree canopy. This method works very well for an experience surveyor with thorough knowledge of the typical nest microsite selection of each individual species.

- Observing adults' nest defense behaviors - A surveyor may happen upon the general area of a nest during mid or late breeding season and observe repeated alarm calls by one or more adult birds. If the adult bird continually calls, but also stays near the surveyor, it is generally indicative that the nest is nearby. In contrast, birds without nests may utter occasional alarm calls, but generally avoid proximity to people. If a bird acts alarmed and appears to try to draw the surveyor's attention to itself, it is almost always related to the location of a nest or dependent fledglings. Once this behavior is observed, the surveyor should simply note the location of the observed birds and move on. The nest is likely to always be within 25-30 ft of the location where defensive behaviors were first observed. **If clearance survey results are being used to implement a buffer for impact avoidance, place the buffer outside a 30-ft-radius circle surrounding the initial detection point.**

- Flushing an incubating female off the nest - This often happens by chance while the surveyor is slowly and quietly moving about a site during the incubation and brooding period. Experienced surveyors know the difference between flushing birds off from foraging or loafing sites and flushing them off of nests. If the species needs to be confirmed, the surveyor needs to retreat a sufficient distance (150-300 ft for most songbirds, farther for other birds) and observe with binoculars. An attempt to wait near the nest site for the flushed bird to return is generally futile.

Any direct visit to a nest site constitutes disturbance to the nest, regardless of whether adult birds are present. The presence of a human examining a nest has multiple unintended consequences, most importantly the drawing of predator attention to the nest site and the significantly increased likelihood of nest abandonment. These unintended consequences vary in degree greatly depending on species, habitat type, and time of day. To avoid impacts during surveys: 1) Do not stop for more than 5-10 seconds at the nest. Move away from the nest and take a GPS reading at ~ 25 ft distance then retreat further to take notes while out of sight of the nest. 2) Do not touch. When discovering a nest, do not move branches, tufts of grass, or leaves to get a better look. Your hands leave extremely clear scent markers for predators. And any alteration to the nest microsite most often leads to nest desertion. 3) Don't stare at the nest site or point at it

unnecessarily (including with a camera lenses). 4) Never leave a dead end at the nest for scent-predators to follow. 5) Act casual and disinterested while searching for nests (while you are actually intensely focused on the search).

Clearance surveys are to occur in the project area including a 300-ft buffer around the project area unless the BLM or USFWS recommends a different distance. Surveys must be conducted a maximum of 2 weeks prior to disturbance and are then adequate for a maximum of 2 weeks. Additional surveys will need to be repeated after 2 weeks have elapsed if proposed activities have not been initiated. If active nests are found, proposed activities will not occur until after young have fledged, nests are abandoned, or after the nesting season ends unless a 300-ft buffer can be provided around nests. Buffered nests need to be tied to contiguous habitat and not left as islands within project areas. Do not flag any nest locations. Provide a report of survey results to the BLM.

Clearance surveys are generally appropriate for those proposed activities where activity disturbance ends with activity completion and effects to migratory birds are not ongoing (long-term). If effects to migratory birds from the proposed activity are expected to continue to be ongoing and occur over the long-term after activity completion, then additional surveys may be required (see *Pre- and Post-Activity Surveys* below).

Table 1. Avian nesting seasons by BLM District Office. Disturbance should be avoided during nesting seasons to prevent risking violation of the MBTA. Coordinate with the local BLM District to confirm dates prior to beginning surveys.

BLM District	Migratory Birds	Pinyon Jay	Raptors (including Eagles)	Burrowing Owl
Battle Mountain	Apr 1 - Jul 31	Mar 15 - May 30	Mar 1 - Jul 31	Apr 1 - Jul 31
Carson City	Apr 1 - Jul 31	Mar 15 - May 30	Mar 1 - Aug 31	Apr 1 - Jul 31
Elko	Apr 1 - Jul 31	Mar 15 - May 30	Dec 1 – Sep 30	Mar 1 - Aug 31
Ely	Apr 1 - Jul 31	Mar 15 - May 30	Mar 1 - Jul 31	Apr 1 - Jul 31
Southern Nevada	Mar 1 - Aug 1	Mar 15 - May 30	Jan 1 - Aug 31	Mar 1 - Jul 31
Winnemucca	Mar 1 - Aug 31	Mar 15 - May 30	Mar 1 - Aug 31	Mar 1 - Aug 31

Pre- and Post-Activity Surveys – Pre- and post-activity surveys may be required when data is needed to adequately evaluate potential ongoing (long-term) negative effects from proposed activities. If proposed activities are expected to have ongoing (long-term) negative effects after project completion, then multiple years of pre- and post-activity surveys may be required. A Bird and Bat Conservation Strategy (BBCS) may be required (see *BLM and/or USFWS Direction* below). **Coordinate with BLM and USFWS to determine whether these surveys and a BBCS are needed for the proposed activity.**

Surveys are to be conducted for at least two consecutive years immediately prior to and immediately following project implementation. Surveys are to occur in the project area including a 300-ft buffer unless the USFWS recommends a different buffer distance. For wind energy, surveys are to occur in a 1-mile buffer (see *BLM and/or USFWS Direction* below).

A variety of survey methods are available (Emlen strip, belt transect, point counts, area searches, spot mapping, etc.). Selection of transects or plots will often depend on the size of the area to be surveyed, local

topography and biotic features. Some BLM Districts may choose to provide contractors with survey protocols and other Districts may have the contractors develop and submit protocols, therefore it is important to coordinate with the local BLM District early in the process and remain in contact throughout the process.

Determine what time of year surveys should occur based on the seasonal presence of species in Nevada. Coordinate with BLM, NDOW, USFWS, and Great Basin Bird Observatory (GBBO), and refer to the Nevada Comprehensive Bird Conservation Plan (Great Basin Bird Observatory 2010) to determine seasonal presence. Surveys during the breeding/nesting and migration seasons should span the seasons to capture both early and late breeders and migrants as well as cover the height of the breeding and migration season. Nevada BLM District Offices have different nesting seasons for migratory birds (see Table 1). Surveys should be conducted a minimum of three times per season to adequately span the entire season. Conduct surveys during periods of calm and dry weather. Birds may delay breeding during extended periods of precipitation; windy and wet weather can interfere with detection capabilities. No physical marking of nests should occur (only UTM coordinates) because predatory birds and mammals may associate flagging or other markers with nests.

BLM and/or USFWS Direction

***USFWS* – For ground-disturbing activities**, the USFWS recommends that proponents develop a Bird and Bat Conservation Strategy (BBCS; previously known as an Avian Protection Plan [APP]), which indicates a "good faith" effort to conserve migratory birds and address the MBTA. For the purposes of this document, ground-disturbing activities are those that involve moving or penetrating the ground surface (soil, rocks) or destroying or removing vegetation. Ground disturbance includes mechanical excavation and grading, and manual activities such as driving posts and stakes, drilling, digging, trenching, blasting, and others. A BBCS is not necessary for activities that do not involve any new ground disturbance (i.e., activities restricted to existing roads and trails). Livestock grazing is not considered a ground-disturbing activity. A BBCS is described in the USFWS Land-Based Wind Energy Guidelines (USFWS 2012).

For wind energy, the USFWS Land-Based Wind Energy Guidelines (USFWS 2012) are intended to promote compliance with wildlife laws and regulations including the MBTA and thus recommend developers prepare a project-specific Bird and Bat Conservation Strategy (BBCS). A BBCS is a document or compilation of documents that describes the steps a developer could take or has taken to apply these Guidelines to mitigate for adverse impacts and address the post-construction monitoring efforts the developer intends to undertake. It is a written record of the actions to avoid, minimize, and compensate for potential adverse impacts to migratory birds.

For utility and energy facilities, the USFWS has developed a special collection permit for migratory bird carcass collection. The USFWS requires this salvage permit to collect carcasses as part of monitoring post-construction mortality. The company or operating entity applies and holds the permit, not the BLM.

***BLM* – For renewable energy**, per BLM IM NV-2010-063, the USFWS may require a Bird and Bat Conservation Strategy (BBCS; previously referred to as an Avian Protection Plan [APP]) for any project that may take a listed species as part of the biological opinion. BLM is required to have concurrence from the USFWS for a BBCS if it covers threatened or endangered species and the USFWS makes it a condition of the biological opinion.

For wind energy development, per BLM IM NV-2010-024 for wildlife monitoring protocols, pre- and post-construction surveys should occur within the project area including a 1-mile buffer. Spring (March-May) and fall (September-November) migration surveys should be conducted. These surveys should be performed at dawn and dusk, three times each season to identify early, mid, and late migrants. Breeding bird surveys should be conducted using the GBBO protocol. The objective is to determine the extent of habitat use by migratory birds and identification of concentrations or important breeding areas.

Pinyon Jay

The pinyon jay (*Gymnorhinus cyanocephalus*) is a Nevada BLM sensitive species. According to North American Breeding Bird Survey data, the pinyon jay is declining at a rate of 4-5% per year in the Great Basin and range-wide (http://www.mbr-pwrc.usgs.gov/bbs/specl11.html). This trend estimate translates to the population being cut in half in 15 years (2028) and being rare or extirpated in the Great Basin in 30 years. The causes for decline are currently unknown. While the species is declining, its preferred habitat, pinyon-juniper woodland, has been expanding (Great Basin Bird Observatory 2010). The bird's decline may be related to changes in woodland age profile; large expanses of closed-canopy woodland with a poor shrub understory are largely unsuitable for these jays. These jays prefer mixed-age woodland transitioning into, or interspersed with, sagebrush shrubland. They roost and nest within relatively dense groves of trees typically within 2km (1.2mi) of the woodland-sagebrush habitat edge. Seed caches are usually located in the woodland-shrubland transition zone or in shrubland within 2km (1.2mi) of the woodland-shrubland edge.
Pinyon jays nest in traditional colony sites with 30-60 nests that are tended to by a flock of 150-300 adults and immature birds. They are cooperative breeders, where the immature birds from previous years learn to forage and nest successfully by helping raise the current brood.

Nesting Season Clearance Surveys – Nesting season clearance surveys will be conducted when a proposed activity would occur during the nesting season and potential impacts to nesting jays are not mitigated by applying a seasonal restriction. Table 1 provides the nesting season dates. Clearance surveys are to occur in the project area including a 600-ft buffer around the project area unless the BLM or GBBO recommends a different distance. Nest sites are discovered by examining mid-sized and large pinyon pines (about 12-30ft tree height) for relatively large nests (about 12-18in diameter, 10-12in tall). These nests are made mostly from thin sticks (Photo 1). If one nest is found, time should be spent to examine all trees in the vicinity for similar nests, going out at least 200y (600ft) from the original nest. If more nests are found, it is a colony site. It is not necessary to try to locate all nests of the colony. Colony nest sites are in close proximity to traditional communal roost sites where the flock spends every night during breeding. If the birds are followed to their roost site at dusk during this time, the nesting colony is likely within 1,000m (0.6mi). If a colony is found, buffer the site by 1,200m (0.7mi) for no disturbance during the breeding season and for no vegetation removal any time of year.

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Photo 1. Pinyon jay nest.

Bald and Golden Eagles

Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaeatos*) are Nevada BLM sensitive species. The USFWS has guidance for proposed activities that have the potential to impact bald or golden eagles or their habitat (Pagel et al. 2010, USFWS 2012, USFWS 2013). Generally, the steps in these guidelines include: 1) determining if an activity has the potential to disturb breeding behavior, 2) surveying for nests within a maximum 10-mile radius of the activity footprint (**see *Raptors, Survey Methodology***), and 3) developing an Eagle Conservation Plan (ECP) in cases where eagles and/or their nests are likely to be impacted. Depending on the proposed project, this process may be modified. The 10-mile survey buffer may be reduced based on the specific proposed project, topography, vegetation, the presence of other physical barriers, et cetera. An ECP may not be needed. **Coordinate with the USFWS and BLM prior to beginning surveys. Coordinate with the BLM and USFWS on the appropriate survey buffer and the need to develop an ECP.**

BLM and/or USFWS Direction

***USFWS* – For ground-disturbing activities**, the USFWS recommends that proponents develop an ECP. For the purposes of this document, ground-disturbing activities are those that involve moving or penetrating the ground surface (soil, rocks) or destroying or removing vegetation. Ground disturbance includes

mechanical excavation and grading, and manual activities such as driving posts and stakes, drilling, digging, trenching, blasting, and others. An ECP is not necessary for activities that do not involve any new ground disturbance (i.e., activities restricted to existing roads and trails). Livestock grazing is not considered a ground-disturbing activity. An ECP is described in the USFWS Eagle Conservation Plan Guidance (USFWS 2013).

For wind energy, the USFWS Land-Based Wind Energy Guidelines (WEG; USFWS 2012) provide a broad overview of wildlife considerations for siting and operating wind energy facilities, but does not address the in-depth guidance needed for the specific legal protections afforded to bald and golden eagles. The Eagle Conservation Plan Guidance (ECPG; USFWS 2013) fills this gap and supplements the WEG. The ECPG provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

Like the WEG, the ECPG calls for wind project developers to take a staged approach to siting new projects. Both call for preliminary landscape-level assessments to assess potential wildlife interactions and proceed to site-specific surveys and risk assessments prior to construction. They also call for monitoring project operations and reporting eagle fatalities to the Service and state and tribal wildlife agencies. The ECPG provide a descriptive instructional template for developing an ECP. An ECP documents how the project developer or operator intends to comply with regulatory requirements by avoiding and minimizing risk of taking eagles and evaluating possible alternatives in siting, configuration, and operation.

Compliance with the ECPG is voluntary, but the Service believes that following the guidance will help project operators in complying with regulatory requirements and avoiding the unintentional "take" of eagles at wind energy facilities, and will also assist the wind energy industry in providing the biological data needed to support permit applications for facilities that may pose a risk to eagles.

For utility and energy facilities, the USFWS has developed a special collection permit for migratory bird carcass collection. The USFWS requires this salvage permit to collect carcasses as part of monitoring post-construction mortality. The company or operating entity applies and holds the permit, not the BLM.

BLM – **For golden eagles and renewable energy**, per BLM IMs NV-2010-063 and NV-2010-156, it is critical to determine if breeding territories and nests, feeding areas, or roosts are present in the analysis area to determine whether a proposed action has the potential to impact eagles or their habitat. The analysis area should be determined on a project-specific basis with USFWS. **An ECP (previously known as an Avian Protection Plan [APP]) will be required by the BLM as a condition of the right-of-way grant if the proposed project has the potential to impact golden eagles or their habitat.**

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is a Nevada BLM sensitive species. Burrowing owl habitat can be found in annual and perennial grasslands and scrublands characterized by low-growing vegetation (Conway and Simon 2003). Suitable owl habitat may also include trees and shrubs if the canopy covers less than 30 percent of the ground surface. Burrows of fossorial mammals such as ground squirrels or badgers are typically used, but man-made structures such as cement culverts can be an essential component of burrowing owl habitat. Burrows provide protection, shelter, and nest sites.

Nesting Season Clearance Surveys – Nesting season clearance surveys will be conducted when a proposed activity would occur during the nesting season and potential impacts to nesting owls are not mitigated by applying a seasonal restriction. Table 1 provides the nesting season dates. Surveys must be conducted a maximum of 2 weeks prior to disturbance and are then adequate for a maximum of 2 weeks. Additional surveys will need to be repeated after 2 weeks have elapsed if proposed activities have not been initiated.

Surveys should be conducted by walking through suitable habitat over the entire project area including a 150-m buffer (USFWS 2003, California Report on Burrowing Owl Mitigation 2012). This buffer zone is included to account for adjacent burrows and foraging habitat outside of the project area and impacts from such factors as noise and vibration due to heavy equipment.

Survey transects should be spaced to allow for 100 percent visual coverage of the ground surface while walking transects. Typically, the distance between transect lines should be no more than 30-m. To efficiently survey large project areas (over 100 acres), 2 or more surveyors should conduct concurrent surveys.

Burrowing owls are active throughout the day however peaks in activity in the morning and evening make these the best times for conducting surveys (Conway and Simon 2003, Arizona Burrowing Owl Working Group 2007).

Call-broadcast methods should be incorporated into surveys to increase the likelihood of detecting burrowing owls. See Conway and Simon (2003) or Arizona Burrowing Owl Working Group (2007) for appropriate methods).

Clearance surveys are generally appropriate for those proposed activities where activity disturbance ends with activity completion and effects to burrowing owls are not ongoing (long-term). If effects to owls from the proposed activity are expected to continue to be ongoing and occur over the long-term after activity completion, then additional surveys may be required (see *Pre- and Post-Activity Surveys* below).

Pre- and Post-Activity Surveys – Pre- and post-activity surveys may be required when data is needed to adequately evaluate potential ongoing (long-term) negative effects from proposed activities. If proposed activities are expected to have ongoing (long-term) negative effects after project completion, then multiple years of pre- and post-activity surveys may be required. **Coordinate with BLM and USFWS to determine whether these surveys are needed for the proposed activity.**

Raptors

See separate sections for Bald and Golden Eagles, and Burrowing Owl.

Nest Surveys – Raptor nest surveys will be conducted when a proposed activity would occur during the nesting season and potential impacts to nesting raptors are not mitigated by applying a seasonal restriction (Table 1) or the proposed activity occurs outside the nesting season but there may be negative effects that impact raptors when they return to their nest(s) the following nesting season.

Nest Survey Methodology – Two nest surveys should be conducted:

1) First survey – conduct aerial or ground survey to determine if nests are present and occupied, and

2) Second survey – conduct a follow-up ground search to confirm species identification and determine nest occupancy and success. **If the second survey is not conducted, any nests found during the first survey are assumed active for the year and appropriate mitigation will be applied.**

Aerial searches are most useful for large raptors with prominent nests. Ground surveys are more useful for smaller, less prominent raptors. Terrain and accessibility can also dictate which method is most useful. NDOW has a raptor nest site protocol and survey form (primarily for aerial surveys) that is available upon request.

The following are important characteristics of adequate nest surveys:

- Surveys will be done whenever nesting habitat is present within or adjacent to the project area. Nesting habitat includes rock outcrops, cliffs, ridges, knolls, stream banks, conifers, aspen groves, riparian woodlands, and man-made structures (e.g., power lines and buildings).
- **Table 1 provides the nesting season dates for surveys. These dates may be modified depending on species, weather, elevation, et cetera. Coordinate with the local BLM District on the appropriate nesting season dates prior to beginning surveys.**
- Generally, surveys will be conducted in the project area including a minimum 0.25-mile buffer of the proposed activity, but this buffer may be increased based on raptor species, proposed activity, et cetera. A 0.25-mile buffer is generally most appropriate for minor activities such as those involving only hand equipment (i.e., chainsaws), less than 5 acres of disturbance, or restricted to existing roads and trails. For wind energy, surveys are to occur in a 1-mile buffer (see *BLM and/or USFWS Direction* below*).* **Coordinate with the local BLM District and USFWS on the appropriate survey buffer prior to beginning surveys.**
- If breeding behavior is observed or active nests are found, proposed activities will not occur until after young have fledged, nests are abandoned, or after the nesting season ends unless nests are appropriately buffered.
- At least two surveys per nesting season prior to initiation of the proposed activity. One month of elapsed time is required between surveys. If the second survey is not conducted, any nests found during the first survey are assumed active for the year and appropriate mitigation will be applied.
- Optimum weather conditions for surveys are clear, calm days. Nests will not be visited during adverse weather conditions (e.g., extreme hot or cold, rainy or snowy days, or high winds).
- Playback of calls can be a useful survey tool. Ground surveys should include broadcast calls of conspecific vocalizations.
- Aerial surveys of deciduous trees (e.g., aspen and cottonwoods) should be conducted as early as possible in the spring prior to leaf-out.
- Aerial surveys should be flown at slow speeds (30-40 knots; USFWS 2012).
- During surveys, extreme caution should be given to make sure that breeding/nesting/fledging raptors are not disturbed. Monitoring will be conducted from the farthest distance possible that allows the surveyor to determine the nest activity using a spotting scope.
- Nest visits should be as brief as possible.
- Photographs of the nests will be taken to illustrate nest shape, condition, and substrate.
- Status of nesting birds will be recorded. Note whether there are eggs or young in the nest, whether fledged young were observed, or if the adult is incubating/brooding.
- Data will be summarized for project reports in a table format. Tables should include species of raptor, nesting stage, nest type (stick, scrape, or cavity), nest substrate (species of tree, cliff, ground), location

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(UTM coordinates), and other characteristics (e.g., nest height, nesting material).

Pre- and Post-Activity Surveys – Pre- and post-activity surveys may be required when data is needed to adequately evaluate potential ongoing (long-term) negative effects from proposed activities. If proposed activities are expected to have ongoing (long-term) negative effects after project completion, then multiple years of pre- and post-activity surveys may be required. A Bird and Bat Conservation Strategy (BBCS) may be required (see *BLM and/or USFWS Direction* below). **Coordinate with BLM and USFWS to determine whether these surveys and a BBCS are needed for the proposed activity.**

BLM and/or USFWS Direction
USWFS – **For ground-disturbing activities**, the USFWS recommends that proponents develop a Bird and Bat Conservation Strategy (BBCS; previously known as an Avian Protection Plan [APP]), which indicates a "good faith" effort to conserve migratory birds and address the MBTA. For the purposes of this document, ground-disturbing activities are defined as those that involve moving or penetrating the ground surface (soil, rocks) or destroying or removing vegetation. Ground disturbance includes mechanical excavation and grading, and manual activities such as driving posts and stakes, drilling, digging, trenching, blasting, and others. A BBCS is not necessary for activities that do not involve any new ground disturbance (i.e., activities restricted to existing roads and trails). Livestock grazing is not considered a ground-disturbing activity. A BBCS is described in the USFWS Land-Based Wind Energy Guidelines (USFWS 2012).

For wind energy, the USFWS Land-Based Wind Energy Guidelines (USFWS 2012) are intended to promote compliance with wildlife laws and regulations including the MBTA and thus recommend developers prepare a project-specific Bird and Bat Conservation Strategy (BBCS). A BBCS is a document or compilation of documents that describes the steps a developer could take or has taken to apply these Guidelines to mitigate for adverse impacts and address the post-construction monitoring efforts the developer intends to undertake. It is a written record of the actions to avoid, minimize, and compensate for potential adverse impacts to migratory birds.

For utility and energy facilities, the USFWS has developed a special collection permit for migratory bird carcass collection. The USFWS requires this salvage permit to collect carcasses as part of monitoring post-construction mortality. The company or operating entity applies and holds the permit, not the BLM.

BLM – **For renewable energy**, per BLM IM NV-2010-063, the USFWS may require a Bird and Bat Conservation Strategy (BBCS; previously referred to as an Avian Protection Plan [APP]) for any project that may take a listed species as part of the biological opinion. BLM is required to have concurrence from the USFWS for a BBCS if it covers threatened or endangered species and the USFWS makes it a condition of the biological opinion.

For wind energy development, per BLM IM NV-2010-024 for wildlife monitoring protocols, raptor nest ground and/or aerial surveys to identify nest sites would be necessary if their habitat exists within the project area (including a 1-mile buffer). Spring and fall migration surveys for raptors should be conducted according to Hawk Watch protocols (Bildstein et al. 2007).

Greater Sage-Grouse

Regulatory Setting – In October 2013, the FWS proposed to list the Bi-State distinct population segment

(DPS) of greater sage-grouse (*Centrocercus urophasianus*) as threatened and designate proposed critical habitat for the species. The Bi-State sage-grouse is now a Proposed Threatened species. In 2010, the FWS announced that listing the greater sage-grouse range-wide under the ESA was warranted, but precluded by higher priorities. As a result, the greater sage-grouse range-wide is a Candidate species for listing under the ESA and a Nevada BLM sensitive species. The FWS is scheduled to make a new listing decision for greater sage-grouse range-wide in 2015.

BLM IMs NV-2013-009 (Bi-State sage-grouse) and 2012-043 (greater sage-grouse range-wide) provide direction on managing sage-grouse and its habitat. **If a project area is in sage-grouse habitat, coordinate with BLM and NDOW to determine if the following surveys are needed.**

Lek Surveys **–** Lek surveys may be required for ground-disturbing activities or activities that occur during the breeding season (March 1-May 15) within 4 miles of active, pending active, and unknown leks, as defined by NDOW. Conduct surveys during the breeding season (March 1-May 15). Follow NDOW lek survey protocol.

- Active – 2 or more males observed at least twice in the last 5 years
- Pending Active – 2 or more males observed only once in the last 5 years
- Unknown – No other conditions have been met

Searches for New Leks **–** Searches may be required for ground-disturbing activities. Lek searches should be conducted within 4 miles of the project area. Project areas should be searched from the ground or air (helicopters or fixed-wing aircraft utilizing Forward Looking Infrared (FLIR) technology can be used) from March 1-May 15. If aerial searches are conducted, the search area should be flown on north-south transects moving from the eastern to the western portion of the survey area with lines a maximum of 1km apart. Transects should be flown 100 to 150m above ground level. Special attention should be paid to old lakebeds, stock-watering areas, and other relatively open sites largely surrounded by sagebrush of 15 to 25% cover. Conduct ground searches by driving along roads and stopping every 1km to listen for displaying grouse. On a calm morning, breeding sage-grouse may be heard at a distance of 1.5km.

Winter Surveys **–** Surveys may be required for ground-disturbing activities or activities that occur during the wintering period (November-February).

1) Within suspected sage-grouse winter use areas, identify likely areas that would support wintering birds. Identify actual sagebrush cover types, topography, aspect, etc. most likely to support sage-grouse during the winter;
2) Within the identified sagebrush areas, develop transects spaced 100 to 300m apart along the length of the habitat areas to count the number of birds using the habitat or document sign in the form of droppings or tracks. Conducting surveys within 72 hours of snowfall can aid with the identification of tracks.
3) Surveys by air are also allowable
   a. Parallel transect lines approximately ¼ mile apart would be set up over the project area and a two-mile buffer zone.
   b. Transects can be flown during daylight hours, preferably with helicopter, or at night utilizing a fixed wing aircraft equipped with Forward Looking Infrared technology.
   c. Helicopter flight height to range from 75-125ft, with an average air speed of 45 mph.

d. When sage grouse are located, the observer records UTM coordinates for the location using a handheld GPS unit, and documents the number of individuals present. Tracks can also be documented from the air when conducting surveys using a helicopter.

Noise Monitoring – Recent studies suggest that chronic anthropogenic noise contributes to chronic stress and declines in sage-grouse populations (Blickley et al. 2012a, Blickley et al. 2012b). The primary mechanism causing population reductions is not clear. However, it is hypothesized that exposure to anthropogenic noise at leks could have indirect or direct impacts on male fitness by reducing lek attendance, masking important vocalizations, or increasing their susceptibility to predators.

The potential of project-related noise to impact sage-grouse should be evaluated if there is an active, pending active, or unknown status lek within 4 miles of the project boundary, and if noise levels from project activities are likely to exceed 10dB (A weighted) above ambient noise levels during March 1-May 15. This evaluation involves ambient noise collection at the lek and modeling potential noise at an active lek(s) from project activities to determine whether noise is likely to be above the minimum disturbance threshold (10dBA). The minimum disturbance threshold may change as new information becomes available concerning the impacts of noise on sage-grouse.

Ambient acoustic data should be collected either: 1) during the breeding season (March 1-May 15), or 2) within 3 weeks of the breeding season in order to avoid conflict with birds. Data should be collected for a minimum of 7 consecutive days from 1 hour before sunrise until late morning when sage-grouse are most likely to be at leks. Noise data should be collected 1.5 ft. above ground level at the edge of each lek closest to the potential noise source. Sound pressure levels should be recorded at intervals no greater than 5 seconds and recorded at 1/3 octave band intervals across the audible spectrum. Since atmospheric conditions are key noise modeling inputs, weather conditions should also be measured at data collection sites (i.e., temperature, humidity and wind in real time with the sound pressure level). Camouflage monitoring set-ups so that wildlife are not deterred from or artificially attracted to the area.

Acoustic equipment should be capable of collecting critical sound pressure metrics including L_{10}, L_{50}, L_{90}, L_{eq} and L_{max} (intrusive, median, residual, equivalent and maximum sound levels, respectively). To determine baseline ambient levels, A-weighted L_{90} should be used. As a measure of median noise exposure, A-weighted L_{50} should be used.

PaSoftware is available that estimates noise levels from industrial and vehicle sources. Currently, the only BLM requirement is that non-proprietary noise modeling software be used for impact analysis. This provides an opportunity for modeling replication by a third party. Noise modeling software should factor in the effects from weather (primarily wind), atmosphere (temperature, humidity), substrate type (rock, water, and bare earth), vegetation, and topography. Noise modeling software must also be capable of robust outputs including a broad spectrum of frequencies represented, several weightings (A, C, flat) and L_{eq}.
Utilize weather station data to assist in evaluating the noise caused by wind.

Southwestern Willow Flycatcher

The southwestern willow flycatcher (SWWF; *Empidonax traillii extimus*) is an Endangered species. The main cause of population decline is related to riparian habitat degradation. In Nevada, potential populations are relegated primarily to the extreme southern portions of the state along the Muddy and Virgin Rivers,

Meadow Valley Wash, and Pahranagat Valley, as well as along the Colorado River (NDOW, pers. comm.). Coordinate with the USFWS prior to conducting surveys. Permits from the USFWS are required before beginning surveys. Permits require attendance at USFWS-approved protocol training. Instructions for completing SWWF survey reports can be found at the USGS Colorado Plateau web site (http://sbsc.wr.usgs.gov/cprs/research/projects/swwf/cprsmain.asp).

Yellow-Billed Cuckoo (Western U.S. DPS)

The Western U.S. distinct population segment (DPS) of the yellow-billed cuckoo (*Coccyzus americanus*) is a Proposed Threatened species. In western North America, DPS populations have declined primarily as a result of riparian habitat loss and degradation. Preferred nesting habitat is riparian woodland with an understory of dense, scrubby vegetation (Wiggins 2005). They are rare in Nevada; a few recent documented records of this species were recorded in *The Atlas of the Breeding Birds of Nevada* (Floyd et al. 2007), although it is possible that this secretive bird breeds in suitable riparian woodlands throughout the state.

Surveys for yellow-billed cuckoos should be conducted in potential habitat. Coordinate with the USFWS prior to conducting surveys. Instructions for completing surveys are described by Halterman et al. (2009). Halterman et al. describes a specialized protocol, particularly with regard to timeframe. More generalized landbird survey methods often fail to detect cuckoos.

Small Mammals

Bats

Many bats species are Nevada BLM sensitive species (see Appendix A). Bats roost and hibernate in cliffs, rock faces, talus slopes, caves, mine tunnels, adits, buildings, abandoned structures, tree branches, and cavities.

Understand decontamination protocol for white-nose syndrome prior to site entry or handling of bats (see *BLM Direction*).

Habitat Surveys – Any buildings/structures, mine workings, or caves identified from spatial data during completion of the HAF should be externally surveyed to assess condition and determine habitat potential for bats if a proposed project involves any disturbance to these features or bats using these features. All features will be examined, photographed, and GPS locations will be obtained. Proposed activities should avoid any features with bats or the potential for bats. If proposed activities would occur within ¼ mile of features with bats or the potential for bats, then more extensive bat surveys may be required to identify species, population size, season of use, et cetera.

Bat Surveys – Survey methods include live capture with mist nets, acoustic surveys, and techniques using night vision equipment or infrared cameras. Before undertaking a specific survey approach, review standard bat survey protocols outlined in The Revised Nevada Bat Conservation Plan (Bradley et al. 2006) and coordinate with BLM and NDOW. Biological consultants should consider and be prepared to defend their study design concerning the following issues in particular:

- Expertise of survey personnel
- Location of surveys
- Timing, length (i.e., number of hours spent), and frequency of surveys

Permits are required for handling. Permit applications are available at: http://www.ndow.org/uploadedFiles/ndoworg/Content/Forms_and_Resources/Application-Scientific-Collection-Possession-Banding-Permit.pdf.

***BLM Direction* – For wind energy development**, per IM 2010-024 for wildlife monitoring protocols, bat surveys of caverniculous roosting habitat (i.e., mines and caves) is necessary to identify maternity use and/or hibernacula use. Bat capture surveys (i.e., mist nets) at water sources and roosting habitats within/adjacent to the project area would be necessary to supplement long-term acoustic monitoring stations to determine species richness and diversity of the area, as well as insight into seasonal use activity patterns. Surveys should occur within the project area including a 1-mile buffer.

For renewable energy facilities, per BLM IM NV-2010-063, development of an Avian and Bat Protection Plan (ABPP; now known as a Bird and Bat Conservation Strategy [BBCS]) may be developed for wind project at the discretion of the applicant, unless a candidate, threatened, or endangered bat may be affected. In this situation, an ABPP should be prepared and may be required as a condition of the Right-of-Way. A BBCS is described in the USFWS Land-Based Wind Energy Guidelines (USFWS 2012).

For white-nose syndrome (WNS), per BLM IM 2010-181, BLM offices will implement BLM-WNS containment and decontamination procedures to all site entries. The BLM states and district offices apply containment and decontamination procedures for all caves and abandoned mine feature entries. Also refer to the USFWS White-Nose Syndrome Decontamination Protocol available at: http://whitenosesyndrome.org/topics/decontamination.

Pygmy Rabbit

Pygmy rabbit (*Brachylagus idahoensis*) is a Nevada BLM sensitive species. This species is a sagebrush obligate that uses sagebrush for food and shelter throughout the year. While it occurs throughout most of the Great Basin, it exhibits extremely specialized habitat requirements, and thus occupies only a small subset of locations within this range. Pygmy rabbits occur in areas within their broader distribution where there are tall, dense big sagebrush stands and soils sufficiently deep and loose to allow burrowing. Surveys should be focused within these habitat types. Suitable habitat can be recognized by distinctly taller patches of mature sagebrush, which are indicative of deeper soils. Burrows and pellets are excellent indicators of the occurrence of pygmy rabbits (Himes and Drohan 2007). Pygmy rabbits spend the majority of their time close to their burrows resulting in high concentrations of pellets around burrows. Pygmy rabbits are active all year above ground therefore surveys may be conducted at any time of year.

Existing data on locations of known occurrence should be used to screen areas for the presence of suitable habitat. Coordinate with BLM and NDOW to determine whether surveys are needed.

***BLM Direction* – For surveys**, IM NV-2003-064 directs all field offices to survey for pygmy rabbits in relation to all proposed ground disturbing activities, including issuance of rights-of-ways in suitable habitat. Accepted methods for surveys are outlined in a BLM document (Ulmschneider 2008). Recommendations include:

- Surveys will include searches for pygmy rabbits, burrows and pellets.
- In patchy habitat, walk in loops, triangles or a generally meandering line (avoid edges).

- In uniform or extensive patches, walk in straight lines or in a spiral. Spiral transects should start at the center of a search area and spiral out while gradually increasing the diameter of the circle.
- Burrow systems can be widely spaced, and searches should be conducted carefully and methodically before the absence of pygmy rabbits can be confidently determined.
- Record rabbit, burrow and pellet locations in UTMs.

Rodents, Insectivores

Several rodents and insectivores are Nevada BLM sensitive species and they could warrant surveys for ground-disturbing activities (see Appendix A). Coordinate with BLM and NDOW biologists to determine whether surveys are needed.

To determine presence/absence of these small mammals within a project area, review Manley et al. (2006). The primary method recommended by Manley et al. (2006) entails the placing of Sherman live traps along eight transects, each 200m in length, arrayed in a hexagonal pattern. It is recommended that traps are 20m apart and within 2m of habitat features such as logs, burrows, the base of trees, and runways. Trapping should occur over three consecutive days, as a pilot study conducted by Manley et al. (2002) determined that the largest gains for the detection of small mammals occurred within the first three days of trapping.

As stated in Manley et al. (2006), transects are the preferred method, since Pearson and Ruggiero (2003), Read et al. (1988), and Steele et al. (1984) documented more effective detection when using transects over a trapping grid with similar effort. Using a large hexagonal pattern increases the probability of intersecting a variety of habitats/microhabitats containing different species when compared to a trapping grid (Pearson and Ruggiero 2003). Though setting Sherman live traps along transects in a hexagonal pattern is the preferred method, coordinate with BLM and NDOW biologists to determine the adequate transect lengths, spacing between traps, and duration of trapping to determine presence/absence of rodents and insectivores within a project area.

Ungulates

Bighorn Sheep

Bighorn sheep is a Nevada BLM sensitive species. Three subspecies of bighorn sheep (*Ovis canadensis*) occur in Nevada: Rocky Mountain (*O. c. canadensis*), desert (*O. c. nelsoni*), and California (*O. c. californiana)*:

- California bighorn sheep occupy areas north of Interstate 80 in the central and western portions of the state.
- Rocky Mountain bighorn sheep occupy portions of Elko and White Pine counties.
- Desert bighorn sheep occur throughout Nevada south of Interstate 80.

Bighorn sheep habitat is characterized by rugged terrain that includes canyons, gulches, talus cliffs, steep slopes, mountaintops, and river benches.
For projects in occupied bighorn sheep habitat (based on NDOW GIS data), coordinate with BLM and NDOW to determine if survey data on seasonal use and movement corridors within a project area is needed. Field determinations of bighorn sheep presence within a project area should be accomplished through photographs of animals or their sign (e.g. scat, tracks).

For projects that have the potential to physically disturb bighorn sheep (i.e., Special Recreation Permit events), coordinate with NDOW to implement appropriate seasonal restrictions or survey data may be required to show they are not present in the project area during project implementation.

Elk

Elk (*Cervus elaphus*) populations occur in the central, southern, eastern, and northeastern portions of Nevada. More specifically, elk will generally occupy mountain forests and meadows during the summer months and foothills and valley grasslands during the winter months. Also, riparian areas are crucial during the calving period, which generally occurs from mid-May to mid-June.

Elk presence/absence, as well as the identification of seasonal use and movement corridors within a project area if present, should be determined through contact with NDOW and field observations. Field determinations of elk presence within a project area should be accomplished through the noting of sign (e.g. scat, tracks, or foraging) during surveys for other species.

Mule Deer

Although mule deer (*Odocoileus hemionus*) occur in a variety of ecosystems throughout Nevada, there are many similarities in diet and habitat composition among subpopulations. Mule deer are secondary successional species that often prefer vegetation communities resulting from some type of disturbance except areas dominated by cheatgrass (Wasley 2004). High quality habitat is generally characterized by areas of thick brush or trees that provide thermal and protective cover interspersed with more open shrub or grasslands that provide forage.

For projects in mule deer habitat (based on NDOW GIS data), coordinate with BLM and NDOW to determine if survey data on seasonal use and movement corridors within a project area is needed. Field observations of mule deer presence within a project area should be verified via photographs of animals or their sign (e.g. scat, tracks).

Pronghorn

Pronghorn (*Antilocapra americana*) occur throughout Nevada, with the exception being the southernmost part of the state. Habitat selection is influenced by the vegetative height, cover, and community type, as well as the elevation, topography, and distance to water. Vegetation height is important, as pronghorn prefer areas with lower vegetation to provide long-range visibility of predators.

For projects in pronghorn habitat (based on NDOW GIS data), coordinate with BLM and NDOW to determine if survey data on seasonal use and movement corridors within a project area is needed. Field determinations of pronghorn presence within a project area should be accomplished through photographs of animals or their sign (e.g. scat, tracks).

Amphibians

Coordinate with BLM and NDOW to determine if surveys are needed for the following species.

Amargosa Toad

The Amargosa toad (*Anaxyrus nelsoni*) is a Nevada BLM sensitive species. It is endemic to the Oasis Valley located in Nye County, southwestern Nevada primarily along a 10-mile stretch of the Amargosa

River and upland springs. In 2010, the USFWS concluded that listing the Amargosa toad as threatened or endangered was not warranted for protection under the Endangered Species Act (USFWS 2010a).

Columbia Spotted Frog (Great Basin DPS)

The Great Basin distinct population segment (DPS) of the Columbia spotted frog (*Rana luteiventris*) is a Candidate species for listing under the ESA and a Nevada BLM sensitive species. In Nevada, Columbia spotted frogs are currently found in Nye, Elko, and Eureka Counties, typically at elevations between 5600 and 8700 feet. Based on geography, they can be subdivided into three well-defined subpopulations: 1) Jarbidge, Independence and Tuscarora Mountains in Elko and Eureka County; 2) an isolated subpopulation in the Ruby Mountains in Elko County; and 3) an isolated subpopulation in the Toiyabe Range in Nye County.

Northern Leopard Frog

The northern leopard frog (*Rana* [*Lithobates*] *pipiens*) is a Nevada BLM sensitive species widely distributed throughout North America from the New England states to West of the Colorado Rockies, and in Canada, from southeast British Colombia east of the Maritimes (Babbitt and Freidenfelds 2006, Rogers and Peacock 2012). According to Rogers and Peacock (2012), the wide range is deceiving as significant declines are occurring in the western United States and Canada due to habitat fragmentation and the introduction of nonnative fish, amphibians, and plant species.

The entire life cycle for the northern leopard frog requires three distinct habitats: 1) permanent to semi-permanent waterbodies for breeding, egg deposition, and tadpole development, 2) near waterbodies but can travel 2 km away from waterbodies to wet meadows, pastures, hay fields, scrub vegetation, sedge meadows, and irrigation ditches for foraging and predator avoidance, and 3) permanent waterbodies that do not freeze to the bottom for overwintering (Kendell 2002, Babbitt and Freidenfelds 2006).

Kendell (2002) designed a survey protocol for the northern leopard frog that covers pre-field preparation, survey conditions comprising of the time of day, time of year, weather conditions and habitat, survey goals, and survey steps including time constrained visual encounter surveys, call surveys, and egg mass counts. Refer to the Kendell (2002) "Survey protocol for the northern leopard frog" for survey information.

Relict Leopard Frog

The relict leopard frog *(Lithobates onca*) is a Candidate species for listing under the ESA and a Nevada BLM sensitive species. This species occurs on the border region of Arizona, Nevada, and Utah, USA, mostly below 1,000m asl. It was known from the Virgin and Muddy River drainages and along the Colorado River drainage downstream of its confluence with the Virgin River to Black Canyon below Lake Mead (Bradford et al. 2004).

Reptiles

Banded Gila Monster

The banded Gila monster (*Heloderma suspectum cinctum*) is the subspecies that occurs in Clark, Lincoln, and Nye counties of Nevada. The species is primarily found below 1,525 m (5,000 ft) in elevation in desert wash, spring and riparian areas that occur in rocky landscapes of upland desert scrub habitats. Occasionally, Gila monsters will use gentler terrain of alluvial fans (bajadas).

Consult with NDOW to determine if presence/absence surveys are needed and for survey protocols. NDOW has a gila monster handling protocol available at: http://www.ndow.org/uploadedFiles/ndoworg/Content/public_documents/Nevada_Wildlife/Gila%20Monster%20Status,%20Identification%20and%20Reporting%20Protocol%20for%20Observations.pdf.
A State Special Purpose Permit is required for individuals to handle Gila monsters.

Desert Tortoise

The Mojave population of the desert tortoise (*Gopherus agassizii*) is a Threatened species. For detailed information on the ecology of the tortoise or protocols that have been developed for presence/absence surveys for proposed projects within the range of the desert tortoise, see the USFWS Draft Revised Recovery Plan (USFWS 2010b). Consult the Desert Tortoise Recovery Office for information (http://www.fws.gov/nevada/desert_tortoise/dtro/).

Fish

Several federally listed fish species occur in Nevada and several species are Nevada BLM sensitive species (see Appendix A). Fish populations in Nevada are surveyed and monitored by NDOW. If the project area contains perennial water sources with potential fish habitat, consult with USFWS, NDOW, and the BLM to determine if fish populations are known to occur and if surveys are needed to determine presence/absence. USFWS and NDOW will determine the appropriate survey protocols.

Molluscs

Numerous molluscs are listed as Nevada BLM sensitive species and proposed activities with potential effects to aquatic habitat could warrant presence/absence surveys (see Appendix A). Existing data (e.g., Nevada Natural Heritage Program [NNHP] data) on locations of known occurrence should be used to screen areas for the presence of sensitive molluscs. Coordinate with BLM, NDOW, and NNHP to determine if surveys are needed.

Lotic Habitats (greater than 500 feet in length)

IM OC-2011-044 standardized BLM field methods for collection and submission of aquatic macroinvertebrate samples in lotic habitats (wadeable, perennial streams). This IM requires that aquatic macroinvertebrate samples follow sampling outlined by the National Aquatic Monitoring Center (NAMC) at http://www.usu.edu/buglab/Monitoring/monitoringProtocols.cfm. The NAMC protocol is only applicable to wadeable, perennial streams. The NAMC website provides a sampling protocol designed to generate data sufficient to: 1) characterize the status and trend of macroinvertebrate assemblages, and 2) quantify effects of anthropogenic disturbances and/or restoration actions.

Lentic Habitats (and Lotic Habitats less than 500 feet in length)

These habitats exhibit such a high spatial variation in water quality and quantity, landscape setting, and macroinvertebrate assemblages that correlation to other sites does not provide significant insight into the condition of any individual site. Because of this, the National Aquatic Monitoring Center (NAMC) analysis does not apply. The NAMC protocol is only applicable to wadeable, perennial streams. BLM, NDOW, and NAMC should be consulted to determine if general macroinvertebrate collection and analysis is necessary and if a site-specific monitoring plan should be developed. In these cases, a modification of the protocol described in IM OC-2011-044 will be used, but has yet to be developed.

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Appendix A: Habitat Assessment Form (5 Pages)

Common Name	Scientific Name	Status*	BLM District Office	Key Habitat Type (from Nevada WAP)	Potential to Occur In Project Area (Y/N)	Rationale for Occurrence/Non-occurrence	Description of Wildlife Use (year-round, breeding, wintering, migratory/stop over)
BIRDS							
Northern goshawk	*Accipiter gentilis*	SS	BM, Carson, Elko, Ely, Winnemucca				
Golden eagle	*Aquila chrysaetos*	SS	Statewide				
Burrowing owl	*Athene cunicularia*	SS	Statewide				
Ferruginous hawk	*Buteo regalis*	SS	Statewide				
Swainson's hawk	*Buteo swainsoni*	SS	Statewide				
Greater sage-grouse (rangewide)	*Centrocercus urophasianus*	C, SS	BM, Carson, Elko, Ely, Winnemucca				
Greater sage-grouse (Bi-State DPS)	*Centrocercus urophasianus*	PT, SS	BM, Carson,				
Snowy plover	*Charadrius alexandrinus*	SS	Statewide				
Yuma clapper rail	*Rallus longirostris yumanensis*	E, SS	Southern				
Lewis' woodpecker	*Melanerpes lewis*	SS	BM, Carson, Elko, Ely, Winnemucca				
Yellow-billed cuckoo (Western U.S. DPS)	*Coccyzus americanus*	C, SS	Carson, Ely				
Southwestern willow flycatcher	*Empidonax traillii extimus*	E, SS	Ely				
Peregrine falcon	*Falco peregrinus*	SS	Statewide				
Pinyon jay	*Gymnorhinus cyanocephalus*	SS	Statewide				
Bald eagle	*Haliaeetus leucocephalus*	SS	Statewide				
Loggerhead shrike	*Lanius ludovicianus*	SS	Statewide				
Black rosy-finch	*Leucosticte atrata*	SS	BM, Elko, Ely, Winnemucca				
Sage thrasher	*Oreoscoptes montanus*	SS	BM, Carson, Elko, Ely, Winnemucca				
Le Conte's thrasher	*Toxostoma lecontei*	SS	Southern				
Bendire's thrasher	*Toxostma bendirei*	SS	Southern				
Brewer's sparrow	*Spizella breweri*	SS	Statewide				
MAMMALS							
Pronghorn	*Antilocapra Americana*		Statewide				
Pallid bat	*Antrozous pallidus*	SS	Statewide				

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Pygmy rabbit	*Brachylagus idahoensis*	SS	BM, Carson, Elko, Ely, Winnemucca				
Elk	*Cervus elaphus*						
Townsend's big-eared bat	*Corynorhinus townsendii*	SS	Statewide				
Big brown bat	*Eptesicus fuscus*	SS	Statewide				
Spotted bat	*Euderma maculatum*	SS	BM, Carson, Elko, Ely, Winnemucca				
Greater western mastiff bat	*Eumops perotis californicus*	SS	Southern				
Silver-haired bat	*Lasionycteris noctivagans*	SS	Statewide				
Western red bat	*Lasiurus blossevillii*	SS	BM, Carson, Elko, Ely, Southern				
Hoary bat	*Lasiurus cinereus*	SS	Statewide				
California leaf-nosed bat	*Macrotos californicus*	SS	Southern				
Dark kangaroo mouse	*Microdipodops megacephalus*	SS	Statewide				
Pale kangaroo mouse	*Microdipodops pallidus*	SS	BM, Carson Winnemucca				
Pahranagat Valley montane vole	*Microtus montanus focosus*	SS	Ely				
California myotis	*Myotis californicus*	SS	Statewide				
Western small-footed myotis	*Myotis ciliolabrum*	SS	Statewide				
Long-eared myotis	*Myotis evotis*	SS	Statewide				
Little brown myotis	*Myotis lucifugus*	SS	BM, Carson, Elko, Ely, Winnemucca				
Fringed myotis	*Myotis thysanodes*	SS	Statewide				
Cave myotis	*Myotis velifer*	SS	Southern				
Long-legged myotis	*Myotis volans*	SS	Statewide				
Yuma myotis	*Myotis yumanensis*	SS	Carson, Elko, Ely				
Big free-tailed bat	*Nyctiniomops macrotis*	SS	Southern				
Allen's big-eared bat	*Odionycteris phyllotis*	SS	Southern				
Mule deer	*Odocoileus hemionus*		Statewide				
Bighorn sheep	*Ovis canadensis*	SS	Statewide				
Western pipistrelle	*Pipistrellus Hesperus*	SS	Statewide				
Preble's shrew	*Sorex preblei*	SS	Elko				
Brazilian free-tailed bat	*Tadarida brasiliensis*	SS	Statewide				

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Fish Spring pocket gopher	*Thomomys bottae abstrusus*	SS	BM				
San Antonio pocket gopher	*Thomomys bottae curatus*	SS	BM				
AMPHIBIANS							
Amargosa toad	*Anaxyrus nelson*	SS	BM, Southern				
Columbia spotted frog (Great Basin DPS)	*Rana luteiventris*	C, SS	BM, Elko, Winnemucca				
Northern leopard frog	*Rana [Lithobates] pipiens*	SS	Elko, Ely, Winnemucca, Carson				
Relict leopard frog	*Rana onca*	C, SS	Ely, Southern				
REPTILES							
Desert tortoise	*Gopherus agassizii*	T, SS	BM, Ely, Southern				
Banded Gila monster	*Heloderma suspectum cinctum*	SS	Ely, Southern				
FISH							
Wall Canyon sucker	*Catostomus* sp 1	SS	Carson				
Meadow Valley Wash desert sucker	*Catostomus clarkia*	SS	Ely, Southern				
Cui-ui	*Chasmistes cujus*	E	Carson				
White River Springfish	*Crenichthys baileyi baileyi*	E	Ely				
Hiko White River springfish	*Crenichthys baileyi grandis*	E	Carson				
Railroad Valley springfish	*Crenichthys nevadae*	T	BM, Carson, Ely				
Devils Hole pupfish	*Cyrpinodon diabolis*	E	Southern				
Ash Meadows Amargosa pupfish	*Crypinodon nevadensis mionectes*	E	Southern				
Warm Springs pupfish	*Cyrpinodon nevadensis pectoralis*	E	Southern				
Pahrump poolfish	*Empetrichthys latos*	E	Ely, Southern				
Desert dace	*Eremichthys acros*	T	Winnemucca				
Independence Valley tui chub	*Gila bicolor isolata*	SS	Ely				
Fish Lake Valley tui chub	*Gila bicolor ssp. 4*	SS	BM				
Hot Creek Valley tui chub	*Gila bicolor ssp.5*	SS	BM				
Railroad Valley tui chub	*Gila bicolor ssp. 7*	SS	BM, Ely				
Independence Valley tui chub	*Gila bicolor isolata*	SS	Elko				
Newark Valley tui chub	*Gila bicolor newarkensis*	SS	Elko, Ely				
Bonytail chub	*Gila elegans*	E	Ely, Southern				

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Common Name	Scientific Name	Status*	BLM District Office	Key Habitat Type (from Nevada WAP)	Potential to Occur In Project Area (Y/N)	Rationale for Occurrence/Non-occurrence	Description of Wildlife Use (year-round, breeding, wintering, migratory/stop over)
Pahranagat roundtail chub	*Gila robusta jorndani*	E	Ely				
Virgin River chub (Muddy River pop.)	*Gila seminude pop. 2*	E	Ely, Southern				
White River spindedace	*Lepidomeda albivalis*	E	Ely				
Northern leatherside chub	*Lepidomeda copei*	SS	Elko				
Big Spring spinedace	*Lepidomeda mollispinis pratensis*	T	Ely				
Moapa dace	*Moapa coriacea*	E	Ely, Southern				
Lahontan cutthroat trout	*Oncorhynchus clarki henshawi*	T	BM, Carson, Elko, Winnemucca				
Bonneville cutthroat trout	*Oncorhynchus clarkia utah*	SS	Ely				
Inland Columbia Basin redband trout	*Oncorhynchus mykiss gairdneri*	SS	Elko, Winnemucca				
Woundfin	*Plagopterus argentissimus*	E	Southern				
Relict dace	*Relictus solitarius*	SS	Ely				
Monitor Valley speckled dace	*Rhinichthys osculus spp. 5*	SS	BM				
Oasis Valley speckled dace	*Rhinichthys osculus spp. 6*	SS	Southern				
White River speckled dace	*Rhinichthys osculus spp 7*	SS	Ely				
Meadow Valley speckled dace	*Rhinichthys osculus ssp 11*	SS	Ely, Southern				
Independence Valley speckled dace	*Rhinichthys osculus lethoporus*	E	Elko				
Clover Valley speckled dace	*Rhinichthys osculusoligoporus*	E	Elko				
Moapa speckled dace	*Rhinichthys osculus moapae*	SS	Southern				
Ash Meadows speckled dace	*Rhinichthys osculus nevadensis*	E	Southern				
Pahranagat speckled dace	*Rhinichthys osculus velifer*	SS	Ely				
Bull trout	*Salvelinus confluentus*	T	Elko				
Razorback sucker	*Xyrauchen texanus*	E	Southern				
MOLLUSCS							
Ash Meadows Naucorid	*Ambrysus amargosus*	SS	Southern				
California floater	*Anodonta californiensis*	SS	Elko				
Duckwater pyrg	*Pygulopsis aloba*	SS	Ely				
Southern Duckwater pryg	*Pyrgulopsis anatina*	SS	BM, Ely				
Elongate Cain Spring pyrg	*Pyrgulopsis augusta*	SS	Carson				
Moapa pebblesnail	*Pygulopsis avernalis*	SS	Southern				
Large-gland Carico pyrg	*Pyrgulopsis basiglans*	SS	BM				
Moapa Valley pyrg	*Pyrgulopsis carnifera*	SS	Southern				

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Common Name	Scientific Name	Status*	BLM District Office	Key Habitat Type (from Nevada WAP)	Potential to Occur In Project Area (Y/N)	Rationale for Occurrence/Non-occurrence	Description of Wildlife Use (year-round, breeding, wintering, migratory/stop over)
Transverse gland pyrg	*Pyrgulopsis cruciglans*	SS	Ely				
Crystal springsnail	*Pyrgulopsis crystalis*	SS	Southern				
Spring Mountains pyrg	*Pyrgulopsis deaconi*	SS	Southern				
Dixie Valley pyrg	*Pyrgulopsis dixensis*	SS	BM, Winnemucca				
Ash Meadows pebblesnail	*Pyrgulopsis erythropoma*	SS	Southern				
Fairbanks springsnail	*Pyrgulopsis fairbanksensis*	SS	Southern				
Humboldt pyrg	*Pygulopsis humboldtensis*	SS	Elko				
Elongate gland springsnail	*Pyrgulopsis isolatus*	SS	Southern				
Landyes pyrg	*Pyrgulopsis landyei*	SS	Ely				
Squat mud meadows pyrg	*Pyrgulopsis limaria*	SS	Winnemucca				
Pahranagat pebblesnail	*Pyrgulopsis merriami*	SS	Ely				
Oasis Valley pyrg	*Pyrgulopsis micrococcus*	SS	BM				
Northern soldier meadow pyrg	*Pyrgulopsis militaris*	SS	Winnemucca				
Distal gland springsnail	*Pyrgulopsis nanu*	SS	Southern				
Elongate mud meadows springsnail	*Pyrugulopsis notidicola*	C, SS	Winnemucca				
Sub-globose Steptoe ranch pyrg	*Pyrgulopsis orbiculata*	SS	Ely				
Bifid duct pyrg	*Pyrgulopsis peculiaris*	SS	Ely				
Ovate Cain Spring pyrg	*Pyrgulopsis pictilis*	SS	Carson				
Median gland Nevada pyrg	*Pyrgulopsis pisteri*	SS	Southern				
Flat-topped Steptoe pyrg	*Pyrgulopsis planulata*	SS	Ely				
Northern Steptoe pyrg	*Pyrgulopsis serrata*	SS	Ely				
Southern Steptoe pyrg	*Pyrgulopsis sulcata*	SS	Ely				
Southeast Nevada pyrg	*Pyrgulopsis turbatrix*	SS	Southern				
Southern soldier meadow pyrg	*Pyrgulopsis umbilicata*	SS	Winnemucca				
Duckwater Warm Springs pyrg	*Pyrgulopsis villacampae*	SS	Elko, Ely				
Vinyards pyrg	*Pyrgulopsis vinyardi*	SS	BM, Elko				
Wong's pyrg	*Pyrgulopsis wongi*	SS	BM, Carson Winnemucca				
Sportinggoods tryonia	*Tryonia angulata*	SS	Southern				
Grated tryonia	*Tryonia clathrata*	SS	Southern				
Point of Rocks tryonia	*Tryonia elata*	SS	Southern				
Minute tryonia	*Tryonia ericae*	SS	Southern				
Amargosa tryonia	*Tryonia variegata*	SS	Southern				

* E = Endangered, T = Threatened, PE = Proposed Endangered, PT = Proposed Threatened, C = Candidate for Listing, SS = Nevada BLM Sensitive Species

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Appendix B: Wildlife Survey Report Template

Project Name:
Legal Location:
Applicant:
Consultant:
Contact Information:

1. **Introduction**
    a. Description of the proposed activity and the project area
    b. Species surveyed (use HAF to include rationale for why the species were or were not surveyed)
    c. Objectives of survey (e.g., presence/absence, abundance)

2. **Methods**
    a. Description of survey protocols
    b. Rationale for the routes selected and explanation why surveys did not cover certain areas
    c. Dates of surveys
    d. Survey effort

3. **Results**
    a. Report survey results for each species
    b. Locations where species or their sign were observed

4. **Discussion –** Compare survey results to other studies

5. **Other Materials** (electronic copies are preferred)
    a. HAF
    b. Completed data forms and/or copies of field notes
    c. Photos of survey area and wildlife species and/or sign
    d. Maps
    e. Shapefiles and metadata

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Vegetation and Soils – Baseline Data Collection

Ecological Sites

1) Complete a desk review/GIS mapping exercise to determine the potential soils within the identified survey area/project area.
2) Obtain soil survey for the area and review the Soil Map Units and the distinct soils within the map units (these are called Soil Map Unit Components)
3) Determine what Ecological Sites (as developed by the Natural Resource Conservation Service) are correlated to the soil map unit components.
4) Obtain the Ecological Site Descriptions (ESD) and associated Reference Worksheets for each Ecological Site that may occur within the survey/project area.
    a. Review the ESDs and determine peak production period for the vegetation associated with the ecological site. **(This will determine appropriate survey times discussed in bullet (5) as well as sections - *sensitive plant species* and *noxious weeds*.)**
    b. Determine what habitats (for wildlife and sensitive plants) the ecological sites provide. This will allow you to determine what species are likely to occur.
5) Conduct field survey at the appropriate time.
    a. Verify the occurrence of the soils
    b. Verify the occurrence of the associated Ecological Sites
    c. Map the location and extent of the Ecological Sites
    d. Identify a representative location of each Ecological Site
        i. GPS the location
        ii. Take a representative photo at the location (be sure to use a photo sheet and take the photo in a repeatable fashion)
        iii. Describe the current condition of the Ecological Site, including a plant species list

Sensitive Plant Species

1) Identify what species are likely to occur **(refer to Ecological Site discussion)**
2) Conduct field survey at appropriate time **(refer to item 4(a) under Ecological Site discussion)**
    a. Complete a systematic survey of the survey area/project area
    b. BE SURE TO USE GPS TRACK LOG TO DOCUMENT SURVEY LINES TO ENSURE REPEATABILITY

Noxious Weeds

1) Conduct field survey at appropriate time **(refer to item 4(a) under Ecological Site discussion)**
    a. Complete a systematic survey of the survey area/project area
        i. Emphasis on disturbed sites (especially linear disturbances such as access roads)
    b. BE SURE TO USE GPS TRACK LOG TO DOCUMENT SURVEY LINES TO ENSURE REPEATABILITY

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APPENDIX G

FLORAL COMPENDIUM FOR THE NEW PASS DISTRIBUTION PROJECT

2014 FLORAL COMPENDIUM
New Pass Project
Churchill and Lander Counties, Nevada
July 28 through 31, 2014

Scientific Name	Common Name
Achnatherum hymenoides	Indian ricegrass
Agropyron cristatum	Crested wheatgrass
Argemone munita	Flatbud pricklypoppy
Artemisia arbuscula	Low sagebrush
Artemisia tridentata ssp. *wyomingensis*	Wyoming big sagebrush
Artemisia tridentata ssp. *vaseyana*	Mountain big sagebrush
Asclepias fascicularis	Mexican whorled milkweed
Astragalus iodanthus	Humboldt River milkvetch
Astragalus purshii	Woollypod milkvetch
Atriplex confertifolia	Shadscale
Balsamorhiza sagittata	Arrowleaf balsamroot
Bassia scoparia	Burningbush
Bromus tectorum *	Cheatgrass
Castilleja angustifolia	Northwestern Indian paintbrush
Ceratocephala testiculata *	Curveseed butterwort
Cirsium vulgare	Bull thistle
Chrysothamnus viscidiflorus	Yellow rabbitbrush
Crepis acuminata	Tapertip hawksbeard
Cryptantha flavoculata	Roughseed cryptantha
Descurainia pinnata	Western tansymustard
Elymus elymoides	Squirreltail
Erigeron pumulis	Shaggy fleabane
Eriogonum caespitosum	Matted buckwheat
Eriogonum microthecum	Slender buckwheat
Eriogonum ochrocephalum	Whitewoolly buckwheat
Eriogonum umbellatum	Sulphur-flower buckwheat
Gutierrezia sarothrae	Broom snakeweed
Halogeton glomerata	Saltlover
Ionactis alpina	Lava aster
Juniperus osteosperma	Utah juniper
Krascheninnikovia lanata	Winterfat
Lactuca serriola *	Prickly lettuce
Lepidium perfoliatum	Clasping pepperweed
Leptodactylon pungens	Prickly phlox

Scientific Name	Common Name
Leymus cinereus	Basin wildrye
Lupinus argenteus	Silvery lupine
Mentzelia laevicaulis	Smoothstem blazingstar
Oenothera caespitosa	Tufted evening primrose
Opuntia polyacantha	Prickly pear
Penstemon speciosa	Showy beardtongue
Phlox hoodii	Spiny phlox
Picrothamnus desertorum	Bud sagebrush
Pinus monophylla	Singleleaf piñon
Poa secunda	Sandberg bluegrass
Pseudoroegneria spicata ssp. *spicata*	Bluebunch wheatgrass
Ribes aureum	Golden currant
Ribes velutinum	Desert gooseberry
Rosa woodsii	Wood's rose
Salsola tragus	Prickly Russian thistle
Sarcobatus vermiculatus	Greasewood
Senecio triangularis	Arrowleaf ragwort
Sphaeralcea ambigua	Desert globemallow
Stenotus acaulis	Stemless mock goldenweed
Stephanomeria pauciflora	Brown plume wire lettuce
Symphorocarpus longiflorus	Desert snowberry
Verbascum thapsis	Common mullein

* Invasive, nonnative species

APPENDIX H

NEVADA DEPARTMENT OF AGRICULTURE (NDA) 2012 NEVADA NOXIOUS WEED LIST

NEVADA NOXIOUS WEED LIST BY CATEGORY

(NAC 555.010)

Category A Weeds:

Category A noxious weeds are weeds that are generally not found or that are limited in distribution throughout the State.

African rue	(*Peganum harmala*)
Austrian fieldcress	(*Rorippa austriaca*)
Swainsonpea	(*Sphaerophysa salsula*)
Black henbane	(*Hyoscyamus niger*)
Camelthorn	(*Alhagi* maurorum)
Common crupina	(*Crupina vulgaris*)
Dalmatian toadflax	(*Linaria dalmatica*)
Dyer's woad	(*Isatis tinctoria*)
Eurasian water-milfoil	(*Myriophyllum spicatum*)
Giant reed	(*Arundo donax*)
Giant salvinia	(*Salvinia molesta*)
Goatsrue	(*Galega officinalis*)
Crimson fountain grass	(*Pennisetum setaceum*)
Houndstongue	(*Cynoglossum officinale*)
Hydrilla	(*Hydrilla verticillata*)
Iberian starthistle	(*Centaurea iberica*)
Common St. Johnswort	(*Hypericum perforatum*)
Malta starthistle	(*Centaurea melitensis*)
Mayweed chamomile	(*Anthemis cotula*)
Mediterranean sage	(*Salvia aethiopis*)
Purple loosestrife	(*Lythrum salicaria, L. virgatum* & cultivars)
Purple starthistle	(*Centaurea calcitrapa*)
Rush skeletonweed	(*Chondrilla juncea*)
Sow thistle	(*Sonchus arvensis*)
Spotted knapweed	(*Centaurea maculosa*)
Squarrose knapweed	(*Centaurea virgata*)
Sulfur cinquefoil	(*Potentilla recta*)
Syrian bean caper	(*Zygophyllum fabago*)
Yellow starthistle	(*Centaurea solstitialis*)
Yellow toadflax	(*Linaria vulgaris*)

Category B Weeds:

Category B listed noxious weeds are weeds that are generally established in scattered populations in some counties of the State.

Horsenettle	(*Solanum carolinense*)
Diffuse knapweed	(*Centaurea diffusa*)
Leafy spurge	(*Euphorbia esula*)
Medusahead	(*Taeniatherum caput-medusae*)
Musk thistle	(*Carduus nutans*)
Russian knapweed	(*Acroptilon repens*)
African mustard	(*Brassica tournefortii*)
Scotch thistle	(*Onopordum acanthium*)
Silverleaf nightshade	(*Solanum elaeagnifolium*)

Category C Weeds:

Category C listed noxious weeds are weeds that are generally established and generally widespread in many counties of the State.

Canada thistle	(*Cirsium arvense*)
Hoary cress	(*Cardaria draba*)
Johnsongrass	(*Sorghum halepense*)
Perennial pepperweed	(*Lepidium latifolium*)
Poison-hemlock	(*Conium maculatum*)
Puncture vine	(*Tribulus terrestris*)
Salt cedar (tamarisk)	(*Tamarix* spp.)
Spotted water hemlock	(*Cicuta maculata*)

APPENDIX I

FAUNAL COMPENDIUM FOR THE NEW PASS DISTRIBUTION PROJECT

2014 FAUNAL COMPENDIUM
New Pass Project
Churchill and Lander Counties, Nevada

Reptiles and Amphibians	Birds	Mammals
Long-nosed leopard lizard (*Gambelia wislizenii*)	American kestrel[2] (*Falco sparverius*)	Black-tailed jackrabbit (*Lepus californicus*)
Western fence lizard (*Sceloporus occidentalis*)	Clark's nutcracker[2] (*Nucifraga columbiana*)	Chipmunk (*Neotamias* spp.)
	Common nighthawk[2] (*Chordeiles minor*)	Ground squirrel[3] (*Spermophilus* spp.)
	Common raven[2] (Corvus corax)	Pronghorn antelope (*Antilocapra americana*)
	Golden eagle[1, 2] (*Aquila chrysaetos*)	White-tailed antelope ground squirrel (*Ammospermophilus leucurus*)
	Flycatcher[2] (*Empidonax* spp.)	
	Horned lark[2] (*Eremophila alpestris*)	
	Long-eared owl[2] (*Asio otus*)	
	Mourning dove[2] (*Zenaida macroura*)	
	Northern flicker[2] (*Colaptes auratus*)	
	Northern harrier[2] (*Circus cyaneus*)	
	Prairie falcon[2] (*Falco mexicanus*)	
	Red-tailed hawk[2] (*Buteo jamaicensis*)	
	Rock wren[2] (*Salpinctes obsoletus*)	
	Turkey vulture[2] (*Cathartes aura*)	

[1] BLM sensitive species
[2] Avian species protected by the Migratory Bird Treaty Act
[3] Detected by tracks, scat, carcasses, prey remains, feathers, calls, etc.
[4]Conservation Priority Bird Species in Nevada