IDI-37289
PASS CREEK AIRSTRIP RIGHT-OF-WAY
ENVIRONMENTAL ASSESSMENT
DOI-BLM-ID-I010-2013-0011-EA

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Upper Snake Field Office
Bureau of Land Management
1405 Hollipark Drive
Idaho Falls, ID 83401

INTRODUCTION

This Environmental Assessment analyzes the potential impacts of Pass Creek Ranch LLC's proposed airstrip right-of-way (ROW) on public land within the boundaries of the Bureau of Land Management's (BLM) Upper Snake Field Office (USFO). It is a site-specific analysis of potential impacts that could result from the implementation of the Proposed Action and the Alternatives.

BACKGROUND

Currently the owner of Pass Creek Ranch LLC (Ranch) utilizes an existing 1,600 foot long airstrip on his private land for landing and take offs of his Beechcraft Baron airplane. The airstrip is used during the summer months, approximately 8-12 times per year, as weather permits. In the past, the previous landowner used the existing airstrip to land his aircraft and ended up crashing his plane due to the fact that the airstrip was not long enough for the size of the aircraft. The Ranch is surrounded by federal land administered by BLM and the Forest Service

PURPOSE AND NEED FOR ACTION

On March 9, 2012, Pass Creek Ranch applied for a right-of-way (ROW) application in accordance with Title V of the Federal Land Policy and Management Act of 1976 as amended (43 U.S.C. 1761) and the regulations found in 43 CFR 2800. The application requested the use of public land for the construction, operation, and maintenance of a primitive airstrip to facilitate safe and efficient landings and take-offs for their personal aircraft. In order to issue a ROW, new disturbance would be created on public land and therefore an Environmental Assessment must be completed to identify the impacts and to facilitate the Authorized Officer in making an informed decision regarding the issuance of a ROW grant.

TYPE OF ACTION

Issuance of a ROW grant.

LOCATION OF PROPOSED ACTION

The proposed landing strip location is approximately six miles east of Mackay, northeast of State Highway 93, near the mouth of Pass Creek in the Big Lost River Basin (Figures 1). The location is legally described as follows:

Lot 3 of Section 24, T. 7 N., R. 25 E., Boise Meridian, Idaho The area is accessed from the Butte County Pass Creek Road. The junction of State Highway 93 and Pass Creek Ranch Road is about 7.4 miles southeast of Mackay (Figure 1). Pass Creek is the boundary between Custer County to the west and Butte County to the east.

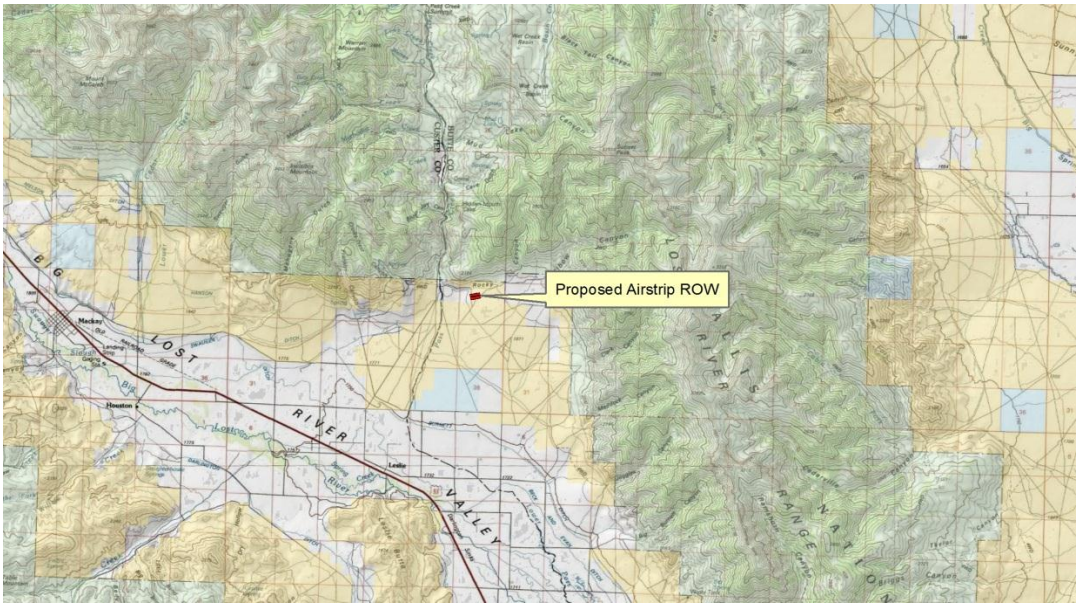

Figure 1. Location of the Proposed Right-of-Way

CONFORMANCE WITH APPLICABLE LAND USE PLAN

The Proposed Action is located in Butte County, Idaho, within the boundaries of the BLM's Upper Snake Field Office. The *Big Lost Management Framework Plan* USDOI-BLM, 1983, provides general guidelines for the protection and use of resources in this area. While this action is not specifically addressed in the document, the plan does provide for the consideration of right-of-way applications.

The Proposed Action has been determined to be in conformance with the terms and conditions of the applicable BLM Land Use Plans as required by 43 CFR 1610.5.
Relationship to Statutes, Regulations, or Other Plans

The subject application was made in accordance with Title V of the Federal Land Policy and Management Act of 1976 as amended (43 U.S.C. 1761) and the regulations found in 43 CFR 2800. These regulations will govern the granting of the ROW (if approved), determination of cost reimbursement, determination of the rental value, and the compliance and monitoring requirements. Right-of-way decisions become effective upon approval by the authorized officer (43 CFR 2801.10 (b)).

PROPOSED ACTION AND ALTERNATIVES

Alternative 1 - Proposed Action

The proposed action is to issue Pass Creek LLC a ROW allowing the use of public land for a take-off and landing strip. The Ranch proposes to construct, operate, and maintain a 1,200-foot long by 75-foot wide airstrip which would encumber 2.07 acres, more or less (Figure 2).

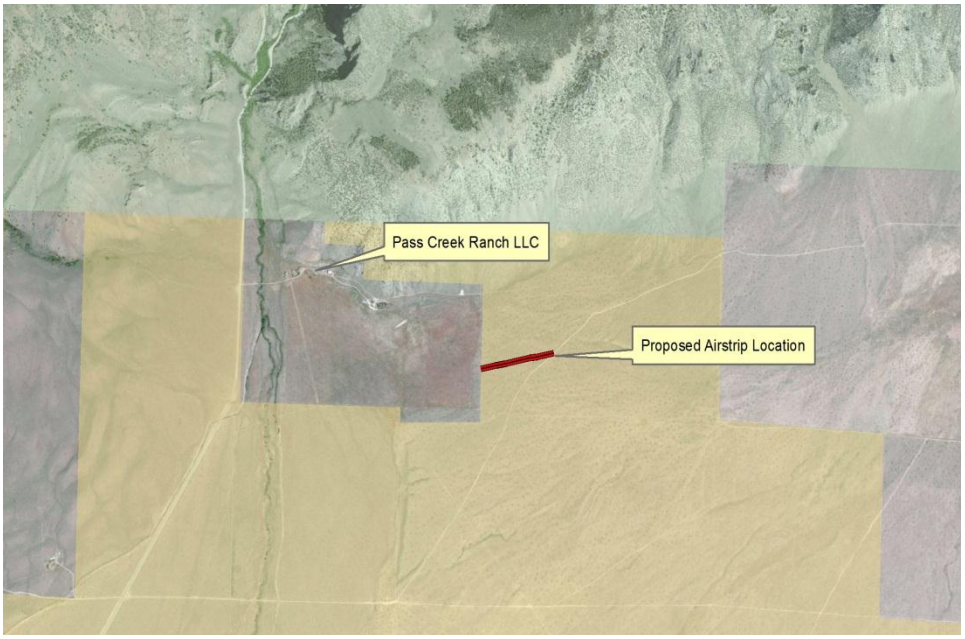

Figure 2. Overview of the ranch and proposed airstrip

The boundary between the Ranch and the BLM property to the east is fenced. The Ranch proposes removing a 75-foot long section of the existing fence and installing a 3-strand wire fence around the outside perimeter of the ROW (2,475 feet). The proponent would like to keep the BLM permittee's cattle off the airstrip which they feel would facilitate revegetation of the airstrip.

In addition, the following environmental protection measures and best management practices (BMPs) would be implemented by the applicant to minimize impacts.

Airstrip Construction

Clearing the proposed airstrip, approximately 2.07 acres, is anticipated to take less than two days to complete. Construction would be conducted by a contractor under the direct supervision of a Ranch representative. Some mechanical surface leveling would be required to remove larger surface rocks and brush. The brush and rocks would be disposed of off public land. Any topsoil that is removed during the clearing would be stockpiled for reclamation of the airstrip.

The construction contractor would access the project area from the Ranch property. All equipment and vehicular access for construction would be confined to the ROW. BLM administered land outside the ROW would not be used for access, staging area for construction equipment, or parking. No construction work would be performed when such work would produce ruts in excess of 4-inches deep.

A water truck or water tank would be used to control dust during construction.

If necessary, any stockpiled topsoil would be spread and leveled on the airstrip. If needed, sediment barriers would be installed and maintained.

A Truax seed drill would be used to replant all areas disturbed by construction with a site-specific, drought resistant native grass-forb mix approved by the BLM. A uniform planting depth can be accomplished with the Truax no-till drill in most conditions, from hard pastures to roadsides (Truax 2012) Seeding would done be in the late fall to improve germination success. Seeding would be repeated if a satisfactory stand is not obtained as determined by the BLM.

Fencing

A 3-strand wire fence would be constructed starting at the existing Ranch boundary fence and extend east 1,200 feet and continue around the perimeter of the proposed ROW. Fence posts would be placed no more than 16 feet apart from one another. The bottom strand would be smooth wire set at least 18-inches off the ground to provide adequate clearance for deer, pronghorn antelope, and other wildlife to pass under the fence.

The middle and top strands of the fence would be barbed wire. The top wire would be no more than 38 inches above ground level; the middle wire would be no less than 12 inches below the top wire. The fence would be flagged with durable vinyl makers every 4 feet in between each post to make it more visible to wildlife.

The Ranch has about 1.5 miles of existing 5-strand, barb-wire fence. As part of the Proposed Action, the Ranch would remove the bottom wire of this fence to reduce the risk of injury to deer and pronghorn antelope that graze on the ranch. Removal of the bottom wire would provide about 14-16 inches of clearance. The Ranch would also mark the top wire with durable vinyl makers between every other post to make it more visible to wildlife.

Erosion Control and Reclamation

The applicant would ensure that the ROW is well-drained by water baring or other method of maintaining drainage. Only the minimum amount of vegetation necessary for the construction and maintenance of the airstrip would be remove. All waste material resulting from construction or maintenance of the ROW would be removed from BLM administered land.

Waste Disposal and Hazardous Materials

Other than the normal use and operations of construction equipment, no additional hazardous materials would be used on the site. A fueling containment facility would be created and maintained on private property.

Equipment servicing, refueling, or storage of fuels and lubricants would not be allowed on BLM land. No used engine oil or unused lubricants would be stored on BLM land. All used engine oil or unused lubricants would be disposed of at an approved facility.

Erosion Control and Reclamation

Noxious and Invasive Weeds

All equipment would be pressure washed prior to entering the ROW to reduce the potential spread of weeds. Equipment would also be cleaned of external oil, grease, dirt, and mud, and all leaks would be repaired prior to use.

The Ranch would be responsible for noxious and invasive weed control within the bounds of the airstrip ROW as outlined in the Upper Snake – Pocatello Integrated Weed Control Program Programmatic Environmental Assessment (BLM 2009).

Only BLM approved herbicides would be allowed. All standard operating procedures would be followed during the application of herbicides. Herbicide treatments would be implemented according to label specifications, and coordinated with a BLM noxious weed specialist prior to implementation.

Airstrip Maintenance

After ROW construction has been completed, the airstrip and the perimeter fence would be maintained by the Ranch. Airstrip maintenance would require periodic mowing and reseeding with native grass and forb species to prevent reestablishment of sagebrush or rabbitbrush and colonization by cheatgrass and noxious and invasive weeds.

The following stipulations, along with other standard stipulations, would be applied to the ROW grant if issued.

> Any cultural and/or paleontological resource (historic or prehistoric site or object, or fossil) discovered by the holder, or any persons working on his behalf on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and mitigation, and any decision as to proper avoidance, protection or mitigation measures will be made by the authorized officer after consulting with the holder and others under Section 106 of the National Historic Preservation Act.
>
> Pursuant to 43 CFR 10.4(g), the holder of this authorization must immediately notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 (c) and (d), the holder must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer. The BLM Authorized Officer will determine avoidance, protection or mitigation measures in consultation with the Holder, Idaho SHPO, and affected Tribes. Costs associated with the discovery, evaluation, protection or mitigation of the discovery shall be the responsibility of the holder.

Alternative 2 – No Action

Under the No Action Alternative, a ROW to allow the construction of an airstrip on public land would not be granted. The Ranch would continue to land the Beechcraft Baron airplane on the Ranch's 1,600-foot long airstrip. The present condition and uses would continue.

The removal of 2.07 acres of sagebrush would not occur, nor would the construction of a fence around the ROW occur. Air quality, soils, migratory birds, special status species, and wildlife on 2.07 acres of public land would remain the same.

The Ranch would not remove the bottom wire on 1.5 miles of existing 5-strand, barb wire ranch fencing, or mark the top wire of the fence with flagging or durable vinyl markers to reduce the risk of injury to sage-grouse, deer, pronghorn antelope, and other wildlife.

Alternative 3 – Unfenced Airstrip

The proposed airstrip ROW construction and applicant-committed mitigation measures in this alternative would be the same as the Proposed Action. However, the construction of a 3-strand wire fence around the outside perimeter of the ROW (2,475 feet) would not be authorized. The Ranch would install a let-down gate along the boundary fence between the Ranch and BLM property to be utilized when landing or taking off from the airstrip.

Alternatives Considered But Not Analyzed in Detail

In addition to the alternatives evaluated in this document, another alternative was considered in response to preliminary concerns generated from internal scoping of the Proposed Action. This alternative, which was not studied in detail, is described in this section along with an explanation of why it was not considered further.

Use the Mackay airport instead of constructing an airstrip on BLM land was suggested. The Mackay airport is approximately 12 miles from the Ranch; however, the airport does not have facilities to store private planes and does not offer fuel. The airport does not have space for private parties to erect private hangers or fuel facilities. The Ranch has existing facilities to store the aircraft and provide fuel. Therefore, this alternative was not considered in detail because it would not meet the stated purposes of the project.

AFFECTED ENVIRONMENT

This section provides a description of the general environmental setting and resources within that setting that could be affected by the Proposed Action and the alternatives.

General Setting

The Proposed Action area is located on public land in Butte County within the Elbow-Ramshorn Allotment. The former Elbow Allotment and Ramshorn Canyon Allotment were combined into the Elbow-Ramshorn Allotment by BLM Field Manager's Decision in 2012. The Elbow-Ramshorn Allotment includes 11,420 acres of public land and 439 acres of private land (BLM 2012).

Elevation varies across the allotment ranging from 5,800 feet above sea level on the southwest side of the allotment and increasing gradually across the allotment to the northwest into the foothills of the Lost River Range to 7,200 feet above sea level. Weather stations at Arco and Mackay report average annual precipitation of 9.5 inches.

Wyoming big sagebrush (*Artemisia tridentata wyomingensis*), three-tip sagebrush (*Artemisia tripartita*), black sagebrush (*Artemisia nova*), low sagebrush (Artemisia arbuscula), and

rabbitbrush (Chrysothamnus viscidiflorus) are the primary shrub species found within the allotment (BLM 2012). The primary native grasses are bluebunch wheatgrass (*Pseudoroegneria spicata*) and Sandberg's bluegrass (*Poa secunda*) (BLM 2012). The North and South Seedings are dominated by crested wheatgrass (*Agropyron cristatum*).

RESOURCES CONSIDERED IN THE IMPACT ANALYSIS

Resource components identified by an "X" in the column Not Present of the Resources Considered in the Analysis table **(see Table 1**) are not present or affected by the Proposed Action or alternatives and will receive no further consideration. Elements which are present and are likely affected are discussed below.

Table 1. Resources Considered in the Impact Analysis

Resource	Not Present	Present Not Impacted	Present Impacted	Rationale
Access		X		The Proposed Action would not result in changes in access to the area
Air Quality			X	The implementation of the Proposed Action would create minor, localized impacts during airstrip clearing and before revegetation
Areas of Critical Environmental Concern	X			The Proposed Action area is not located within or near an ACEC
Cultural Resource	X			Programmatic consultation under the National Historic Preservation Act of 1966 (as amended) has been conducted in accordance with the BLM National Programmatic Agreement and the implementing Protocol agreement between Idaho BLM and the Idaho State Historic Preservation Office (ID-SHPO). A Class III inventory of the project area was conducted on May 17, 2013 by a BLM Archaeologist and no historic properties were identified. Authorization of the right-of-way for the Pass Creek Ranch Runway would have no effect on known historic properties listed or eligible for listing on the National Register of Historic Places (NRHP). Idaho SHPO concurred with this determination on June 27, 2013. If eligible properties are discovered within the project area in the future, mitigation measures to avoid impacts would be developed in consultation with the ID-SHPO and affected Tribes.
Economic and Social Values	X			The Proposed Action is consistent with the prevalent economic and social values characteristic of this area
Environmental Justice	X			The Proposed Action would not result in disproportionately high or adverse impacts to low income or minority populations
Existing and Potential Land Uses			X	Impacts are disclosed under Environmental Consequences
Fisheries	X			There are no fisheries within or near the Proposed Action area
Floodplains	X			There are no floodplains in the Proposed Action area
Forest Resources	X			There are no forest resources in the project area

Invasive, Non-Native Species		X		Terms and Conditions of the grant would include treating weeds within the bounds of the ROW
Mineral Resources	X			Issuance of the right-of-way would not impact Mineral Resources
Migratory Birds			X	Impacts are disclosed under Environmental Consequences
Native American Religious Concerns	X			There are no known ceremonial sites or resources associated with ceremonial practices in the Proposed Action area
Paleontological Resources	X			There are no known paleontological resources located in the area
Prime and Unique Farmlands	X			There are no prime or unique farmlands located within or near the Proposed Action area
Soil Resources			X	Impacts are disclosed under Environmental Consequences
Threatened, Endangered, and Sensitive Plants	X			There are no threatened, endangered, or sensitive plants or their habitat within the Proposed Action area
Threatened, Endangered, and Sensitive Animals			X	Impacts are disclosed under Environmental Consequences
Threatened, Endangered, and Sensitive Fish	X			There are no threatened, endangered, or sensitive fish or their habitat within the Proposed Action area
Range Resources			X	Impacts are disclosed under Environmental Consequences
Recreational Use		X		The Proposed Action would not impact recreation use in the project area
Tribal Treaty Rights and Interests		X		The Proposed Action and alternatives would have no effect on the tribes' access to use the area to exercise their treaty rights and would have no known effect on resources they use for traditional purposes
Vegetation			X	Impacts are disclosed under Environmental Consequences
Visual Resources		X		A Visual Contrast Rating Form was completed and found that the degree of contrast between the proposed project area and the natural environment meets VRM Class IV objectives.
Wastes, Hazardous and Solid	X			There are no known hazardous wastes or solids in the project area.
Water Quality (Surface and Ground)	X			Issuance of a right-of-way grant would not impact water quality
Wetland and Riparian Zones	X			There are no wetlands or riparian areas within or near the Proposed Action area
Wild and Scenic Rivers	X			There are no designated or proposed Wild and Scenic rivers near the project area
Wild Horse and Burro HMAs	X			There are no wild horse and burro HMAs in the region
Wilderness	X			There are no wilderness areas or WSAs within or near the Proposed Action area
Wildlife Resources			X	Impacts are disclosed under Environmental Consequences

Air Quality

The Clean Air Act of 1970 (CAA) (42 USC 85 §§ 7401 et seq.), as amended, is the comprehensive federal law that regulates air emissions from area, including stationary and mobile sources, to protect human health and the environment, as well as visibility in sensitive areas. The CAA authorizes the U.S. Environmental Protection Agency to establish National Ambient Air Quality Standards to protect public health and the environment. Air quality indicators include air pollutant concentration and air quality-related values such as visibility. The project area is not in a critical airshed management area, and visibility is not an issue. The project area is in a low population density, farmland/ranchland area. No discernible trend towards degradation of air quality is currently present, degradation of air quality could emerge over time as a result of increases in pollutants from commercial operations, recreational use, and wildland fires; however, these impacts are typically localized and seasonal, minimizing the overall amount of expected degradation (IDEQ 2010).

The project-related potential pollutants include fine particulates are fine and coarse particulates. Coarse particulates typically come from crushing or grinding operations and dust from roads (IDEQ 2010).

Migratory Birds

The habitat within, and directly adjacent to, the project area consists of sagebrush-steppe. This habitat type supports a wide variety of migratory birds. Some of these species include the sage thrasher, sage sparrow, Brewer's sparrow, green-tailed towhee, loggerhead shrike, and Bullock's oriole. Sagebrush-steppe birds that require sagebrush as nest sites, such as the sage sparrow or Brewer's sparrow, benefit from intact mature sagebrush stands. Inventory and monitoring data are limited or absent for many migratory bird species, including sagebrush obligates, within the proposed project area. Little is known about their population status or trends. The proposed project area is entirely within a black/low sagebrush vegetation type. Although this vegetation type may provide potential nesting habitat for some species, the amount and quality of the habitat is limited compared to an intact stand of mature big sagebrush.

The project area is also used seasonally by migratory raptors such as the rough-legged hawk, ferruginous hawk, Swainson's hawk, northern harrier, red-tailed hawk, prairie falcon, merlin, great horned owl, and golden eagle. Although the cliff sides and coniferous vegetation in relatively near proximity may provide potential nesting substrate, nesting in the project area is likely to be limited due to the lack of available nesting substrate. The proposed project area would most likely be used by raptors for foraging.

Range Resources

The proposed airstrip is within the BLM Elbow-Ramshorn Allotment. The allotment includes six pastures – Middle Elbow, Native, North Seeding, Pass Creek, South Elbow, and South Seeding. The project area is within the Middle Elbow Pasture. The allotment management includes a two-herd rest rotation grazing system on a five year grazing cycle. Five pastures are utilized and one is rested annually (BLM 2012). There are seven permittees in the allotment. The allotment is authorized for cattle use from May 1 to June 30, and October 1 to November 10. The scheduled use period for the Middle Elbow Pasture varies though the five year grazing cycle, including use from 5/1-5/16, 5/17-6/2, 10/1-11/10, or rest, depending upon the year.

Soil Resources
The Proposed Action area is composed of Breitenbach gravelly loam soils on 1-4 percent slopes (NRCS 2012). The road rating for this soil type is "little or no erosion potential." The wind erosion potential is rated "6" on a scale of 0-8, with 8 being the least susceptible. The whole soil rill and sheet erosion potential (K factor) is 0.20 on a scale of 0.02-0.69 with 0.02 being the least susceptible. The amount and distribution of ground cover currently found within the Proposed Action area is appropriate to maintain site stability and evidence of accelerated erosion is minimal (BLM 2011).

Special Status Species - Animals
All data known to the Upper Snake Field Office, including data from U.S. Fish and Wildlife Service (USFWS), Idaho Department of Fish and Game (IDFG), and the Idaho Natural Heritage Program has been considered to identify any plant or animal species currently listed under the Endangered Species Act (ESA). There are no threatened or endangered species within the proposed project area; however there is one candidate species, greater sage-grouse.
Table 2 lists special status species that have been identified as occurring or potentially occurring within the proposed project area. BLM includes the following as special status species:

(1) Species officially listed or proposed for listing as threatened or endangered under the ESA or candidates for listing as threatened or endangered under the ESA.
(2) Species listed by a State in a category such as threatened or endangered implying potential endangerment or extinction.
(3) Species designated by the BLM State Director as sensitive.

The probability of species occurring and rationale for occurrence are listed. Species not occupying seasonal ranges or not expected to occur within the proposed project area are not discussed in the assessment.

Table 2 - Special Status Species and Occurrence within Proposed Project Area

Species	Status[a]	Occurrence	Rationale
Greater Sage-Grouse (*Centrocerus urophasianus*)	C	Present	Preliminary Priority Habitat(PPH) and Key Habitat and Key Habitat.
Prairie Falcon (*Falco mexicanus*)	S	Potential	Potential habitat present. Nest sites not identified.
Ferruginous Hawk (*Buteo regalis*)	S	Potential	Potential habitat present. Nest sites not identified.
Brewer's Sparrow (*Spizella breweri*)	S	Potential	Potential breeding habitat present
Sage Sparrow (*Amphispiza belli)*	S	Potential	Potential breeding habitat present
Loggerhead Shrike (*Lanius ludovicianus*)	S	Potential	Potential breeding habitat present
Pygmy Rabbit (*Brachylagus idahoensis*)	S	Potential	Potential habitat present. Burrow sites not identified.

Status Codes: C=Federal Candidate Species, S=BLM Sensitive Species, T=Federal Threatened Species

On March 23, 2010 the US Fish and Wildlife Service determined that listing of the greater sage-grouse range-wide was warranted but precluded by higher listing priorities (75 FR 55). The Special Status Species Management Manual states that, "All Federal candidate species, proposed species, and delisted species in the 5 years following delisting will be conserved as Bureau sensitive species" (DOI-6840, 2008). Habitat for sage-grouse within the BLM is currently managed under both the Instruction Memorandum No. 2012-043 - *Greater Sage-Grouse Interim Management Policies and Procedures* and the *Conservation Plan for Greater Sage-Grouse in Idaho* (ISGAC 2006). Currently considered a Candidate species by the USFWS, greater sage-grouse are strongly correlated with the distribution of sagebrush habitats as they depend on a variety of shrub steppe habitats throughout their life cycle, and are considered obligate users of several species of sagebrush (USFWS 2010). They exhibit strong site fidelity to seasonal habitats (USFWS 2010).

Sage-grouse require large tracts of relatively continuous sagebrush cover throughout the entire year (Pehrson and Sowell 2011). In general, the PPH designation is based on sage-grouse populations as identified in *Sage-grouse Priority and General Areas in Idaho* (USDI-BLM 2011, and Makela and Major 2011). In particular, PPH is based on combined high male lek attendance, high lek density, and high lek connectivity. Key Habitat is described as large-scale, intact sagebrush steppe areas with the potential for small inclusions of perennial grasslands, either native or introduced, or other habitats (e.g., mountain mahogany) to be present (Makela and Major 2011). Impacts in these areas result in impacts to sage-grouse population centers and movement corridors. The proposed project area is within both PPH and Key Habitat.
In Idaho, based on long term averages, greater sage-grouse shows a declining population trend (Connelly et al. 2004). Although populations in the Upper Snake Region have shown increases in the past 10 years they have not reached levels attained in the late 1960s or early 1970s (Connelly et al. 2004). There are no leks directly within the proposed project area, however there are three sage grouse leks within 1.5 miles. These leks have historically had breeding sage-grouse present, however there were no sage-grouse observed at any of the three leks when surveyed in 2012.

The entire Elbow Allotment is considered to be Key Habitat for sage-grouse and most of the allotment is considered PPH. Radio telemetry and observation data collected in 2013 indicate that sage-grouse use habitat within the Elbow Allotment throughout all seasons of the year. The area surrounding Pass Creek supports a stand of Wyoming big sagebrush, which provides cover and potential nesting sites for sage-grouse. Nearby agricultural fields and riparian area along the irrigation ditch may provide for potential late-brood rearing habitat. The remainder of the allotment, including the proposed project area (Figure 3), is almost entirely within a low/black sagebrush habitat type. Low sagebrush is a very palatable species and both species can provide habitat for sage-grouse throughout the year (Gillan and Strand 2010). Both are relatively low growing species, and although they can be used for nesting, sage-grouse typically will seek taller sagebrush species if available.


Figure 3. View from the BLM boundary facing east across the proposed project area

Prairie falcons inhabit dry environments of western North America where cliffs or bluffs punctuate open plains and shrub-steppe deserts (Steenhof 1998). Prairie falcon use of the area is likely flying, foraging, and migration. The proposed project area does not support sufficient nesting or perching substrate.

Ferruginous hawks are large grassland raptors that breed in the shrub-steppe and semi-arid regions of western North America (Olendorff 1993). Their density and productivity are closely associated with cycles of prey abundance, with small mammals being the primary prey source during breeding season although birds, amphibians, reptiles, and insects are also taken (Dechant et al. 2002, Woffinden and Murphy 1989). Habitat degradation due to agriculture and overgrazing has been reported as a threat to the species' survival in North America (Leary et al. 1998). Natural features in the area provide potential foraging habitat for this species. However, the proposed project area does not support sufficient nesting or perching substrate.

Brewer's sparrows breed in shrub steppe, transitions between shrub steppe and shortgrass prairie, and semi-desert shrub steppe habitats (Walker 2004). Brewer's sparrows are gleaners, consuming small insects, gleaned from foliage and bark of shrubs or dwarf trees and seed taken from the ground (Rotenberry et al. 1999). Reduced occupancy, nest success and season-long productivity in fragmented shrub steppe habitats suggest smaller patches of habitat are of

marginal suitability (Walker 2004). Brewer's sparrows are known to occur in the area but have not been documented within the proposed project area.

Sage sparrows are dependent on stands of sagebrush for nest sites, food, and cover (Vander Haegen 2003). They prefer semi-open habitats with evenly spaced shrubs 3-6 feet high (Martin and Carlson 1998) and are found more frequently in extensive areas of continuous sage (Vander Haegen 2003). Sage sparrows are ground foragers that eat insects, spiders, seeds, small fruits and succulent vegetation (Martin and Carlson 1998). Sage sparrows are known to occur in the area but have not been documented within the proposed project area.

Loggerhead shrikes are passerines that prey upon reptiles, mammals, other birds and a wide array of invertebrates (Woods and Cade 1996). They appear to be widely distributed throughout southern Idaho and are often locally abundant where they occur (Woods and Cade 1996). Loggerhead shrikes are known to use a variety of habitats including prairies, pastures, sagebrush desert, fencerows or shelterbelts of agricultural fields, orchards, riparian areas, open woodlands, farmsteads, suburban areas, mowed road rights-of way, abandoned railroad rights-of-way, cemeteries, golf courses, and reclaimed strip mines (Dechant, et al. 2002). Habitat must include suitable nesting shrubs or small trees and hunting perches interspersed over a grassy or herbaceous ground cover with some bare areas, where shrikes find most of their prey (Cade and Woods 1997). There is little information available on loggerhead shrikes within the proposed project area; however, suitable habitat does exist.

Pygmy rabbits are sagebrush obligate species inhabiting dense, tall stands of big sagebrush growing on deep, friable soils that allow them to dig extensive burrow systems (Janson 2002). Landscape features include alluvial fans and hillsides, swales within rolling topography, floodplains, brushy draws, riparian channels, edges of rock and lava outcroppings, and mima mounds (IDFG 2005). The proposed project area is entirely within a low/black sagebrush habitat type with relatively shallow soils, which typically does not support pygmy rabbit habitat. However, pygmy rabbit burrows have been documented within the Elbow Allotment and within 1.5 miles of the proposed project area.

Vegetation

The proposed airstrip is located on low bench above and east of Pass Creek. Vegetation within the project area includes a mixed shrub overstory, with three-tip sagebrush, low sagebrush, black sagebrush, and rabbitbrush. The herbaceous understory includes bluebunch wheatgrass and Sandberg's bluegrass with a mix of native forbs. Based on Natural Resource Conservation Service (NRCS) Ecological Site reference descriptions, the location appear to be within late-seral condition with a mix of native species in similar composition by weight to the reference description.

No noxious weeds were observed within the project area. Noxious weed monitoring and treatment records for the public lands within the Elbow-Ramshorn Allotment report isolated occurrences of leafy sprurge (*Euphorbia esula*). Occurrences of Canada thistle (*Cirsium arvense*) were noted in or adjacent to the allotment, primarily near boundaries with private agricultural lands and along roads.

Wildlife
The proposed project area is within 1.5 miles of identified crucial winter habitat for pronghorn, and within 3.5 miles of identified crucial yearlong mule deer habitat. However, it is expected that both species may potentially forage within the proposed project area throughout the year. Pronghorn eat a variety of plants, mostly forbs and browse; sagebrush often makes up a large part of their diet during the winter months (MSUE 2012). Mule deer are primarily browsers, with a majority of their diet comprised of forbs and browse (MDF 2012). The proposed project area is also within 0.5 miles of identified bighorn sheep habitat. Although bighorn sheep have the potential to foray numerous miles from suitable habitat, it is unlikely that this species would utilize the habitat within the proposed project area.

Resident bird species expected to be found in the proposed project area include dark-eyed junco, horned lark, American kestrel, common raven, and black-billed magpie. It is expected that several bat species (e.g., little brown, long-eared myotis, long-legged myotis, western small-footed myotis) use the area for foraging, although no roosting substrate is available. Other mammals such as voles, ground squirrels, coyote, and badger; and reptiles such as short-horned lizard and western fence lizards are also likely to use habitat within the proposed project area. However, there is no trend data available for resident birds, small mammals or reptiles within the area.

ENVIRONMENTAL CONSEQUENCES
This section presents an analysis of the potential direct, indirect, and cumulative environmental impacts that may result from implementation of the Proposed Action – Alternative 1, the No Action – Alternative 2, and Alternative 3.

Alternative 1 - Proposed Action – Fenced Airstrip

Air Quality
Construction, which includes clearing and removal of larger vegetation and rocks on the 2.07 acres of airstrip would likely cause the generation of dust and other particulate matter around the project area. The Ranch would use a water truck or water tank to control dust during construction so that any construction impacts are expected to be minimal, localized, and of short duration (2 days or less).

The Ranch estimates the airstrip would be used approximately 8-12 times per year, during the summer months. This has the potential to produce dust until the airstrip is revegetated with a grass/forb mix. The fence around the ROW could facilitate revegetation. of the airstrip. After the first or second growing season following construction, the airstrip is expected to be fully revegetated and dust generated by use or wind would be eliminated.

Migratory Birds
Under Alternative A, it has been proposed to construct an airstrip on BLM land. Construction of the airstrip would consist of clearing all brush species from approximately 2.07 acres of low/black sagebrush habitat. Following construction, the airstrip would be re-seeded with a

native grass/forb seed mixture. The removal of brush and re-seeding would convert the project area to a perennial grass dominated habitat type. This may impact migratory birds, particularly sagebrush obligates, by reducing sagebrush cover that could otherwise potentially be used as nesting and foraging habitat. As the grass/forb cover increases it may be beneficial to other species of migratory birds that prefer more open areas and grassland habitat features, such as the Savannah sparrow and western meadowlark. The pattern and amount of habitat cover may determine foraging habits of raptors, with some raptors being successful in areas with increased cover and other species being successful with increased bare ground (Baker and Brooks 1981).

Approximately 2,475 feet of fence would be constructed around the proximity of the proposed airstrip to exclude livestock. Direct impacts from fencing would include an increase in perches for hunting, singing and territorial displays of migratory birds which may increase fitness and mating potential, but it may also increase their visibility to potential predators. Further impacts would be potential fence strikes resulting in injury or possible mortality of individual birds, more likely larger birds such as hawks and owls. As mentioned in the project design, the top strand of the fence would be marked with reflective markers to make it more visible to wildlife and reduce the risk of a collision. With cattle grazing being excluded from the proposed project area, the vegetation would have the opportunity to increase in size and vigor and provide potential habitat for grassland bird species throughout their life cycles.

Human activity associated with the construction and maintenance of the airstrip and fence may cause some migratory bird species to become temporarily displaced or even abandon their nest sites. The disturbance caused from the airstrip being used when landing and taking off may also case some birds to become temporarily displaced, particularly ground-nesting species. There is also the potential for mortality to birds that are unable to escape during vegetation removal. The construction of the airstrip would be conducted outside of the migratory bird nesting season (April 1 to June 30) to minimize the potential impacts to nesting birds (Sullivan et al. 2009). Additionally, the expected short term construction activities and minimal use of the airstrip would minimize the potential disturbance impacts to migratory bird species.

Range Resources

The Proposed Action would exclude livestock use from approximately 2 acres associated with the ROW within the Elbow-Ramshorn Allotment. There would be no impact to authorized use in AUMs as the fenced area would remove less than one AUM of available forage. Additional fencing may add an inconvenience in authorized livestock use by impeding traditional livestock movement within the pasture, increasing the time required to gather or move livestock in and out of the pasture.

Soil Resources

Construction of the airstrip would result in 2.07 acres of temporary soil disturbance and compaction. These impacts are expected to be short-term due to proposed revegetation. Until the vegetation is established, the airstrip soil would be exposed to potential wind and rain erosion. The project area has a very gentle slope to the south, and the soil is a gravelly loam slope that has low wind and water erosion ratings (NRCS 2012). The rill and sheet erosion potential would increase slightly when the large, surface rocks are removed.

The BMPs and reclamation measures are expected to minimize any short-term erosion. Seeding wouldl be repeated if a satisfactory stand was not obtained as determined by the BLM.

The proposal to build and maintain a fence around the airstrip to exclude cattle, to treat noxious and invasive weeds, and to facilitate revegetation with a grass-forb mix is anticipated to benefit long-term soil protection.

Special Status Species - Animals

Under Alternative Proposed Action, all brush would be removed from approximately 2.07 acres of low/black sagebrush habitat and converted to a perennial grass dominated habitat type. This has the potential to impact special status species, particularly sagebrush obligates, by reducing sagebrush cover that could otherwise potentially be used for cover and foraging. Both low and black sagebrush are low growing species and, although they may potentially be used for nesting, sage-grouse will typically seek taller sagebrush species if available (Gillan and Strand 2010). The removal of sagebrush, re-seeding of the area, and excluding the area from livestock use would allow for the grass and forb cover to increase in size and vigor within the proposed project area. The increase in forb production may benefit sage-grouse which use forbs as a main source of forage during nesting and brood-rearing seasons. Impacts to other special status bird species would be similar to those discussed under the Migratory Birds portion of this analysis. Potential impacts to pygmy rabbits would be potential crushing or collapsing of burrows during the clearing of the airstrip, and removal of vegetation they may use for cover. However, it is unlikely that pygmy rabbits would be impacted as they tend to prefer loamier soils and stands of tall sagebrush species over dwarf sagebrush species.

Approximately 2,475 feet of fence would be constructed around the proximity of the proposed airstrip to exclude livestock. Potential impacts to greater sage-grouse from installation of a new fence would include disturbance and displacement during installation phase, fence posts and wires that may provide perches for predators, and the fence may pose a collision hazard to sage-grouse (Stevens et al. 2009, Connelly et al. 2004). According to Connelly, placement of new fences and structures should be avoided within 1 km (0.6 mi) from occupied leks (Connelly et al, 2000), and the BLM IM-2012-043 suggests evaluating any new fences within 1.25 miles of leks that have been active within the past 5 years. There are two undetermined leks within 1 mile of the proposed fence. As mentioned in the project design, the top strand of the fence would be marked with reflective markers to make it more visible to wildlife and reduce the risk of a collision. Additionally, the bottom strand would be removed from approximately 1.5 miles of an existing 5-strand barbed wire fence, making passage easier for ground-dwelling animals.

Human activity associated with the construction and maintenance of the airstrip and fence may cause some special status species to become temporarily displaced or even abandon their nest sites. The disturbance caused from the airstrip being used when landing and taking off may also case some species to become temporarily displaced, particularly ground-nesting bird species. There is also the potential for mortality to species that are unable to escape during vegetation removal. The construction of the airstrip would be conducted outside of the sage-grouse nesting season (April 1 to June 30) to minimize the potential impacts to nesting birds (Sullivan et al. 2009). Additionally, the expected short term construction activities and minimal use of the airstrip would minimize the potential disturbance impacts to special status species.

Vegetation
Approximately 2.07 acres of sagebrush habitat would be converted to grass dominated habitat for the airstrip. Brush species would be removed and native grass/forb species reseeded in the disturbance area. The disturbance of native vegetation in the project area would result in an increased opportunity for establishment of noxious weeds. However, under the terms and conditions of the ROW, the area would be monitored and weeds would be treated using approved methods upon detection.

Based on prior utilization pattern mapping, livestock use in the proposed project area is generally slight to light, meaning authorized livestock utilize less than 40% of the available forage species. Livestock tend to trail along fences and congregate at interior fence corners, when not limited by topography. The proposed fence along the airstrip is accessible to livestock. Approximately two acres of native habitat would receive increased utilization levels directly adjacent to the proposed fencing. Higher utilization levels over time may alter the species composition of the vegetation community. However, the size and vigor of those native species within the fenced area would be expected to increase over time.

Wildlife
Under the Proposed Action, about 2.07 acres of low/black sagebrush would be removed and the area would be converted to a grass/forb dominated habitat type. Removal of sagebrush may impact wildlife species by reducing the amount of browse available for foraging. This may particularly impact pronghorn, in which sagebrush makes up a large part of their diet during the winter months (MSUE 2012). However, the removal of sagebrush, re-seeding of the area, and excluding the area from livestock use would allow for the grass and forb cover to increase in size and vigor within the proposed project area. This would increase the production and availability of herbaceous forage for pronghorn, deer, and other big game species. The removal of sagebrush may impact small mammals such as voles, mice, and coyotes by reducing the amount of available cover. However, the increase in herbaceous vegetation may be beneficial to herbivorous small mammals by increasing the amount of available forage. Bat species may be impacted by the removal of sagebrush otherwise used for gleaning insects. Impacts to resident bird species would be similar to those discussed under Migratory Birds.

Approximately 2,475 feet of new fence would be constructed around the perimter of the proposed airstrip. Direct impacts include negatively affecting wildlife movement patterns as the fences may pose as barriers. Wildlife, particularly big game species, also has the potential to collide with or become entangled in the new fence. Indirect effects include a potential increase of cover and food available to wildlife by controlling livestock distribution. As mentioned in the project design, all fences would be built in a manner which would allow for easier passage and reduce the influence of fences on wildlife movement. Additionally, the top strand would be marked with reflective markers to make the fence more visible and reduce the risk of collision. The bottom strand would be removed from approximately 1.5 miles of an existing 5-strand barbed wire fence, providing additional clearance and making passage easier for wildlife.

Human activity associated with the construction and maintenance of the airstrip and fence may cause some wildlife species to become temporarily displaced or even abandon the area. The disturbance caused from the airstrip being used when landing and taking off may also case some species to become temporarily displaced. There is also the potential for mortality to species that are unable to escape during vegetation removal. However, the expected short term construction activities and minimal use of the airstrip would minimize the potential disturbance impacts to wildlife.

Alternative 2 – No Action

Under this alternative the applicant would not receive a ROW to use 2.07 acres of public land for an airstrip. The Ranch would continue to land their Beechcraft Baron airplane on the Ranch's 1,600-foot long airstrip which may be less safe than the Proposed Action and Alternative 3. There would not be impacts to the air resources, migratory birds, range resources, soil resources, special status species or wildlife due to the implementation of the Proposed Action or Alternative 3.

The Ranch would not remove the bottom strand of 1.5 miles of existing 5-strand barb wire ranch fencing, or mark the top wire with flagging or durable vinyl markers as part of the mitigation for the Proposed Action and Alternative 3. The risk of injury and barrier this fencing poses to wildlife would remain as the existing condition on the private land.

Alternative 3 – Unfenced Airstrip

Under this alternative the potential impacts would be the same as the Proposed Action with the following exceptions:

> The Ranch would not build a 2,475-foot long fence around the airstrip. The Ranch would install a letdown gate between the existing airstrip and the airstrip.

Air Quality

The generation of dust and other particulate matter around the project area of the construction of an airstrip, which includes clearing and removal of larger vegetation and rocks on the 2.07 acres, would not occur therefore there would not be a short term impact to air quality.

Migratory Birds

Direct impacts from fencing, including an increase in perches for predators and potential fence strikes resulting in injury or possible mortality of individual birds, would not occur since approximately 2,475 feet of fence would not be constructed around the proposed airstrip.

Human activity associated with the construction and maintenance of the airstrip and fence would not occur therefore migratory bird species would not become temporarily displaced or abandon their nest sites.

Range Resources

Over the five year grazing cycle, in three years the pasture is scheduled for two weeks of use in the spring, one year the pasture is scheduled for about five weeks in the fall, and one year it is rested, though livestock may be present temporarily when trailing through between pastures or allotments. In total, livestock would be authorized for less than 90 days total over the five year

(1,825 day) grazing plan. Therefore the potential for livestock to be on the airstrip is only 5% more than under Alternative 1 when the airstrip would be fenced to exclude livestock.

Soil Resources
Without the fence around the perimeter of the airstrip to exclude cattle, the added benefit to long-term soil protection would not occur on the two acres of ROW.

Vegetation
Revegetation of the airstrip may be less successful depending on the timing of project implementation relative to scheduled use of the Middle Elbow Pasture within the five year grazing cycle. However, as stated above, the area typically receives slight to light use which would not preclude successful reestablishment of native species. Further, based on the description of project design, areas of intact established native species would remain within the project area as the focus is to remove rocks and brush without scouring the airstrip area.

Special Status Species – Animals and Wildlife
There would be no added risk of wildlife colliding or becoming entangled with the new fence, and no additional hindrance or barriers to wildlife movement patterns. There would also be no additional hunting perches for raptors, which would alleviate the risk of increased predation on sage-grouse. Due to the lack of an additional movement barrier and collision risk to wildlife, including special status species, the impacts to those species would be less detrimental under this alternative when compared to Alternative 1-Proposed Action.

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CUMULATIVE IMPACTS

This section of the document discloses the incremental impacts that Alternatives 1, 2, and 3 are likely to have when considered in the context of impacts associated with past, present, and reasonably foreseeable future actions that have occurred, or are likely to occur, in the area. The Big Lost Cumulative Impact Assessment Area (CIAA) for the purposes of this analysis includes the lower Big Lost River Valley and areas in close proximity to the valley within the boundary of the USFO (Figure 4). The CIAA was delineated from the Big Lost and Lake Walcott Hydrologic Unit as identified by the state of Idaho. The CIAA was further defined using administrative boundaries to delineate an area with similar climatic and anthropomorphic influences. The Big Lost CIAA is bordered by the Big Desert CIAA to the south, the Twin Buttes CIAA to the southeast and the Little Lost CIAA to the East. The Big Lost CIAA contains approximately 435,323 total acres and includes portions of Butte and Custer counties. Surface ownership within the CIAA is summarized in Table 3.

Figure 4 - Cumulative Impact Analysis Area

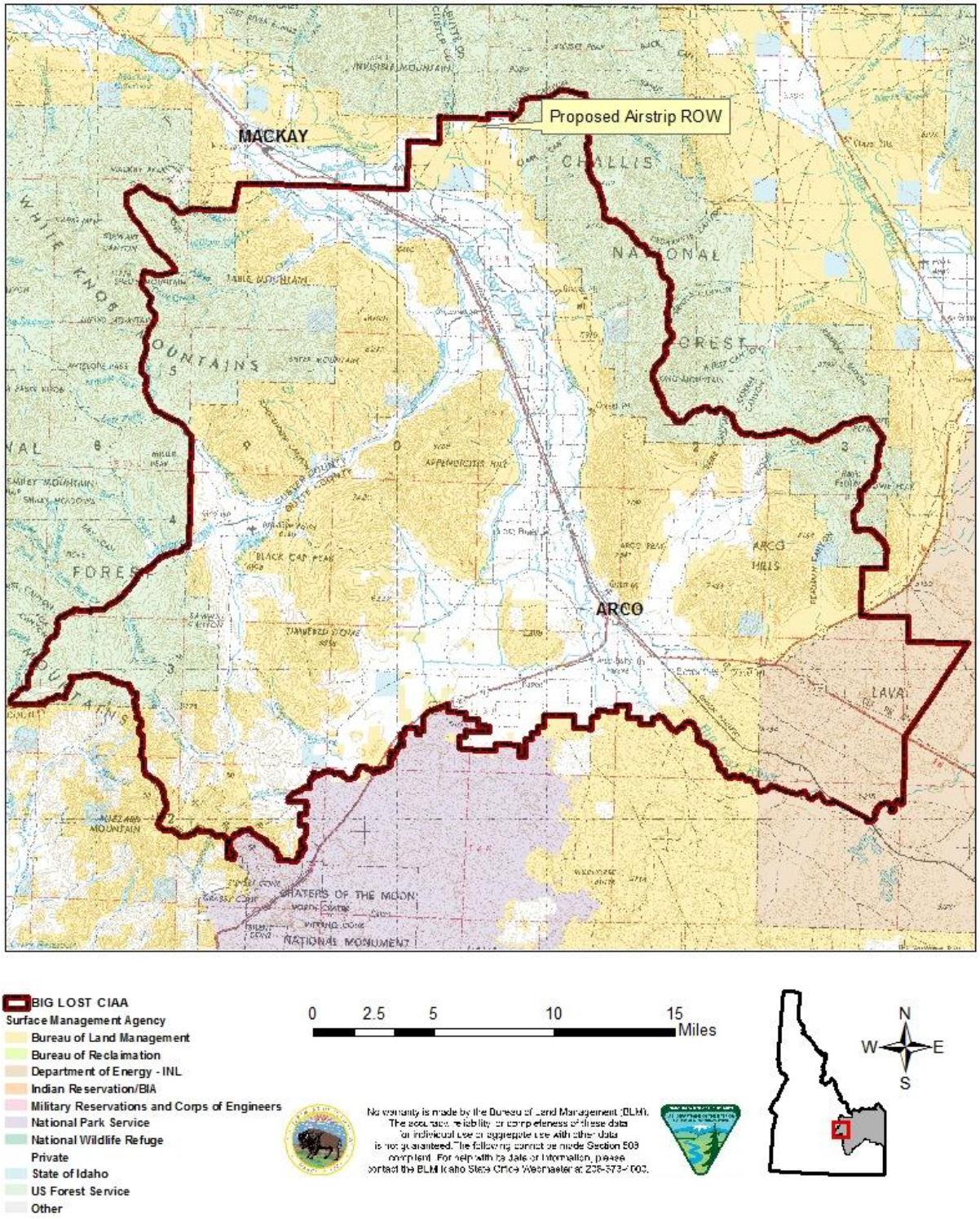

Table 3 - CIAA Surface Status within the CIAA		
Surface Management	Acres	Percent of CIAA
Idaho State Land	5,594	1%
Department of Energy-INL	29,984	7%
National Park Service	225	<1%
Private Land	141,815	33%
U.S. Forest Service	87,040	20%
BLM	170,665	39%
Total	435,323	100%

A number of general habitat types or classifications are found across the CIAA. Table 4 lists the acres within each cover classification based on the landscape classification map used for the Upper Snake Field Office Analysis of Management Situation (AMS).

Table 4 – Habitat Types or Classifications within the CIAA		
Dominant Land and Vegetation Features	Acres	Percent of CIAA
Perennial Grasslands	31,711	7%
Annual Grassland	6,286	1%
Shrubland	281,794	65%
Riparian and Wetland	5,502	1%
Forested	44,994	10%
Agriculture	52,349	12%
Urban	8,502	2%
Rock, Cliffs and Canyons	3,960	1%
Other	226	<1%

Total	435,323	100%

Shrublands dominate the CIAA with 281,794 acres (65% of CIAA) primarily comprised of various species of sagebrush. Agriculture, forests, and perennial grasslands also comprise a large area. Over time these vegetative communities have been affected by drought, human caused disturbance, invasive species, wildfire, and a variety of other factors. The White Knob and Appendicitis Hills Wilderness Study Areas (WSA) are located within the CIAA. These WSAs cover approximately 35,688 acres of BLM public lands or 8% of the CIAA.

Past and present actions identified for the CIAA which have impacted the human environment to varying degrees include agricultural development, urban development, infrastructure (i.e. roads, fences and water troughs), wildfire, and livestock grazing. Table 5 details acreage associated with the disturbances identified within the CIAA.

Table 5 - Past and Present Actions in the CIAA.

Type of Activity	Impact
Agricultural Development	
Number of Acres	52,349 Acres developed for Agriculture.
Percent of CIAA	12%
Urban Development	
Number of Acres	8,502 Acres developed by Urbanization
Percent of CIAA	2%
Infrastructure (Roads, fences and water troughs)	
Number of Acres	990 Miles of road affecting *1,440 acres 440 Miles of fence affecting *58 acres 80 Water troughs affecting *40 acres
Percent of CIAA	<1%
Wildfire	

Number of Acres	17 Fires over 30 years affecting 31,268 acres
Percent of CIAA	7%
Livestock Grazing	
Number of BLM Allotments	42 Allotments; 13 Allotments not meeting standards; 12 Allotments not meeting due to livestock grazing; 5 Allotments not meeting but making progress.
Number of Acres	198,388 Acres** in 42 Allotments; Total BLM acres of the 12 Allotments not meeting standards: 63,324; Acres not meeting standards, within the 12 Allotments, due to livestock grazing: 5,175.
Percent of CIAA	BLM acres within allotments: 46%; 12 Allotments not meeting: 15%; Area within the 12 Allotments not meeting standards due to livestock grazing: 1%
*Area affected by roads assumes an average impact area of 12 feet surrounding all roads. *Area affected by fencing assumes an average impact area of 4 feet surrounding all fences. *Area affected by water troughs assumes an average impact area of ½ acre surrounding all troughs.	
**Figure includes BLM acres and acres where BLM administers livestock grazing on Department of Energy lands under a Memorandum of Understanding and National Parks Service lands under a Delegation of Authority.	

Agricultural development has a long history in the CIAA. Though Lewis and Clark first entered, what would later become the state of Idaho, in 1805, settlers were not attracted to the region in substantial numbers until the 1880s. There are no significant population centers within the CIAA. Settlement is generally dispersed with a larger numbers of residents in the southern portion of the CIAA associated with developed agriculture and the town of Arco, Idaho. The 2010 census placed the population estimate of Butte County at 2,891 and Custer County at 4,368. It is estimated that 2% of the CIAA has urban development. Private property makes up approximately 33% of the land base in the CIAA. Not all private ground is suitable for farming and those areas not used for crop production are often used for grazing livestock or other purposes. Approximately 12% of the CIAA has been developed for agricultural purposes.

Infrastructure development within the valley has increased over time, mostly in the form of conversion to agricultural lands. However, the majority of the land base in the CIAA remains undeveloped. Residential development is higher in proximity to the developed agricultural base along the Big Lost River and in the southern end of the CIAA. There are approximately 990 miles of existing roads within the CIAA, ranging from two lane paved routes to residential roads and undeveloped access routes. Using an average impact area of 12 feet along all roads the total area affected by roads is approximately 1,440 acres, which is less than 1% of the total area within Big Lost CIAA. Proliferation of approved, constructed and maintained roads within the

CIAA is expected to be minimal in the foreseeable future. Proliferation of unauthorized roads is expected to continue, particularly as a result of OHV recreation. The extent to which unauthorized road proliferation would occur in the future is difficult to anticipate and quantify.

Livestock grazing has a long history in the region, dating back to the settlement of the area in the late 1800s. In the early settlement years, cattle and sheep were raised to support the surrounding miners and settlers. Within the CIAA, ranching has declined over time since its peak in the early to mid-20th century as more lands were devoted to agriculture. Livestock production has been relatively stable within the CIAA over the last 20 years and livestock production is a major economic segment of the CIAA. There are currently all or portions of 42 BLM grazing allotments, as well as all or portions of the 20 USFS allotments authorized for livestock grazing within the CIAA. Nearly all of the public lands within the CIAA are authorized for livestock grazing.

Recreation use within the CIAA has increased over time. Recreation use is primarily a dispersed activity within the CIAA. Dispersed campsites are found throughout the area and most are located adjacent to flowing water. Popular areas include Antelope Creek and suitable portions of the Big Lost River. Big game hunting, camping, fishing, and motorized vehicle use are the primary recreational pursuits within the CIAA. Many of the 990 miles of roads within the CIAA are used for motorized recreation. The White Knob and Appendicitis Hills Wilderness Study Areas (WSAs) are located within the CIAA. These WSAs cover approximately 35,688 acres of BLM public lands or 8% of the CIAA.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions include continuation of the past and present actions as described above. Also, it is likely that the proponent would clear an area on his private land, adjacent to the proposed ROW, to facilitate the construction, operation and maintenance of the airstrip. The area would likely be cleared in the same manner as the Proposed Action, removing larger sage brush and rocks with a grass/forb reseeding. It is probable that the airstrip would be constructed from the edge of the BLM in lot 3 to the existing airstrip on private land, approximately 2,780 feet in length with a width of 75 feet, or 4.94 acres more or less. Impacts to wildlife, special status species, and migratory birds associated with this construction would be similar to those discussed in the analysis of this document. The level and character of agricultural development is anticipated to remain consistent into the foreseeable future as most suitable private property within the CIAA has been developed. There are no identified renewable energy projects or residential developments within the CIAA and the level of existing infrastructure is expected to remain at or near current levels. Populations in Butte County, Idaho have fluctuated over the past 40 years with a high census count of 3,342 in 1980 to the current estimate of 2,891. Populations in Custer County have increased over the past 40 years to the current estimate of 4,368. Populations in both counties are not expected to change significantly in the future and urbanization or infrastructure is also not expected to increase substantially. The level and character of livestock grazing within the CIAA is expected to remain at or near current levels barring any significant policy change regarding grazing on federal lands which compose the majority of the CIAA. Recreational use is expected to continue to increase over time and the potential exists for development or expansion of recreation facilities on public lands within the CIAA. Many of the 990 miles of roads within the CIAA are used for motorized recreation.

Proliferation of unauthorized roads resulting from unauthorized motorized recreation is expected to continue as recreation activities increase in the area. The extent to which unauthorized road proliferation would occur in the future is difficult to anticipate and quantify.

Impacts Associated with Past and Present Actions

Past and present actions have resulted in varying degrees of impact to the resources considered in the analysis. Impacts are higher for agricultural developments which have resulted in direct habitat loss and fragmentation of approximately 12% of the CIAA. Agricultural development has altered or removed the native vegetation communities, changed soil characteristics and introduced elements like accelerated erosion, irrigation and concentrated fertilization that have altered and would continue to alter the characteristics of the natural landscape.

Observable impacts associated with urban development have resulted in direct habitat loss and fragmentation of approximately 2% of the CIAA. These actions have introduced non-natural elements that have altered hydrology, energy cycles, soil characteristics and native vegetative communities within the CIAA.

Impacts associated with infrastructure development have resulted in direct habitat loss and fragmentation of less than <1% of the CIAA. Infrastructure often affects natural habitats differently than agriculture or urban development. In the case of roads and fences, the impacts are often drawn out over a linear area rather than large concentrated blocks as agriculture and urban development are. Although infrastructure may influence natural areas in different ways the impacts act similarly by removing the native vegetation communities and introducing non-natural elements into the natural landscape.

Over the past 30 years, 17 wildfires have burned 31,268 acres on BLM lands, which amounts to approximately 7% of CIAA. In the southeast corner of the CIAA, fires have burned within the same area multiple times. Wildfire can remove and/or permanently alter native vegetation communities. Often, invasive species and noxious weeds are able to establish within fire disturbance areas. Perennial grasses and forbs are generally able to recover well after wildfire if their composition and health were adequate prior to the fire and fire intensity is not too severe. If shrubs are removed by wildfire, recovery to pre-fire conditions can take much longer.

Approximately 26,210 acres (6% of CIAA) of native habitat have been treated and/or seeded within the CIAA. Some vegetation treatments have been completed in an effort to rehabilitate and stabilize areas after wildfire. Recent treatments were completed to improve watershed functionality. Other treatments were completed in the late 1900s with the intent of increasing forage for livestock. Some treatment areas have burned or were treated on multiple occasions. The majority of seedings completed in the CIAA have included crested wheatgrass, a non-native species which generally decreases vegetation species diversity and habitat value to wildlife.

Of the 42 BLM grazing allotments in the CIAA, 13 have been documented to be not meeting ISRH. One allotment was not meeting standards, but concerns identified were not attributed to livestock grazing. There are 12 BLM livestock grazing allotments within the CIAA where standards are not meeting due to livestock grazing. The total area impacted by livestock grazing within the 12 allotments is approximately 5,175 acres, which is approximately 1% of the CIAA.

Unmanaged livestock (horses, cows, and sheep) grazing in the first half of the 20th century resulted in altered ecological conditions in the riparian areas and the uplands in the Big Lost River Valley. Use was historically higher adjacent to available water with limited use in the areas away from springs, creeks, and rivers. As livestock grazing became more carefully managed in the valley on the remaining native vegetation, the ecological health of the rangelands and riparian areas improved.

Fencing is commonly used as a livestock management tool and there are approximately 480 miles of fence occurring throughout the CIAA. Using an average impact area of 4 feet along all fences, the total area directly affected by fencing is approximately 465 acres, which is less than 1% of the total area within the Big Lost CIAA. Another livestock management tool often used in the CIAA is the use of water troughs to improve livestock distribution. There are a minimum of 80 livestock water troughs documented in the CIAA. Using an average direct impact area of 0.5 acres surrounding water troughs the total disturbance area is 40 acres, which is less than 1% of the total area within the Big Lost CIAA.

Activities that occur on public and private lands, such as agricultural practices; infrastructure development; recreational use such as camping, hunting, and ATV use; and livestock grazing management affect wildlife use patterns, the quantity and quality of habitats, and population viability. Many species of wildlife including birds and big game require large intact habitats for their continued survival. Urbanization and recreational properties on adjacent private lands reduces their value as wildlife habitat through fragmentation of existing habitats. Cumulative impacts of livestock grazing on wildlife habitat include compaction of soils, reduction of available forage and hiding cover, and disturbance of riparian vegetation. Maintaining intact habitats and having the flexibility to modify grazing schedules to meet the specific needs of vegetation and wildlife help maintain rangelands in good ecological condition.

The U.S. Fish and Wildlife Service (USFWS) identified primary and other threats to Greater sage-grouse in its 12-Month Findings for Petitions to List the Greater Sage- Grouse (*Centrocercus urophasianus*) as Threatened or Endangered (USFWS 2010). The primary cause of sage-grouse population decline identified by the USFWS was fragmentation of sagebrush habitats due to: habitat conversion for agriculture or urbanization, infrastructure within sagebrush habitats (powerlines, communication towers, fences, roads, railroads, etc.), wildfire, and energy development (specifically roads and energy related infrastructure). Other threats included: inadequate regulatory mechanisms, invasive plants (annual grasses and noxious weeds), climate change, collisions (with fence, powerlines, etc.), conifer invasion, contaminants, disease (West Nile virus), poorly managed livestock grazing, hunting, mining, predation, prescribed fire/vegetation treatments, recreation (OHV use) and water developments (USFWS 2010). It is often the cumulative impact of various disturbances that have the greatest effect on sagebrush ecosystems, rather than any single disturbance (Knick et al. 2011).

Key sage-grouse habitats are large scale, intact sagebrush steppe areas that provide sage-grouse habitat (Sather-Blair et al. 2000). Within the Big Lost CIAA there are approximately 267,458 acres of Key sage-grouse habitat, which is approximately 61% of the CIAA. There are also 20,963 acres (5% of CIAA) of Restoration Type 1 habitat in the CIAA. These areas have limited

sagebrush composition, but acceptable understory comprised of native and/or seeded perennial grass rangelands. Restoration Type 1 habitats are considered important areas of focus for sagebrush establishment and retention (Sather-Blair et al. 2000). Within the CIAA there are also areas with acceptable sagebrush cover, but inadequate desirable herbaceous cover in the understory or the understory is comprised of invasive annual grasses or exotic plants. Habitats that meet these criteria are considered Restoration Type 2 (Sather-Blair et al. 2000). Within the CIAA there are only 27 acres of Restoration Type 2 habitat (<1% of CIAA). Restoration of Type 2 areas would require expensive management treatments.

Sage-grouse Preliminary Priority Habitats (PPH) are those areas of highest conservation value due to high male lek attendance, high lek density and high lek connectivity (Makela and Major 2011). There are approximately 172,700 acres of PPH within the Big Lost CIAA. Preliminary General Habitats (PGH) are habitats occupied by sage-grouse not contained within PPH. PGH areas are characterized by lower lek densities that may serve as important connectivity corridors between PPH (Makela and Major 2011). There are approximately 180,659 acres of PGH within the CIAA.

Table 6 summarizes known impacts within PPH and PGH areas in the Big Lost CIAA:

Table 6 – Summary of impacts within Sage-grouse PPH and PGH

Impact	PPH Acres Affected	Percent of CIAA	PGH Acres Affected	Percent of CIAA
Agricultural Development	11,602	7%	30,242	17%
Urban Development	1,297	<1%	5,280	3%
*Infrastructure	631	<1%	747	<1%
Wildfire	23,810	14%	4,895	3%
**Livestock Grazing	4,067	1%	1,108	<1%
Vegetation Treatments	13,246	3%	10,862	1.5%

*Note: Infrastructure is a combination of roads, fences and water trough sites.

** Action describes areas identified as not meeting ISRH and livestock grazing management was determined to be the primary factor. In situations where the specific location of acres not meeting due to current livestock and the applicable standards were not delineated in a GIS data base and available for analysis relative to delineated PPH and PGH areas, the assumption was made if the allotment included PPH habitat, all of the acres not specifically located were within PPH areas. Likewise, if the allotment only included PGH habitat, all of the acres not meeting the applicable standard were considered to be within PGH areas. While this assumption may inflate that acreage impacted by livestock grazing in PPH or PGH habitat, respectively, it insures that potential PPH and PGH acreages impacted by livestock grazing are not

Table 6 – Summary of impacts within Sage-grouse PPH and PGH
excluded.

Approximately 13,246 acres of PPH and 10,862 acres of PGH have been treated and/or seeded. Some vegetation treatments have been completed in an effort to rehabilitate and stabilize areas after wildfire. Other treatments were completed in the late 1900s to increase forage for livestock. Many of these areas have burned or were treated on multiple occasions. The majority of seedings completed in the CIAA have seeded crested wheatgrass, which decreases the habitat value to sage-grouse.

Wildfire and development (agricultural and urban) have resulted in the largest cumulative impact to sage-grouse habitat within the CIAA. Aside from the direct impacts of habitat alteration, these disturbances may alter sage-grouse behavior causing them to avoid impacted habitats or displace populations to more suitable areas.

Although livestock grazing was not identified as a primary threat, it is one of the more widespread uses occurring in sage grouse habitat (Connelly et al. 2004). There is limited evidence to suggest direct impacts to sage-grouse by livestock, such as stepping on eggs, but livestock grazing does indirectly affect sage-grouse habitats by removing vegetation (foraging) or changing species composition under poor management practices (Connelly and Braun 1997). Approximately 1% of the total PPH and PGH habitats within the CIAA have been identified as not meeting ISRH where livestock grazing was identified as a contributing factor.

Livestock grazing has occurred within the CIAA since the late 1800s. Impacts to sagebrush ecosystems were likely the greatest during this time as unregulated grazing occurred into the early 1900s (Knick et al. 2003). The Taylor Grazing Act (1934) was the foundational law for livestock management on public lands, and although it was intended to regulate livestock use, it also benefited sage-grouse habitat within the CIAA by curbing unregulated grazing. Since then other laws, improved science, improved management cooperation (interagency and with private landowners), and improving adaptive management have provided more safeguards for sage-grouse habitats.

Sage-grouse within the CIAA are part of a larger population known as the Snake-Salmon-Beaverhead population. A population viability analysis for the Snake-Salmon-Beaverhead population was completed by Garton et al. (2011). The viability analysis factored in known current and historic anthropogenic factors including domestic livestock grazing from 1965-2007. This analysis included sage-grouse meta-populations within the CIAA. Garton et al. (2011) found that the Snake-Salmon-Beaverhead population had a 0%-27% chance of falling below population viability levels (≥500 male sage-grouse) in the next 100 years.

Other than the proposed action, no new primary threats such as conversion of sage-grouse habitat for agriculture or urbanization, or infrastructure (roads, powerlines, energy development, etc.) are proposed on public lands in the CIAA. In addition, the USFO in unaware of any plans or proposals identified for nearby lands under other ownership (private, NPS, DOE or State of Idaho lands) in the CIAA. Invasive species and wildfire continue to be threats that cannot be anticipated in frequency or intensity. Impacts associated with wildfire are likely to continue to be the greatest threat to sage-grouse populations in the CIAA. Managing for healthy habitats in the CIAA provides protection against invasive species and resiliency to disturbances such as

wildfire. PPH are comprised of areas that have the highest conservation value for maintaining sustainable sage-grouse habitats. Additional disturbances such as new infrastructure development on public lands are less likely to be implemented in PPH areas without adequate mitigation in the future (BLM 2011).

Grazing permits within the CIAA would continue to be evaluated, modified as needed and renewed according to law and BLM policy in the future. Other threats such as invasive plants, climate change, collisions with structures, contaminants, disease, hunting, mining, predation, vegetation treatments, and recreation (OHV use) are likely to continue in the CIAA, but the extent to which they affect sage-grouse are difficult to quantify. Other project proposals may occur on public lands within the CIAA in the future, but would be subject to law and BLM policy to ensure that the cumulative effect to sage-grouse does not inhibit the viability of populations in the CIAA.

Incremental Impacts Associated with Alternatives

Alternative 1
Alternative 1 would contribute very little to the collective impact associated with past, present and reasonably foreseeable future actions. The proposed project would result in approximately two acres of habitat disturbance associated with vegetation removal, an increase of approximately 0.14% within the CIAA. An additional 2,475 feet of fence would be constructed around the proposed project, increasing the number of fence miles within the CIAA by approximately 0.1 %. The amount of suitable habitat for wildlife species, including special status species that occur in the CIAA would remain about the same.

Alternative 2
Alternative 2 would not contribute to the collective impact associated with past, present and reasonably foreseeable future actions. Under this alternative there would be no vegetation/habitat removal associated with constructing the airstrip. There would also be no added infrastructure associated with fencing the airstrip. The amount of suitable habitat for wildlife species, including special status species that occur in the CIAA would remain the same.

Alternative 3
Alternative 3 would contribute very little to the collective impact associated with past, present and reasonably foreseeable future actions. The proposed project would result in approximately two acres of habitat disturbance associated with vegetation removal of the airstrip, an increase of approximately 0.14% within the CIAA. Under this alternative there would be no added infrastructure or collision risk associated with fencing the airstrip. The amount of suitable habitat for wildlife species, including special status species that occur in the CIAA would remain about the same.

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