Chapter 3. Affected Environment

3.1 Project Setting and Introduction

The Grand Junction Regional Airport is located in Grand Junction, Colorado, approximately 3.5 miles northeast of downtown Grand Junction. The Airport serves all classes of aircraft and is owned and operated by the Grand Junction Airport Authority Board. The majority of the 2,357 acres of land owned by the Airport was purchased/deeded from the City of Grand Junction and Mesa County and is 4,858 feet above mean sea level.

In this chapter, the term Study Area is used for each resource category. By necessity, this term can sometimes mean slightly different areas for different resource categories. Some resources, such as cultural resources, are generally limited to the direct impact areas where there would be construction or other actions. For other resources, such as fish and wildlife, the study area includes a wider scope than those direct impacts within the construction footprint and land transfer area due to connectivitiy to other resources in the area. The Study Area will be defined for each resource category within each subsection.

3.2 Air Quality

The U.S. Environmental Protection Agency (USEPA) has adopted air quality standards that specify the maximum permissible short-term and long-term concentrations of certain air pollutants. The National Ambient Air Quality Standards (NAAQS) consist of a primary and secondary standard for each pollutant that were established to protect the public health from harm within a margin of safety. All areas of the country are required to demonstrate attainment with the NAAQS. Areas that currently do not meet these standards are referred to as non-attainment areas. Other areas, where prior exceedeance occurred, but now achieve the standards are referred to as maintenance areas. Both non-attainment and maintenance areas are subject to State Implementation Plans, which reflect plans by the state for how to achieve (and maintain) compliance with the NAAQS.

All of Mesa County, including Grand Junction Regional Airport, is within attainment for all NAAQS and is not within any pollutant maintenance areas. The primary sources of air pollutants in the region are fugitive dust from the desert areasand unpaved roads; motor vehicles; and wood-burning stove emissions. Seasonal wildfires throughout the western U.S. may also contribute to air pollutions and regional haze. The ambient pollutant levels are usually near or below measureable limits, except for high short-term increases in PM_{10} levels (primarily wind-blown dust), ozone, and carbon monoxide. The Study Area for air quality is Mesa County.

3.3 Climate

Research has shown there is a direct correlation between fuel combustion and greenhouse gas emissions. In terms of U.S. contributions, the General Accounting Office reports that "Domestic aviation contributes about 3% of total carbon dioxide emissions, according to EPA data," compared with other industrial sources including the remainder of the transportation sector (20%) and power generation (41%).[1] The International Civil Aviation Organization (ICAO) estimates that greenhouse gas emissions from aircraft account for roughly 3% of all anthropogenic greenhouse gas emissions globally.[2] Climate change due to greenhouse gas emissions is a global phenomenon, so the affected environment is the global climate.[3]

The scientific community is continuing efforts to better understand the impact of aviation emissions on the global atmosphere. The FAA is leading and participating in a number of initiatives intended to clarify the role that commercial aviation plays in greenhouse gas emissions and climate. The FAA, with support from the U.S. Global Change Research Program and its participating Federal agencies (e.g., NASA, NOAA, EPA, and DOE), has developed the Aviation Climate Change Research Initiative (ACCRI) in an effort to advance scientific understanding of regional and global climate impacts of aircraft emissions. FAA also funds the Partnership for Air Transportation Noise & Emissions Reduction (PARTNER) Center of Excellence research initiative to quantify the effects of aircraft exhaust and contrails on global and U.S. climate and atmospheric composition. Similar research topics are being examined at the international level by the International Civil Aviation Organization.[4] The Study Area for climate is also Mesa County.

3.4 Coastal Resources

The closest coastal resources to Grand Junction Regional Airport are located approximately 800 driving miles from Grand Junction. Consequently, there are no coastal resources located on or within close proximity to the proposed project. For these reasons, this category is eliminated from further consideration in this Environmental Assessment (EA) Amendment.

---

1 *Aviation and Climate Change*. GAO Report to Congressional Committees, (2009). http://www.gao.gov/new.items/d09554.pdf

2 Alan Melrose, "European ATM and Climate Adaptation: A Scoping Study," in *ICAO Environmental Report*. (2010).

3 Federal Aviation Administration (FAA) Order 1050.1E, Change 1, Guidance Memo #3, *Considering Greenhouse Gases and Climate Change Under the National Environmental Policy Act (NEPA): Interim Guidance*, January 2012.

4 Lourdes Q. Maurice and David S. Lee. *Chapter 5: Aviation Impacts on Climate*. Final Report of the International Civil Aviation Organization (ICAO) Committee on Aviation and Environmental Protection (CAEP) Workshop. October 29th - November 2nd, 2007, Montreal. http://www.icao.int/icaonetlcnfrstlCAEP/CAEP SG_20082/docs/Caep8_SG2_ WPI0.pdf

3.5 Compatible Land Use

3.5.1 Land Use Compatibility Guidelines

Incompatible land uses generally refer to residential land uses, schools, hospitals, and places of public assembly, which are not compatible with aircraft noise levels as defined by Part 150 land use compatibility guidelines. In addition, large obstructions (of which there are none currently) in the flight path or safety zones can interfere with navigation, and different types of lighting may reduce visibility and confuse or disorient pilots. The following sections outline the existing zoning/land use, as well as future land use, will be analyzed in terms of compatibility in Chapter 4.

The Study Area for land use compatibility includes the area directly affected by the project (i.e. the airport property and the BLM 188-acre transfer parcels), as well as those areas that may be affected by aircraft noise (corresponding to the 65 DNL noise contour).

3.5.2 Existing Zoning

The City of Grand Junction and Mesa County both have zoning and development codes that help guide development. Existing zoning is depicted in Figure 3-1. The City's Zoning and Development Code (Title 21 of the *Grand Junction Municipal Code (GJMC)*, adopted in April 2010, pertains to the area within its corporate limits. The GJMC is intended to enable the City to uniformly and consistently evaluate, improve, and approve, as appropriate, development, changes to existing uses, future uses, and activities and to promote the health, safety, and general welfare of the citizens and residents of the City. The County's *Land Development Code* pertains to the unincorporated area surrounding the Airport and is intended to preserve and improve the public health, safety, and general welfare of the citizens and businesses of Mesa County. The Airport includes property within the jurisidiction of both the City of Grand Junction and Mesa County. Airport property in the City's jurisdiction is zoned Public Airport District (PAD), which is a nonresidential zoning district. The allowed uses and dimensional requirements for lands located within the PAD zone district are defined in Ordinance No. 3679, which was approved by the Grand Junction City Council in October of 2004. Areas to the south and west of the Airport consist of various zoning districts including both residential and nonresidential zoning districts. Some of these districts include Residential Single-Family for low density uses (R-1), Residential Single-Family for medium-low density uses (R-2[5] and R-4[6]), Residential Multifamily (R-5), Light Commercial (C-1), Industrial/Office Park (I-O), and Planned Development (PD).

[5] Where adequate public services and facilities exist.

[6] Where adequate public services and facilities are available.

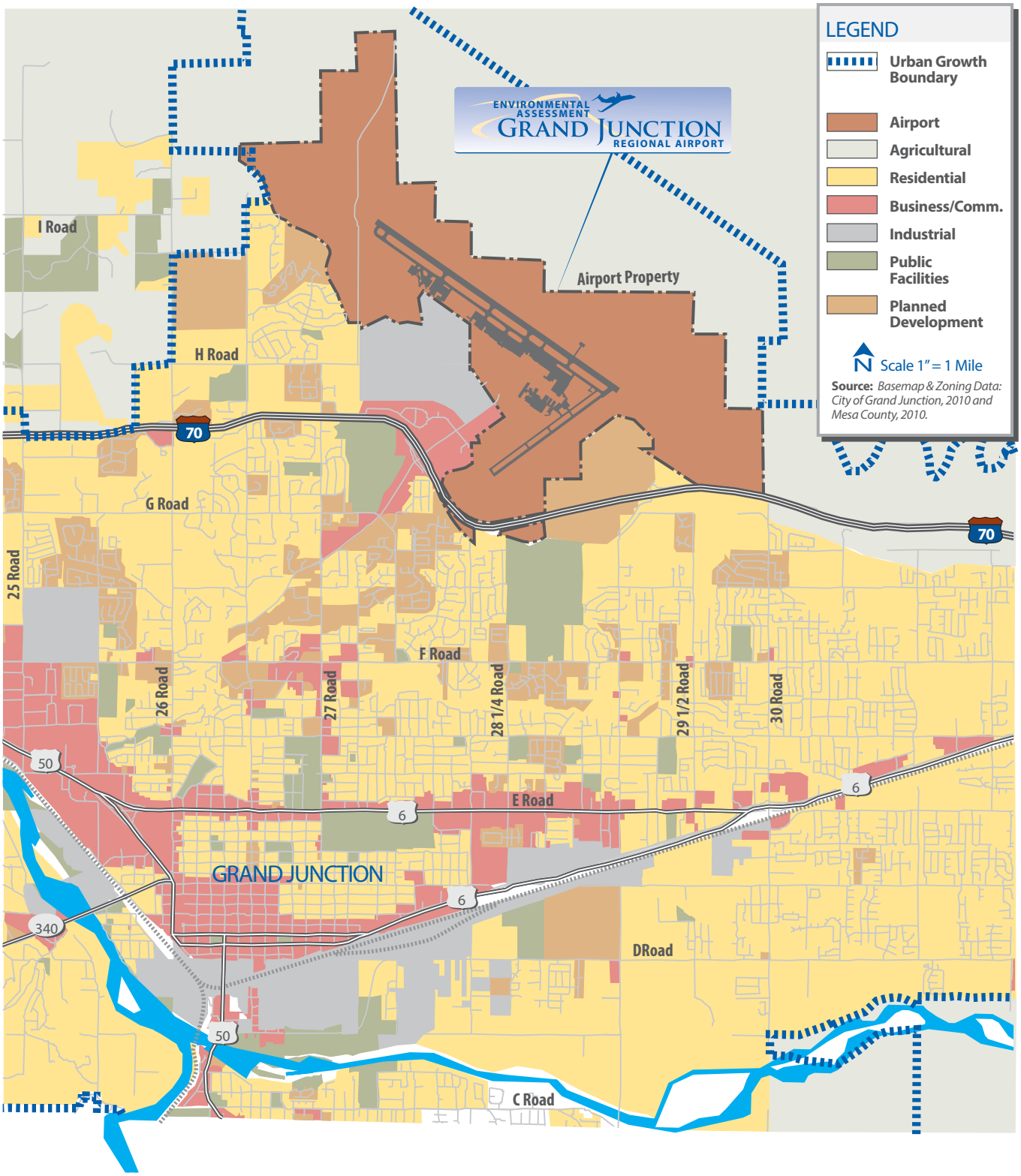

Figure 3-1 **Generalized Existing Zoning**

Chapter 7 of the City's Zoning and Development Code includes a special regulation entitled Airport Environs Overlay Zoning District (AE) intended to protect public health, safety, and welfare by regulating development and land use within noise sensitive areas and airport hazard areas. The AE district is also intended to ensure compatibility between the Airport and surrounding land uses and protect the Airport from incompatible encroachment. The AE district includes four subdistricts, which are Subdistrict A (Airport Area of Influence), Subdistrict B (Airport Noise Zone), Subdistrict C (Airport Critical Zone), and Subdistrict D (Airport Clear Zone). The AE district also includes an airport environs land use compatibility matrix, avigation easement requirement, recorded notice of critical and noise zone subdistricts, and height limitations based on 14 CFR Part 77, *Objects Affecting Navigable Airspace*.

Areas to the north and east of the Airport are outside of the existing corporate city limit boundary and are subject to the provisions of the *2000 Mesa County Land Development Code*. Based on the *Consolidated Zoning District Map of Mesa County, Colorado*, the majority of the land north and east of the Airport is federally owned and managed by the BLM and is zoned by Mesa County as Agricultural, Forestry, Transitional District (AFT), which is a Rural Zoning District. The AFT district is primarily intended to accommodate agricultural operations and very low-density single-family residential development. The County's *Land Development Code* also includes an Airport Environs Overlay District (AE) with the identical purpose and subdistrict zones as the City's AE. The area proposed for acquisition is zoned by the City as Agricultural and identified on the City's future land use plan as Community Facilities.

3.5.3 Existing Land Use

Typically, existing land use patterns follow relatively close to what is portrayed on the existing zoning map, with the exception of those areas that are currently vacant and for which future development is contemplated under the existing zoning. When viewing the aerial photograph for Grand Junction Regional Airport, land use patterns do indeed resemble what is illustrated in the existing zoning map for the City of Grand Junction. One area of note is a collection of large vacant parcels located immediately southeast of the general aviation runway, which has been approved as a Planned Development. One utility right-of-way (ROW) is authorized within the Study Area. Grand Valley Rural Power is the holder of this ROW for an existing power transmission line. Also, the BLM land that is subject to the land transfer request is currently open to recreational use.

3.5.4 Future Land Use

In February 2010, the City of Grand Junction adopted a major update of the *Grand Junction Comprehensive Plan.* This document establishes the community's vision for the future and defines a strategy to achieve that vision. The Plan was designed through an intergovernmental agreement to be applied to both the City of Grand Junction and a portion of Mesa County surrounding the City.

The Comprehensive Plan includes a Future Land Use Map showing recommended land uses surrounding the Airport. Recommended land uses south and west of the Airport include

Commercial, Commercial Industrial, Residential (mostly medium and medium low densities, with some low density residential), Rural/Agricultural, Parks and Community Facilities. Recommended land uses north and east of the Airport include Commercial, Commercial Industrial, Rural/Agriculture, and Future Industrial Reserve. The future land use pattern defined in the Comprehensive Plan is particularly important where future Planned Development zoning might be contemplated, since the City's Zoning and Development Code specifies that only uses consistent with the Comprehensive Plan will be allowed in the PD zone. The current Comprehensive Plan includes an addition of the Future Industrial Reserve adjacent to airport property to the north and east, and the change in the land use designation southeast of the Airport along Interstate 70. Much of this land was designated for community facilities in earlier plans and is now designated as either Commercial or Commercial/Industrial.

The Future Land Use Plan reflects the potential acquisition of BLM managed land by the Airport to the north and west as identified in the *2009 Airport Master Plan Update*. Further, the *2009 Airport Master Plan Update* was used in the Comprehensive Plan as a cooperative planning agreement. The future Land Use Plan is shown in Figure 3-2. In addition to the Grand Junction future land use planning guidelines, the BLM has indicated that the Study Area has been identified as lands needed by the Airport for future expansion. As described in Chapter 1, in 1991, the BLM and the Airport entered into an MOU indicating the intent to make a 2,163.46-acre area available to the Airport when needed for airport expansion.

3.6 Department of Transportation Act: Section 4(f) and Section 6(f) of the Land and Water Conservation Fund

Special procedures are required when development would affect lands purchased or developed using Land and Water Conservation Fund Program (LWCF) monies. Section 6(f) of the *LWCF Act of 1965* (Public Law 88-578), codified at Title 16 U.S. Code Section 4601-8(f)(3), commonly referred to as Section 6(f), requires:

> No property acquired or developed with assistance under this section shall, without the approval of the Secretary [of the Interior], be converted to other than public outdoor recreation uses. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location.

The authority to approve Section 6(f) conversions has been delegated to the Regional Directors of the National Park Service (NPS). No section 6(f) properties exisit within the Study Area, therefore, neither the proposed project nor the no build alternatives will impact any Section 6(f) properties and is dismissed from further analysis.

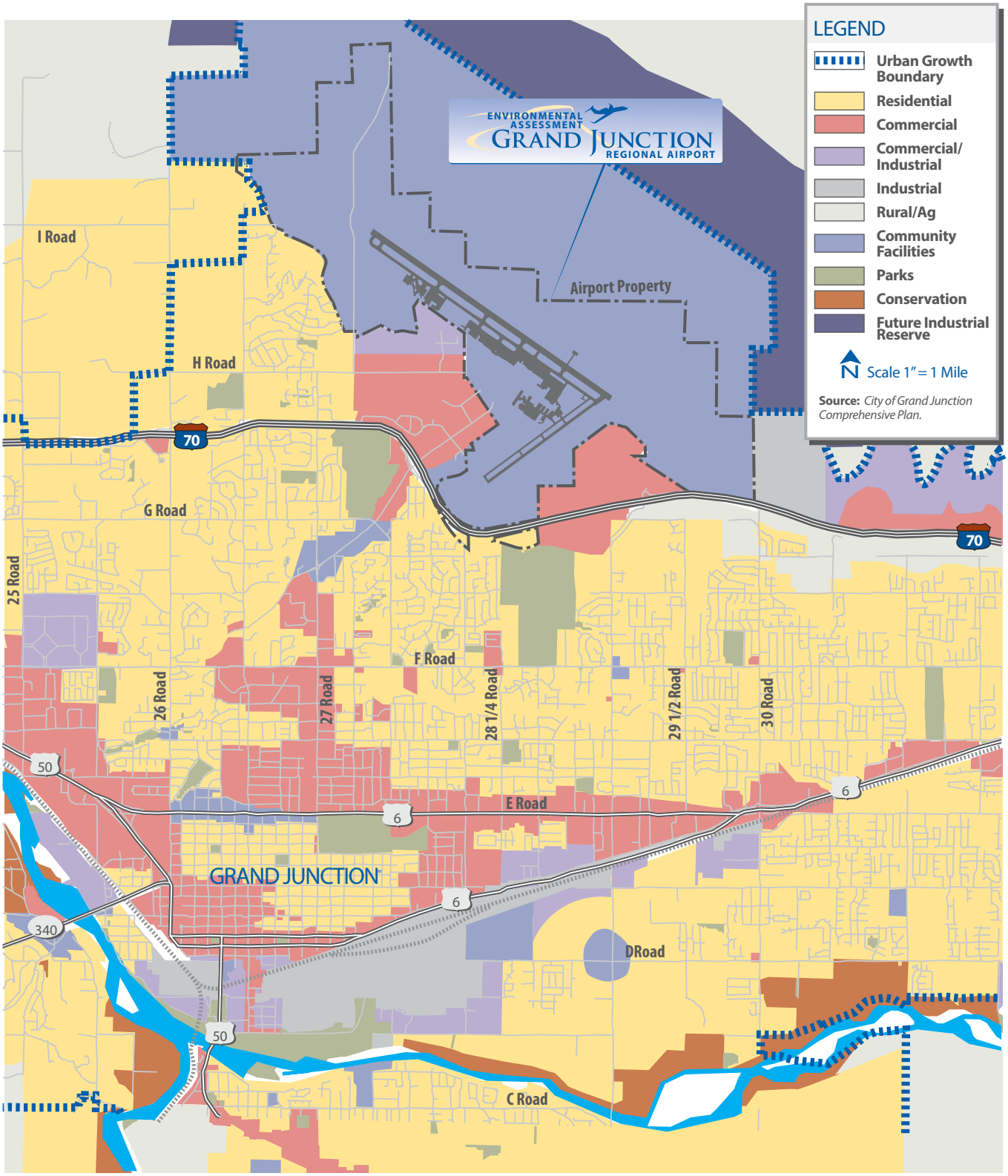

Figure 3-2 **Generalized Future Land Use**

Section 4(f) of U.S. Department of Transportation (DOT) Act of 1966 (recodified and renumbered as section 303(c) of 49 U.S.C.), provides that the Secretary of Transportation shall not approve any program or project that requires the use of any publicly owned land from a public park, recreation area or wildlife and waterfowl refuge of National, State or Local significance, or land from a historic site of National, State, or Local significance, as determined by the officials having jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such project includes all possible planning to minimize impact.

The Study Area for this resource includes the area of land transfer, the area of direct construction footprint, and the area within the 65 DNL noise contours. Paradise Hills Park, located approximately less than one mile west of the Airport, is the closest public park to the Study Area. There is one historic property (Little Book Cliff Railway) eligible for inclusion in the National Register of Historic Places within the Study Area surveyed for historic properties (see Section 3.11 and Appendix 6). A number of other historic sites are located on airport property but would not be impacted by the Proposed Action.

The 188-acre area proposed for transfer from the BLM to the Airport (Land Transfer Alternative 4) is currently used for recreational activities, such as the use of Off-Highway Vehicles (OHVs) and other activities. Located within the larger Grand Junction Resource Area, the area near the Airport is part of the Grand Valley Off Highway Vehicle (OHV) Area, which is a 17-square-mile area (approximately 11,400 acres) designated by the BLM for use by all types of vehicles including motorcycles, ATVs, 4x4s, mountain bikes, among others. The Grand Valley OHV Area is part of the Grand Valley Intensive Recreation Management Area (IRMA) (Figure 3-3). The entire Grand Valley OHV Area is designated as a no-target shooting area, permits livestock grazing, and is open to oil and gas leasing. Additionally, the 188-acre area proposed for transfer is located within an area identified by the BLM as an area intended to be available to the Airport for future airport expansion and development through an MOU signed with the Airport Sponsor in 1991.

The FAA and the BLM have jointly determined that the BLM managed land proposed for transfer is a Section 4(f) property (Appendix 8). Consequently, an official Section 4(f) Evaluation and statement was prepared as an appendix to the EA (Appendix 8).

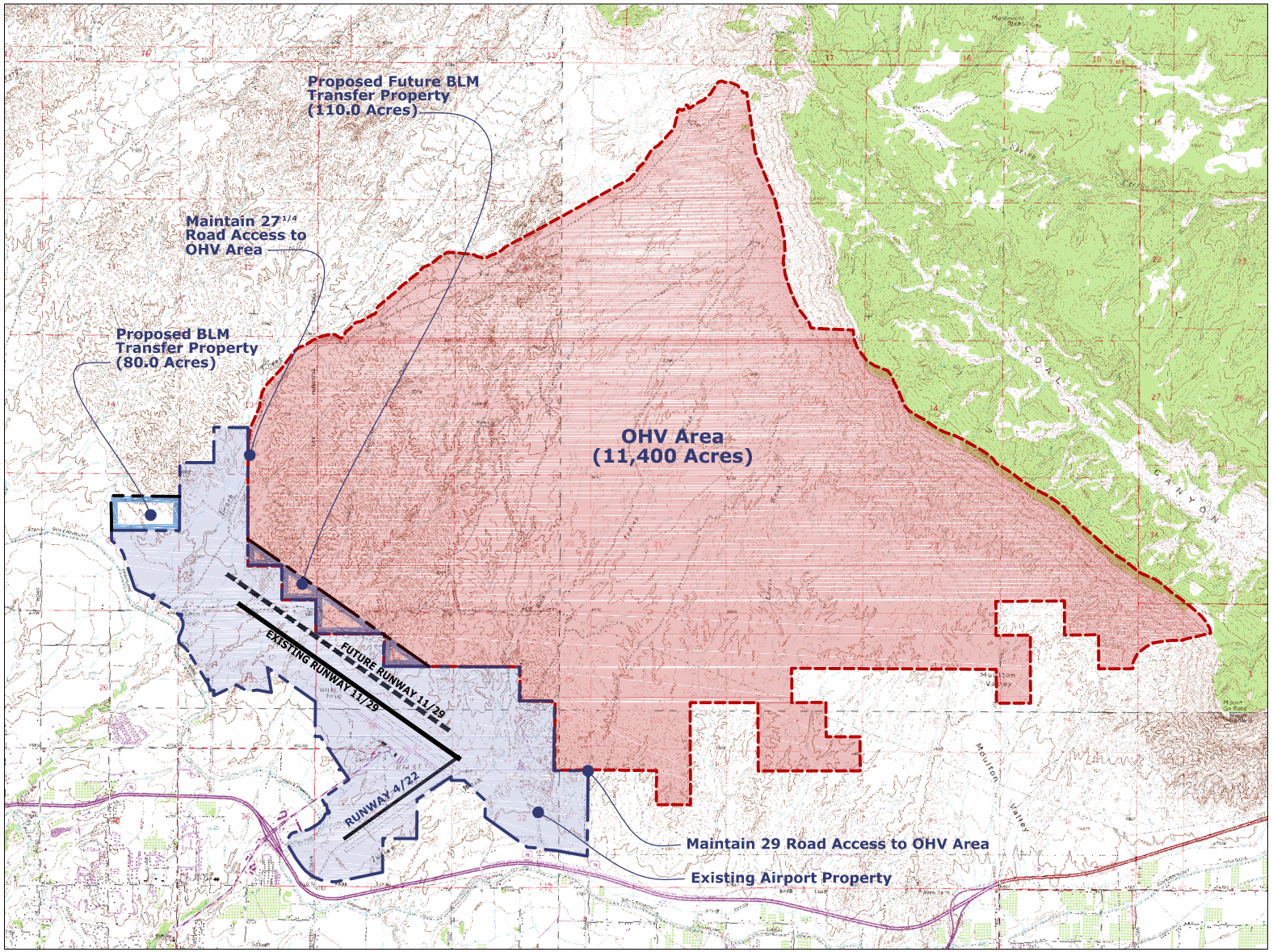

Figure 3-3 **Grand Valley OHV Area**

3.7 Farmlands

The Study Area for this resource category includes the area of proposed land transfer from the BLM, the BLM ROW area, and the directly impacted areas within the airport property. Consultation with the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) is required to determine if the Farmland Protection Policy Act (FPPA) applies to any land to be converted from non-agricultural use as a result of the Proposed Action. Prime farmland, as defined by the FPPA, does not include land already committed to urban development or water storage. If potential farmland is determined to be protected under the FPPA, then the NRCS scores the relative value of the land, creating a "Farmland Conversion Impact Rating."

According to the *National Cooperative Soil Survey* from the NRCS, the soils on and in the vicinity of existing airport property vary widely. The two most abundant soils located within airport property are Killpack-Badlands-Persayo complex, 3-25% slopes, saline; and Uffens fine sandy loam, 1-6% slopes. Neither of these soil types are designated prime or unique farmland.

However, there are small segments of designated prime farmland, if irrigated, soils in pockets of land surrounded by non-prime farmland soils on the south side of the runway. The area contained within airport property is located within the Urban Growth Boundary, and therefore is not designated as prime farmland. The area north of the runway, including the property to be transferred, is characterized primarily by Killpack-Badlands-Persayo complex, 3-25% slopes, saline; and Uffens fine sandy loam, 1-6% slopes. Neither of these soil types are designated prime or unique farmland (See Appendix 4).

3.8 Fish, Wildlife, and Plants

This section discusses the coordination completed early in the EA process to identify species of interest or concern to determine the appropriate type of research and surveys. Surveys were conducted to adequately understand the potentially affected environment relative to Fish, Wildlife, and Plants. The results of the surveys and information on the biotic resources, including threatened and endangered species, found in the project area is also provided.

3.8.1 Agency Coordination

Colorado Natural Heritage (CNHP), BLM, and U.S. Fish and Wildlife Service (USFWS) were contacted early in the EA process to determine if there were any known occurences of special status species within the project area to focus on for the surveys. The surveys were developed based on this coordination and background information about potentially sensitive species within the area.

3.8.1.1 Results from BLM and CNHP Coordination

Based on early correspondence from the BLM and the CNHP (letter from CNHP to Bio-Environs dated April 13, 2010), there were no known occurrences of Federally threatened or endangered species or significant natural areas within the Study Area. However, correspondence from the CNHP indicated that 11 rare or imperiled species were known, or likely to occur, within a two-mile radius of the proposed project (Table 2 of Appendix 5). In addition, the CNHP also reported no designated Potential Conservation Areas within the Study Area as noted in their April 13, 2010 letter.

3.8.1.2 Results from Fish and Wildlife Service Coordination

Additionally, descriptions of critical habitats for Federally-listed threatened, endangered, and candidate fish and wildlife species provided by the USFWS were reviewed. The BLM also has a published list of sensitive species likely to occur on BLM managed lands. The USFWS was contacted regarding the proposed action and indicated that they would rely on species lists provided by the BLM.

Correspondence between the USFWS and the BLM in a letter dated April 21, 2011 (Appendix 13) provided information regarding threatened, endangered, and candidate species and at-risk-species and their habitats within the Study Area and is outlined in Table 3-1.

Table 3-1
LIST OF THREATENED, ENDANGERED, AND CANDIDATE SPECIES, AND AT-RISK SPECIES IN MESA COUNTY
Grand Junction Regional Airport Environmental Assessment

Common Name	Scientific Name	Status
Yellow-billed cuckoo	*Coccyzus americanus*	T
Canada lynx	*Lynx canadensis*	T
Humpback chub	*Gila cypha*	E
Colorado pikeminnow	*Ptychocheilus lucius*	E
Bonytail chub	*Gila elegans*	E
Razorback sucker	*Xyauchen texanus*	E
Greenback cutthroat trout	*Oncorhynchus clarki stomias*	T
Colorado hookless cactus	*Sclerocactus glaucus*	T
DeBeque phacelia	*Phacelia submutica*	T

Source: FWS, 2011.

The list includes the inventory for all of Mesa County, and USFWS recognized in their letter that some species may not presently occupy or use the Study Area or that the habitats supporting the noted species are not within the Study Area. The BLM refined the list of threatened, endangered and candidate species, and at-risk-species and their habitats based on their knowledge of Federal lands within the Study Area. The refined list, which identifies species of specific interest to the BLM, includes four endangered fish species; five plants including the Colorado hookless cactus and smallflower fishhook cactus (*Sclerocactus parviflorus*), which is now considered *Sclerocactus glaucus*, narrow-stem gilia (*Aliciella*

stenothyrsa), Grand Junction suncup (*Camissonia eastwoodiae*) and Grand buckwheat (*Eriogonum contortum*); one mammal including the white-tailed prairie dog; and one bird including the burrowing owl.

3.8.2 Results from the 2010 Field Survey

The Study Area for this resource category includes the land currently managed by the BLM and the proposed impact areas on airport property (primarily all pre-disturbed land). Multiple sources of information were examined in addition to the site survey to document the plants, wildlife, and habitat within the project boundary. Full descriptions of the background information sources and biotic analyses are included in the technical memorandum in Appendix 5. Additionally, although the Colorado River is outside the area of direct effect, it is examined relating to indirect effects on water quality for fish.

The BLM requested surveys for several plant species, prairie dog towns, burrowing owls, and raptor nesting habitats located within ½ mile from the project boundary. A wildlife survey was conducted to assess the area for these species from May through July in 2010. Incidental observations of other wildlife and migratory birds were also completed during a site vist during May 6-13, 2010.

Per BLM guidance, plant surveys focused on four plant species: Colorado hookless cactus (*Sclerocactus glaucus*)/smallflower fishhook cactus (Sclerocactus parviflorus), narrow-stem gilia (*Aliciella stenothyrsa*), Grand Junction suncup (*Camissonia eastwoodiae*), and Grand buckwheat (*Eriogonum contortum*). All of these species bloom in spring, and thus, the field survey was conducted during the spring of 2010. The other species are not known to inhabit the area around the Airport or would not inhabit an adobe badlands environment. For example, although Grand Junction milkvetch (*A. linifolius*) might be found in the County, it is typically located on Chinle and Morrison formations in pinyon-juniper and sagebrush habitats that are not present on the Airport or within the area of proposed land transfer. The BLM indicated known locations of smallflower fishhook cactus (*Sclerocactus parviflorus,* now *Sclerocactus glaucus*), west of the Study Area. The survey team visited the reference site in order to view the cactus and found two specimens. The status of special status plant species provided by the BLM is presented in Table 1 and 2 of Appendix 5. Recent genetic work determined that the smallflower fishhook cactus, *Sclerocactus parviflorus*, is in fact, *Sclerocactus glaucus.* This is important for later discussions of surveys for both "species" in 2010.

Of the birds that might occur in or near the Study Area, the BLM expressed concern about the burrowing owl (*Athene cunicularia*), which is a state threatened species and a BLM sensitive species. The owl nests in prairie dog holes, and therefore, the location of prairie dog colonies is essential to assessing the bird's presence. Prairie dog colonies abound within the Study Area and therefore, the BLM requested a survey of the colonies for the presence of burrowing owls. Two locations were found within a quarter mile of the proposed land transfer (see following subsections).

Breeding habitat is present in the surveyed area (larger than the Study Area) for the following mammals, birds, reptiles, and amphibians (as described in Appendix 5):

- Botta's Pocket Gopher. *(Thomomys bottae rubidus*). BLM sensitive.
- Kit Fox. (*Vulpes macrotis).* BLM sensitive.
- White-tailed Prairie Dog. *(Cynomys leucurus).* BLM sensitive.
- American Kestrel. *(Falco sparverius).*
- Barn Owl. (*Tyto alba*).
- Burrowing Owl. *(Athene cunicularia*). BCC, BLM sensitive.
- Ferruginous Hawk. (*Buteo regalus*). BCC, BLM sensitive.
- Loggerhead Shrike. *(Lanius ludovicianus*). BCC, BLM sensitive.
- Red-tailed Hawk. (*Buteo jamaicensis*).
- Longnose Leopard Lizard. *(Gambelia wislizenii*). BLM sensitive.
- Midget Faded Rattlesnake. (*Crotalus viridis concolor*). BLM sensitive.
- Milk Snake. (*Lampropeltis triangulum taylori).* BLM sensitive.
- Great Basin Spadefoot. (*Spea intermontana*). BLM sensitive.

This list provided a starting point for the surveys and presence/absence of species and habitat within the specific project area are described in detail later in this section.

An overview of the existing landscape provides an indication of the extent of land use and lack of native plant communities. The BLM managed land to the north is heavily utilized by OHVs, which results in a severely damaged landscape. Heavily used parking areas along the side of 27 ¼ Road are completely bare of vegetation, as are the adjacent adobe hills. Further to the east, additional areas of high recreational use and severe habitat destruction are marked by roads on nearly every hilltop and the surrounding slopes.

It is important to note that the technical memorandum includes a larger survey area (720 acres) than the actual Proposed Action Alternative impact area (188 acres of BLM managed land and the area on the airport property), which was reduced to minimize the land required to meet the purpose and need. Analysis for impacts on the actual area for the land transfer for the proposed action alternative (188 acres) will be included in Chapter 4.

The following subsections describe the results from the 2010 survey, as developed based on information provided by agencies on species of interest (detailed above).

3.8.2.1 Fish

Based on the surveys conducted in 2010, fish species within the Study Area are non-existent. Ephemeral drainages flow generally from the north to the south, but no permanent waters are found within the Study Area. Because these drainages lead to the Colorado River, indirect effects of the project on the endangered fish through depletions and water quality

impairment are discussed in the Chapter 4 under the Threatened and Endangered Fish and Wilidfe Section.

3.8.2.2 Common Wildlife and BLM Sensitive Species

Terrestial vertebrate species other than endangered, threatened, and candidate species could include small lizards, snakes, birds, rodents, and larger mammals including red fox, coyotes, and possibly deer. Common species to adobe badlands may include: Northern sagebrush lizard (*Sceloporus graciosus graciosus*), Northern whiptail (*Cnemidophorus tigris septentrionalis*), gopher snake (*Pituophis catenifer*), rock dove (*Columba livia*), mourning dove (*Zenaida macroura*), common nighthawk (*Chordeiles minor*), black-billed magpie (*Pica pica*), Amercian robin (*Turdus migratorius*), European starling (*Sturnus vulgaris*), Western meadowlark (*Sturnella neglecta*), Brewer's blackbird (*Euhagus cyanocephalus*), house finch(*Carpodacus mexicanus*), house sparrow (*Passer domesticus*), masked shrew (*Sorex cinereus*),Western small-footed myotis (*Myotis californicus stephensi*), long-legged myotis (*Myotis volansinterior*), desert cottontail (*Sylvilagus audubonii*), blacktailed jackrabbit (*Lepus californicus*), white-tailed jackrabbit (*Lepus townsendii*), least chipmunk(*Tamias minimus*), Northern pocket gopher (*Thomomys talpoides*), Ord's kangaroo rat (*Dipodmys ordii sanrafaeli*), deer mouse (*Peromyscus maniculatus*), house mouse (*Mus musculus*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), red fox (*Vulpes vulpes*), bobcat (*lynx rufus*), and mule deer (*Odocoileus hemionus*). Other common species were observed during surveys in May of 2010 (Table 3-2).

Of special interest are the longnose leopard lizard (*Gambelia wislizenii*), midget faded rattlesnake (*Crotalus viridis concolor*), milk snake (*Lampropeltis triangulum taylori*), Great Basin spadefoot (*Spea intermontana*), kit fox (*Vulpes macrotis*), Botta's pocket gopher (*Thomomys bottae rubidus*), white-tailed prairie dog (*Cynomys leucurus*), American kestrel (*Falco sparverius*), barn owl (*Tyto alba*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalus*), loggerhead shrike (*Lanius ludovicianus*), red-tailed hawk (*Buteo jamaicensis*), bald eagle (*Haliaeetus albus*), and golden eagle (*Aquila chrysaetus*). These are BLM sensitive species, as discussed in the coordination sections.

Availibility of habitat for these species is limited on the airport property and the proposed BLM transfer property as a result of OHV use, grazing, and denuding of the vegetation by prairie dogs. Without tree and shrub cover and year-round water sources, many species of wildlife cannot readily survive or reproduce. Those adapted to desert conditions could thrive, but would be impacted by the degraded habitat within the Study Area. Vegetation in the Study Area consists of saltbush (*Altriplex corrugata*) species and annual plants on the hills and slopes and greasewood (*Sarcobatus vermiculatus*) and rabbitbrush *(Chrysothamnus nauseosus*) in the arroyos. Given the landscape condition, the presence of many wildlife typically associated with the adobe badlands is limited.

Despite the aforementioned disturbance, at least three BLM sensitive animal species were confirmed present at the Study Area during the surveys. Those species are white-tailed prairie dog, Botta's pocket gopher, and Loggerhead Shrike (Figure 3-4). Two additional species, Great Basin spadefoot and burrowing owl, were known to be present in the past, but were not observed in 2010. Two burrowing owls were observed in the survey area in 2012 by BLM personel. Great Basin spadefoot were observed in the area in 2012.

White-tailed prairie dogs are common within the Study Area. Most burrows are located in the drainages, but some can be found on the sides and even the tops of the lower ridges. In late May of 2010, perhaps half of the burrows were inactive. But by end of field work in July, dispersing young of the year had occupied most vacant burrows. Active burrow densities in July were estimated at 10 to 15 per acre, with even greater densities between the north side of the airport runway and the BLM boundary.

Botta's pocket gopher appears confined to the slopes and tops of the lower hills. No burrow mounds were observed in the drainages amid the prairie dog burrows. No population estimates were made, but fresh diggings was readily observed in suitable habitat.

A loggerhead shrike nest was found June 7, 2010 in a tamarisk (type of shrub/tree) near a stock pond. This tamarisk is probably the only suitable nest site in the Study Area. Great Basin spadefoot was not observed during the survey; however, species specific surveys were not conducted, and in past years adults and tadpoles have been encountered in temporary rain pools along 27¼ Road in the Study Area; in 2012, adults were encountered just north of the project area.

No burrowing owl nests were found in the Study Area or in the surrounding buffer. Three active nests were found a short distance to the north outside the buffer, and were reported to the BLM in a separate report. In 2009, an active nest burrow was encountered on airport property on the west side of 27 ¼ Road, within the present buffer, but the birds were not observed during the 2010 survey. Two burrowing owls were observed in the survey area in 2012 by BLM personnel.

Wildlife species identified in the field are presented in Table 3-2. This table also includes species recognized by scat, bones, or other means within the property boundaries. These species are typically associated with desert environments, drainages, or irrigation ditches. No threatened or endangered species were encountered. Full results of the wildlife surveys conducted May through July, 2010 can be found in Appendix 5.

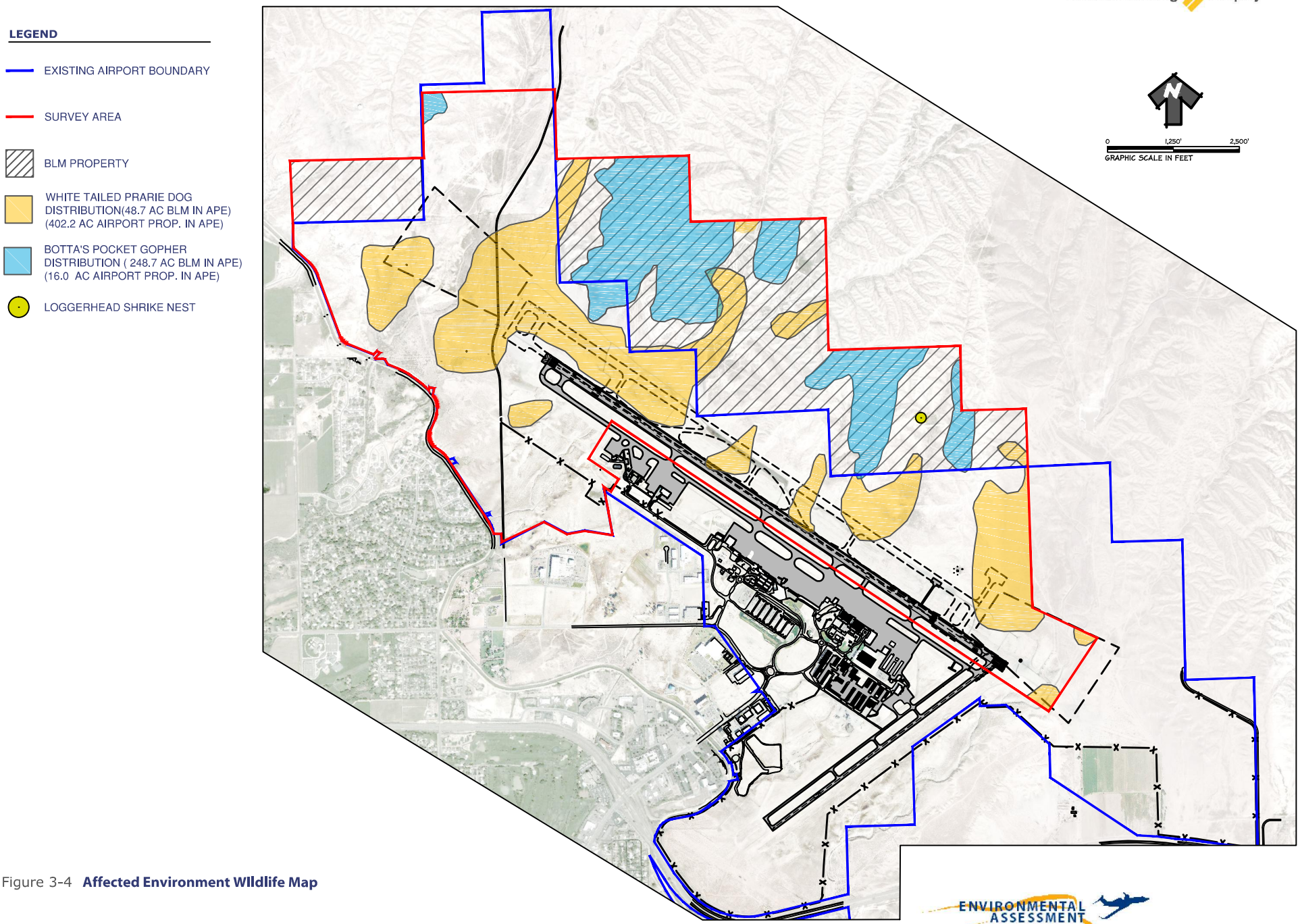

Figure 3-4 **Affected Environment Wildlife Map**

Table 3-2
SPECIES ENCOUNTERED DURING SURVEYS ON MAY 6-13, 2010

Grand Junction Regional Airport Environmental Assessment

Common Name	Scientific Name	Evidence
White-tailed prairie dog	*Cynomys leucurus*	Sighting
Black-billed magpie	*Pica hudsonia*	Sighting
Horned lark	*Eremophila alpestris leucolaema*	Sighting
American robin	*Turdus migratorius*	Sighting
Western kingbird	*Tyrannus verticalis*	Sighting
Mourning dove	*Zenaida macroura*	Sighting
Gambel's quail	*Callipepla gambelii*	Sighting
American kestrel	*Falco sparverius*	Sighting
Cliff swallow	*Petrochelidon pyrrhonota*	Sighting
Barn swallow	*Hirundo rustica*	Sighting
Violet-green swallow	*Tachycineta thalassina*	Sighting
Western Meadowlark	*Sturnella neglecta*	Sighting
Spotted towhee	*Pipilo maculatus*	Sighting
Rock wren	*Salpinctes obsoletus*	Sighting
Loggerhead shrike	*Lanius ludovicianus*	Sighting
Common Raven	*Corvus corax*	Sighting
Golden eagle	*Aquila chrysaetos*	Flyover
Red-tailed hawk	*Buteo jamaicensis*	Sighting
House sparrow	*Passer domesticus*	Sighting

Source: Bio-Environs, 2010.

3.8.3 USFWS Service Threatened and Endangered Fish and Wildlife

There are no intermittent or perennial sources of water within the Study Area and therefore, likely no habitat for fish species onsite. Arroyos (a dry creekbed that may support ephemeral flows) are present, and several dam features have been constructed, but all of them have breached. Thus, no fish are anticipated to be within the direct Study Area. However, potential indirect effects on fish are analyzed in Chapter 4 due to the connectivitiy of the ephemeral drainages to the Colorado River. There is also no known habitat in the area for the recently listed Gunnison Sage Grouse (*Centrocercus minimus*).

3.8.4 Migratory Birds, and Bald and Golden Eagles

Under the Migratory Bird Treaty Act (MBTA) and Executive Order (EO)13186, guidance emphasizes management of habitat for species of conservation concern by avoiding or minimizing negative impacts and restoring and enhancing habitat quality, suggests use of a timing limitation to avoid the direct take of migratory bird population or nests. A loggerhead shrike nest was found outside of the Study Area during the survey, but no raptor nests or bald or golden eagle nests were found within the Study Area as determined in the field survey of 2010.

3.8.5 Plants

Since all plant species of interest bloom in spring, field surveys were planned for and conducted during the spring of 2010 (Figure 3-5). An additional survey was conducted in June to confirm locations of Grand buckwheat populations and individuals of the smallflower fishhook cactus.

Within the less degraded areas, the survey team encountered 1.06 acres of Grand buckwheat (*Eriogonum contortum*) on airport property, and within the BLM transfer property boundaries they found approximately 93 acres located in the northeastern portion of the survey area. The population extends north of the initial 720 acre BLM transfer area/survey area. In addition to the location of the Grand buckwheat, the survey team also encountered 8 to 10 individual plants of the *Sclerocactus* in the northeastern portion of the survey area. Within the last 100 years, the area north of the Airport was intensively grazed by livestock.

Graded areas were likely seeded with a mixture of native and non-native species, but given the lack of precipitation, bareground, and annuals, invasive species prevail. In one area where little disturbance has occurred, intact saltbush communities exist. Where OHV use is prevalent on the BLM managed land, bareground dominates, but where the slopes and alluvial fans have experienced no vehicular use, saltbush and shadscale mixed with annuals prevails. Figure 3-5 provides the general location of the plant communities. Full results of the vegetation surveys are described in Appendix 5.

3.8.6 Wildlife Hazards

FAA AC 150/5300-33A, *Hazardous Wildlife Attractants on or near Airports,* provides guidance on land uses that have the potential to attract hazardous wildlife to airports. Potential wildlife hazards at the Airport were considered during the *Wildlife Hazard Assessment for Grand Junction Regional Airport (June 2007 to May 2008)* and strategies for managing and reducing the potential for wildlife issues are included in the *Grand Junction Regional Airport Wildlife Hazard Management Plan.* The management plan also addresses reduction of wildlife hazards on airport property through vegetation, habitat and structure management and through lethal and non-lethal means of eradication.

3.9 Floodplains

Executive Order 11988 directs Federal agencies to take action to reduce the risk of flood loss, minimize the impact of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values served by floodplains. Portions of the Airport are located within a 100-year floodplain. The Airport is located on gently sloping terrain, and all drainages within the vicinity of the Airport eventually flow into the Colorado River. Two named (Leach Creek and Indian Wash) and 11 unnamed ephemeral drainages grade northeast to southwest within the proposed BLM transfer property. These drainages are arroyos that have cut deeply into the highly

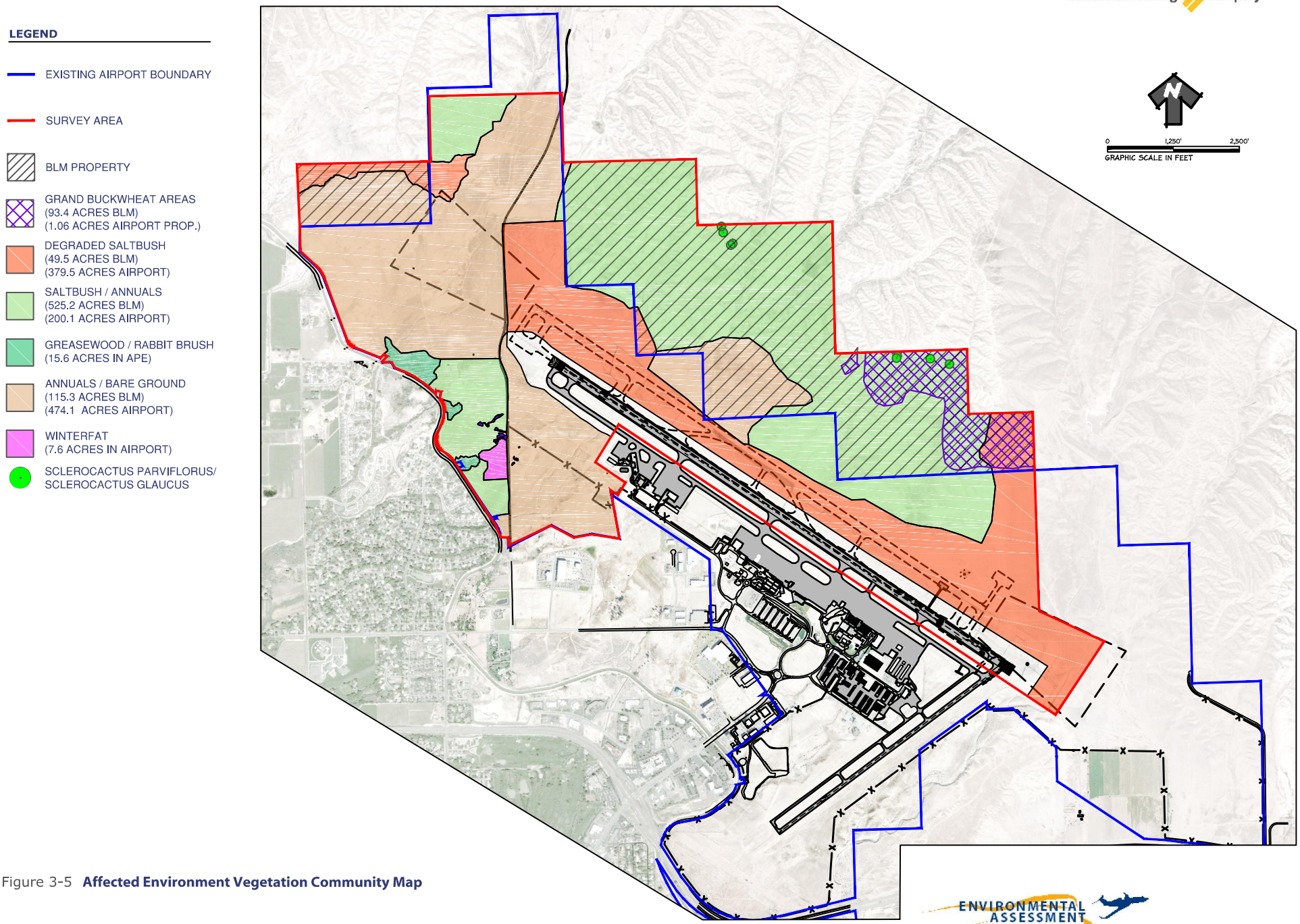

Figure 3-5 **Affected Environment Vegetation Community Map**

erodible adobe badland environment. They form as a result of precipitation events and geological position.

There is no subsurface or shallow ground water present under these drainages. They typically support bare banks at places where the banks are at right angles to the drainage bottom, or a combination of greasewood (*Sarcobatus vermiculatus*) and rubber rabbitbrush (*Chrysothamnus nauseosus*) if the bank slopes to the drainage bottom. At least four dams have been placed within the drainages, and only one remains unbreached. However, the dam that remains intact does not hold water. The Study Area for floodplains includes the proposed impacted areas on airport property and the BLM managed land proposed for acquisition. There are no FEMA floodplains within the Study Area.

3.10 Hazardous Materials, Pollution Prevention, and Solid Waste

Handling and disposal of hazardous materials is stringently regulated by Federal, State, and Local agencies. Hazardous materials, also referred to as dangerous goods, are any solid, liquid, or gas that can harm people, other living organisms, property, or the environment. These materials may be radioactive, flammable, explosive, toxic, corrosive, a biohazard, an oxidizer, an asphyxiate, a pathogen, an allergen, or may have other properties or characteristics that deem it hazardous in specific circumstances. Solid waste is any garbage, refuse, sludge, or other discarded materials including solid, liquid, semi-solid, or contained gaseous material. Pollution prevention is the reduction or elimination of waste at the source.

Federal laws governing the handling and disposal of hazardous materials, chemicals, substances, and wastes include:

- Resource Conservation and Recovery Act (RCRA) (as amended by the Federal Facilities Compliance Act of 1992),
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA or Superfund), and
- Community Environmental Response Facilitation Act of 1992.

RCRA governs the generation, treatment, storage, and disposal of hazardous wastes. CERCLA provides for consultation with natural resources trustees and cleanup of any release of a hazardous substance (excluding petroleum) into the environment. The USEPA keeps detailed information on all businesses dealing with Hazardous Materials, water discharge, Superfund sites, toxic releases, and air emissions.

The Study Area for this resource category includes the area of proposed land transfer from the BLM, the BLM ROW area, and the directly impacted areas within the airport property. According to the USEPA, there are a small number of sites located near the Airport that are permitted as small generators of hazardous wastes, but none of these are within the Study Area. These include: 3D Systems, Amoco Oil, Bold Petroleum Inc, Continental Grand Junction, Federal Express Corporation, Halco Patching and Sealing Inc, Hamilton Sundstrand, Twin Otter Airborne Research, US BLM Grand Junction District, West Star Aviation, and Western Skyways. These sites are located southwest of the primary runway, outside of the Study Area.

Solid waste generated at the Airport is disposed of at the local landfill, Mesa County Landfill, located approximately seven miles southeast of the City of Grand Junction. This landfill also accepts construction and demolition waste and currently has a footprint of approximately 127 acres and Mesa County owns approximately 1,500 acres in the vicinity of the landfill for future use.[7]

There are also three known locations of buried uranium mill tailings on existing airport property where this material was used as backfill for trenches between the existing Airport Traffic Control Tower (ATCT) and the remote transmitter/receiver (RTR). Generally, the three locations are in a line from the existing ATCT to the existing runway, an area northeast of the runway adjacent to the ATCT, and also an area under the RTR. Most of these buried uranium mill tailings are within the Study Area.

3.11 Historical, Architectural, Archaeological, and Cultural Resources

The National Historic Preservation Act of 1966 (NHPA) requires a review to determine if the proposed action will impact any resources that are listed in or eligible for inclusion in the National Register of Historic Places (NRHP). This includes the areas within which direct and indirect impacts could occur and cause a change in historic, architectural, archaeological, or cultural properties. The Archaeological and Historic Preservation Act of 1974 provides for the survey, recovery, and preservation of significant scientific, pre-historical, historical, archaeological, or paleontological data when such data may be destroyed or irreparably lost due to a Federal, Federally-funded, or Federally-licensed project. The Study Area for this resource category includes the area of proposed land transfer from the BLM, the BLM ROW area, and the directly impacted areas within the airport property, as well as those areas which may be affected by an increase in noise and the area within the viewshed of the proposed project. This Study Area is also referred to as the Area of Potential Effect (APE), which is a technical term for the Study Area relating to historic resources.

[7] http://www.mesacounty.us/swm/template.aspx?id=2156.

Section 106 of the NHPA requires Federal agencies to consider the impact of their undertaking on properties on or eligible for inclusion in the NRHP. Compliance with Section 106 requires consultation with the Advisory Council on Historic Preservation (ACHP), the State Historic Preservation Officer (SHPO), and/or the Tribal Historic Preservation Officer (THPO) if there is a potential adverse effect to historic properties that are on or eligible for listing on the NRHP.

Because the initial alternatives potentially included a much larger proposed land transfer, the initial survey area included the area on the existing airport property that includes approximately 1,072 acres and approximately 720 acres of BLM managed land (Figure 3-6). It is important to note that under the Proposed Action Alternative, only 188 of the initial 720 acres of BLM managed land is recommended for transfer to the Airport. So although the larger area has been surveyed, only 188 acres of BLM managed land, as well as the directly impacted area on the airport property could be potentially affected by the proposed project. The APE (same as Study Area) is illustrated in Figure 4-4.

Between July 2010 and March 2011, a records search of the general project area and a Class III intensive survey were completed to identify any cultural, historical, or archaeological sites present within the proposed APE. The surveys were completed by Tatanka Historical Associates Inc. and Metcalf Archaeological Consultants Inc, both Colorado BLM permitted cultural resource contracting firms. This surveys (BLM GJFO CRIR 18210-01) identified three historic sites and nine isolated finds (one prehistoric and eight historic).

Two of the sites (a historic homestead site (5ME17676)/feature and a dam (5ME17686)) located within the Study Area are recommended as not eligible for inclusion in the NRHP under Criteria A-D, because they lack integrity and other qualities that would make them eligible for inclusion. The remaining site is a segment of railroad bed of the historic Little Book Cliff Railway (5ME768.4). 5ME768.4 is recommended as eligible under Criterion A for inclusion in the NRHP because of its association with transportation and industry and the pioneering development of energy resources in the area.

The isolated finds (5ME17677-5ME17685) include eight historic trash scatters or minimal historic artifact distributions and one prehistoric artifact. They have no research potential and are not located in areas with potential for intact buried cultural material and are therefore recommended not eligible under Criteria A-D for inclusion in the NRHP.

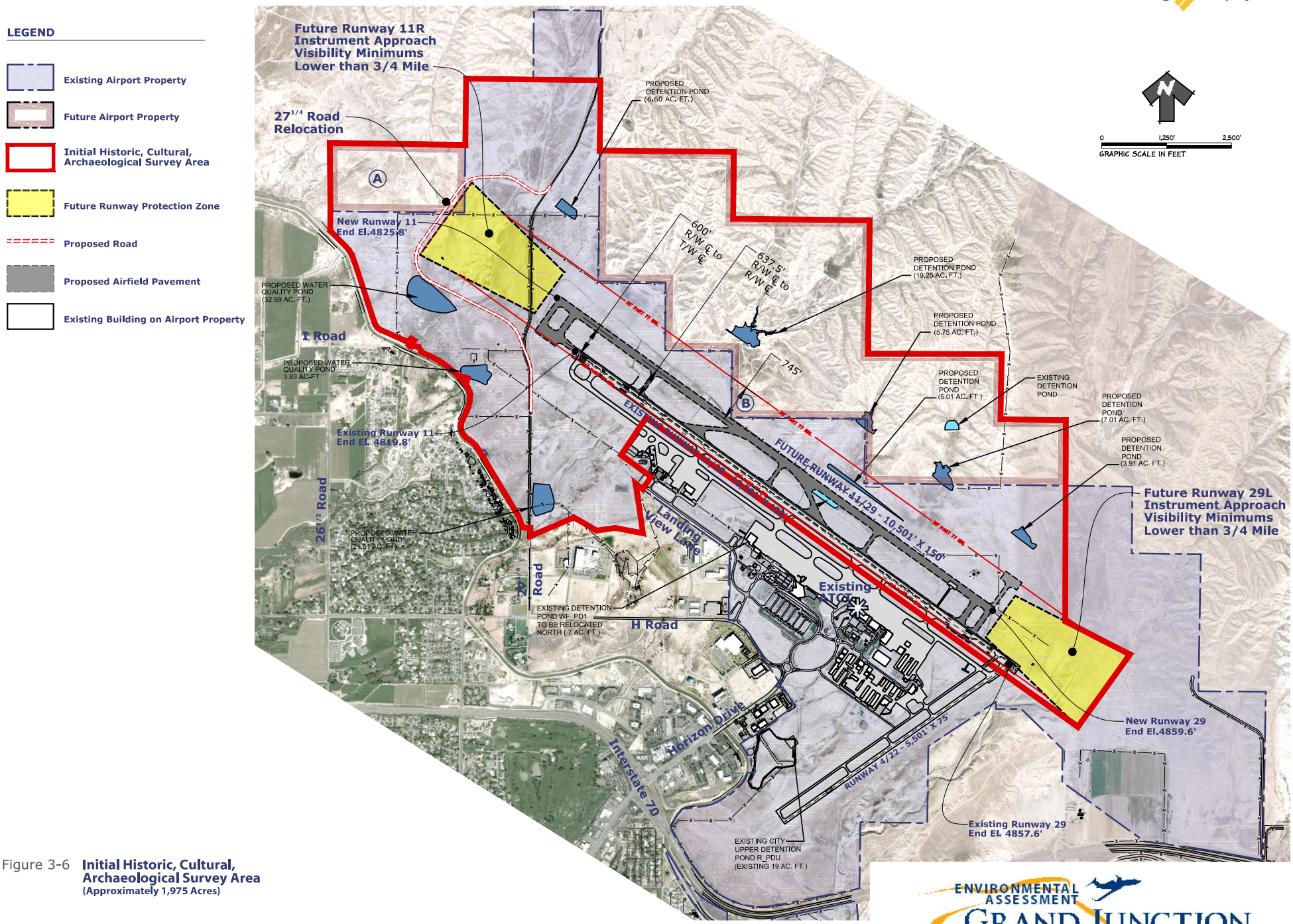

Figure 3-6 **Initial Historic, Cultural, Archaeological Survey Area**
(Approximately 1,975 Acres)

ENVIRONMENTAL ASSESSMENT
GRAND JUNCTION REGIONAL AIRPORT

3.12 Light Emissions and Visual Environment

Consideration should be given to the extent that any lighting improvements associated with the proposed project would create an annoyance among people in the vicinity or interfere with their normal activities. Consideration should also be given to visual or aesthetic impacts as a result of the proposed project. An explanation of the existing lighting and visual environment is presented in the following paragraphs. The Study Area for this resource category includes the area surrounding the Airport (including the BLM managed land to be transferred) and BLM managed land within visual view of these areas.The Grand Junction Regional Airport is mainly surrounded by retail, industrial, and commercial development. Interstate 70 lies to the south. The north side of the Airport is mainly undeveloped BLM managed land, but contains the Book Cliffs, a prominent geologic feature on the landscape that can be viewed from many miles away. Airfield lighting and rotating beacons are the main sources of light emissions emanating from an airport. The Airport has a rotating beacon for airplane guidance at night or in low visibility conditions. It also has a lighted wind indicator.

Runway 11/29 is equipped with High Intensity Runway Lights (HIRL), a four light Precision Approach Path Indicator (PAPI) on the left side of Runway 11, a four light Visual Approach Slope Indicator (VASI) on the left side of Runway 29. The Runway 11 end is served by a Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights (MALSR). In addition, Runway 29 has Runway End Identifier Lights (REILs). The crosswind runway, Runway 4/22, is equipped with Medium Intensity Runway Lights (MIRL), a four light Precision Approach Path Indicator (PAPI) on the left side of Runway 4. Both runway ends are also equipped with Runway End Identifier Lights (REILs). In addition to the runway lights, Taxiway A and its associated exit taxiway are illuminated by High Intensity Taxiway Lights (HITL) and signage. Taxiway B and its associated exist taxiways are illuminated by Medium Intensity Taxiway Lights (MITL) and signage.

The proposed transfer parcel lies within undesignated Visual Resource Management (VRM) areas. It has been the general practice of the Grand Junction Field Office to manage undesignated areas using VRM Class III objectives which allow moderate levels of change to the landscape and where management activities may attract attention, but should not dominate the view of the casual observer. The proposed BLM transfer parcel is generally a panoramic type landscape with broad views of the north desert and the distant backdrop of the Book Cliffs to the north, and the developed residential, commercial and agricultural areas of the Grand Valley and distant views of the Colorado National Monument and Uncompahgre Plateau to the south and west. The landscape in the immediate Study Area is characterized by low, rolling, mostly barren hills with some sparse low-growing grasses and shrubs. The landscape is criss-crossed with multiple roads and trails as well as the ephemeral washes that drain the area. Lines are mostly horizontal, with some vertical and diagonal elements. Colors are mostly muted tans and grays. Texture is smooth to medium. The casual observer would generally be recreationists driving along 27 ¼ Road or one of the OHV routes traversing the area.

3.13 Natural Resources, Energy Supply, and Sustainable Design

Executive Order 13123, *Greening the Government Through Efficient Energy Management*, promotes the expanded use of renewable energy sources within Federal agency facilities. Energy requirements associated with airport improvements generally fall into two categories: 1) changed demand for stationary facilities (e.g. airfield lighting and terminal building heating) and 2) those that involve the movement of air and ground vehicles, altering fuel consumption.

Development projects at airports have the potential to change energy demands or to reduce the availability of natural resources. CEQ regulations require the consideration of a project to require the use of or to deplete the availability of natural resources. The Study Area for this resource category includes Mesa County. Fuel is currently stored in above-ground storage tanks located west of the Mesa Airlines Maintenance Hangar on the south side of the Airport. The 100,000-gallon capacity facilities include storage for 68,000 gallons of Jet-A fuel and 32,000 gallons of 100LL AVGAS. The aircraft fueling service is currently provided by West Star Aviation via mobile refueling trucks.

The Airport has an existing 36-inch steel Ute Water Conservancy District supply pipeline running from the southeast to the northwest across Runway 4/22, which is reduced down to a 30-inch steel pipeline south of the roundabout at Walker Field Drive and Eagle Drive and continues northwest past the end of Landing View Lane. Three water elevations zones are created from this supply pipeline and provide water to the buildings on airport property. The airport sewer system consists of an 8-inch and a 12-inch pipeline that exit airport property to the southwest of the roundabout at Walker Field Drive and Horizon Drive. Existing gas and electrical utilities were verified during a field survey for both Xcel Energy utilities and Grand Valley Power utilities. While there are no gas/electrical utility hook-ups on the land proposed for transfer, Xcel Energy/Grand Valley Power could provide electricity to the areas, but may require upgrades and would only be allowed to develop to the boundary of each other's service area.

3.14 Noise

FAA Orders 1050.1E (*Environmental Impacts: Policies and Procedures)* and 5050.4b (*National Environmental Policy Act Implementing Instructions for Airport Actions)* and FAA 14 C.F.R. Part 150 (*Airport Noise Compatibility Planning)* provide the criteria for determing airport noise impacts. The FAA has determined that the cumulative noise exposure to individuals resulting from aviation activities must be established in terms of the yearly Day/Night Sound Level (DNL). DNL metric measures the overall noise experienced during an entire (24-hour) day. DNL calculations account for the sound exposure level of aircraft, the number of aircraft operations, and a penalty for nighttime operations. In the DNL scale, noise occurring between the hours of 10 p.m. to 7 a.m. is penalized by 10 dB. This penalty was selected to account for the higher sensitivity to noise in the nighttime and the expected further decrease in background noise levels that typically occur at night. DNL provides a numerical description of the weighted 24-hour cumulative noise energy level using

the A-weighted decibel scale, typically over a period of a year. Typically, the FAA uses the 65+ DNL contour for land use compatibility.

The mechanism established for determing aircraft related noise impacts is the FAA's Integrated Noise Model (INM) version 7.0c. The INM is a state-of-the-art FAA approved software program that uses input files consisting of information on runway use, flight tracks, aircraft fleet mix, aircraft performace and thrust settings, topography, and atmospheric conditions to generate noise exposure contours. Noise sensitive areas exposed to a project-related increase of DNL 1.5 dB or more within the 65 DNL contour are considered significant project-related effects. Based on this, the Study Area for this resource includes the area contained within the project-related 65 DNL noise contour.

Existing aircraft noise contours for the Airport have been developed using current aircraft operations data discussed in Chapter 1. The existing noise contours are presented in Figure 3-7. There were sufficient operations at the Airport to generate the 65 and 70 DNL aircraft noise exposure contours. The 65 DNL contour extends off airport property and over BLM managed land to the north and northwest, over industrial land uses to the south and across Interstate 70 to the southeast. A portion of the existing condition 65 DNL contour extends over non-compatible residential land south of the interstate.

3.15 Socioeconomic Environment, Environmental Justice, and Children's Environmental Health and Safety Risks

3.15.1 Environmental Justice

Executive Order 12898 *(Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, February 11, 1994)* requires each federal agency to identify and address, as appropriate, disproportionately high and adverse impacts of it programs, policies, and projects on minority and low-income populations. The DOT Order on Environmental Justice states that a "disproportionately high and adverse effect on minority and low-income populations" means an adverse effect that is:

1. "Predominantly born by a minority population and/or low income population; or
2. Will be suffered by the minority population and/or low income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or low income population."

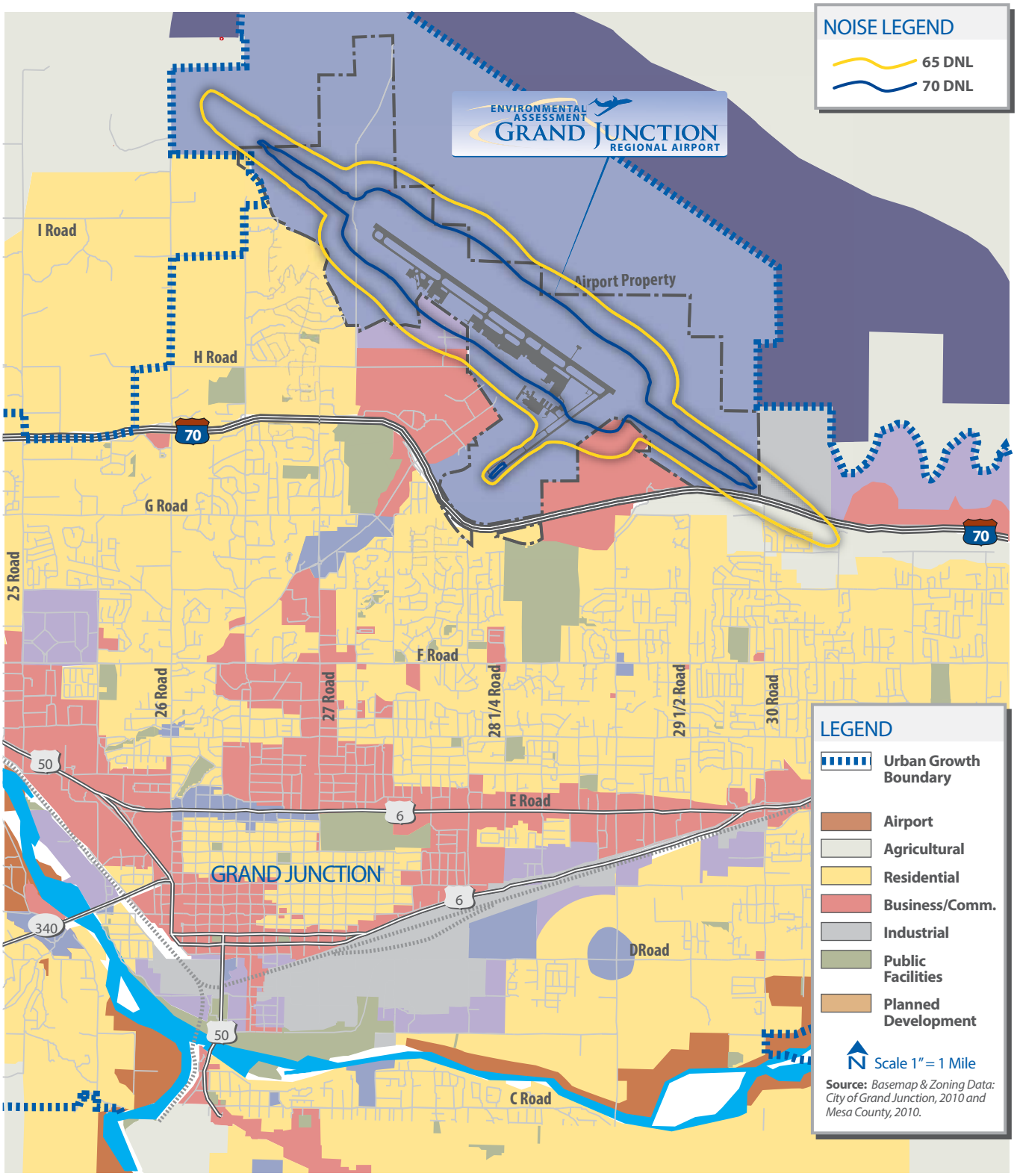

Figure 3-7 **Existing 2010 Noise Contours with Generalized Future Land Use**

The Order also states that any disproportionate impacts on these populations should be avoided, if practicable, unless the avoidance of these impacts would result in other significant impacts to social, economic, or environmental resources. The Study Area in this case includes the area of direct impacts (potential transfer from BLM, the BLM ROW area, the area on the airport property that is directly affected) and areas of indirect impacts (the 65 DNL noise contour and the areas downstream that could be impacted by changes in drainage areas on airport property).

According to the 2009 American Community Survey, Grand Junction has a population of approximately 54,694 people, and Mesa County has a population of approximately 137,879. Of this population for Grand Junction, 6.5% are under five years old and 15.8% are over 65 years old. The population statistics are shown in Table 3-3. According to this data, Grand Junction contains a slightly lower percentage of children under age 5 compared to the national average and a slightly higher percentage of elderly people than the national average. Grand Junction contains a slightly higher than average percentage of individuals below the poverty level, while Mesa County has a slightly lower percentage of individuals below the poverty level when compared to the national average. Grand Junction and Mesa County generally have lower than average populations of most minority populations when compared with the U.S. average, with the exception of a slightly higher population percentage of American Indian/Alaska Natives within Mesa County. There are no known special population groups withi the Study Area.

Table 3-3
GRAND JUNCTION AND MESA COUNTY POPULATION STATISTICS
Grand Junction Regional Airport Environmental Assessment

Facts	Grand Junction	Mesa County	United States
Population 2009 Estimate	54,694	137,879	301,461,533
Persons under 5 years old, percent	6.5%	7.0%	6.9%
Persons under 18 years old, percent	20.9%	23.8%	24.6%
Persons 65 years old and over, percent	15.8%	14.8%	12.6%
Female persons, percent	51.9%	51.0%	50.7%
White persons, percent	89.6%	89.8%	74.5%
Black persons, percent	0.9%	0.7%	12.4%
American Indian and Alaska Native persons, percent	0.8%	1.1%	0.8%
Asian persons, percent	0.9%	0.7%	4.4%
Native Hawaiian and other Pacific Islander, percent	0.0%	0.1%	0.1%
Persons reporting two or more races, percent	2.5%	2.7%	2.2%
Persons of Hispanic or Latino origin, percent	12.2%	11.9%	15.1%
High school graduates, percent of persons age 25+	89.1%	88.7%	84.6%
Bachelor's degree or higher, percent of persons age 25+	29.2%	24.7%	27.5%
Housing units	24,426	58,329	127,699,712
Vacant Housing Units, percent	4.8%	6.0%	11.8%
Median value of owner-occupied housing units	$215,800	$209,400	$185,400
Average Household Size	2.27	2.46	2.60
Per capita money income, 2009	$25,868	$26,053	$27,041
Median household income, 2009	$45,710	$50,611	$51,425
Individuals below poverty level	15.2 %	12.2%	13.5%

Source: U.S. Census, American Community Survey, 5-year estimates. 2009.

3.15.2 Socioeconomic Environment

The principal socioeconomic impacts to consider in any airport project are those associated with relocating or displacing a residential or business community, transportation capability, planned development, or employment. Environmental documents typically provide information on individuals, families, or business that a project could potentially displace within the Study Area. For the puroses of this EA, the Study Area for socioeconomic impacts is the Airport, the BLM managed land to be acquired and the 65 DNL noise contour.

According to Census data, the 2009 population in Grand Junction was approximately 54,694 people, up from approximately 41,986 in 2000. The population increased approximately 30% from 2000 to 2009. In general, the economy in Grand Junction and Mesa County is driven by the information technology, energy, aviation/aerospace, agriculture, healthcare/medical, and outdoor industry. Major areas of economic growth include recent additional development in oil and gas extraction, mining, and construction.

The housing statistics from the 2009 Census American Community Survey show that Grand Junction has approximately 24,426 housing units of which 4.8% are vacant. Grand Junction and Mesa County generally have lower than average population of most minority populations, when compared with the U.S. average, with the exception of a slightly higher population percentage of American Indian/Alaska Natives within Mesa County.

3.15.3 Children's Environmental Health and Safety Risks

Executive Order 13045, *the Protection of Children from the Environmental Health Risks*, directs Federal agencies to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. Agencies are encouraged to participate in implementation of the Order by ensuring that their policies, programs, activities, and standards address disproportionate risks to children resulting from environmental health risks or safety risks. The Study Area for Chilren's Environmental Health and Safety Risks includes the proposed impacted areas on airport property, the BLM managed land proposed for acquisition and the 65 DNL noise contour.

The closest neighborhood is located south of airport property adjacent to 27 ¼ Road (approximately 0.5 mile). The closest park is Paradise Hiss Park, also located just south of airport property and west of 27 ¼ Road (approximately 1 mile). The closest school to the Airport is Holy Family School, located southwest of the Airport (approximately 1.5 miles). The neighborhood, park, and school would not be directly affected by the Proposed Action and are located outside of the 65 DNL airport noise contour.

3.16 Water Quality

Airport projects may temporarily or permanently impact surface waters, groundwater, or drinking water supplies. In addition, the actual construction of the project can lead to water quality impacts.

Hydrological features in the area include the Colorado River, located approximately 4 miles south of the Airport, and the Government Highline Canal which is located approximately 1 mile south of the project area. Additionally, Indian Wash is located along the eastern border of airport property, and Leach Creek is located to the west of the Airport. Both drainages intersect with, but are diverted under, the Government Highline Canal. The Study Area for this resource includes the area proposed for transfer from the BLM, the BLM ROW area, and the area of potential affected airport property.

Two named ephemeral drainages and 11 unnamed ephemeral drainages were encountered in the in the surveyed area. Dams have been constructed on at least four of the drainages, but all have breached due to age and/or lack of maintenance, with the exception of one. The dam that remains intact does not hold water and is a grassed flatland supporting a few tamarisk shrubs (*Tamarix ramosissima*), greasewood (*Sarcobatus vermiculatus*), and rubber rabbitbrush (*Chysothamnus nauseosus*) (Appendix 5). Note that the area surveyed was larger than the Study Area due to a reduction in the proposed area of land transfer from the BLM to the Airport. All 13 of the ephemeral (non-relatively permanent) drainages are identified as jurisdictional water features in this report to meet the requirements of a "Preliminary Jurisdictional Determination" by the U.S. Army Corps of Engineers (USACE) (see the following Wetland section). The ephemeral drainages (arroyos) may carry water during precipitation events.

Surface disturbance associated with the proposed project would be situated entirely within water quality stream segments 13b and 13e of the Lower Colorado River Basin. Stream segment 2b and 3 of the Lower Colorado River Basin would be indirectly affected by the proposed action as all affected drainages are tributary to the Colorado River near Grand Junction, Colorado. Minimum standards for physical and biological, as well as numeric standards for inorganic and metals are identified in Regulation No. 37 Classifications and Numeric Standards for Lower Colorado River Basin (CDPHE 2012).

The 2012 CDPHE-WQCC Regulation No. 93 Section 303d List of Impaired Waters and Monitoring and Evaluation List, was reviewed to determine if Lower Colorado River stream segments 2b, 3, 13b, and 13e were listed. The entire portion of stream segment 2b was listed on the Monitoring and Evaluation list for sediment impairments. The entire portion of stream segment 13b was listed as impaired for Selenium, while Adobe Creek and Leach Creek were specifically identified as also being impaired for E. coli and iron impairments. Indian Wash (segment 13b) was identified on the Monitoring and Evaluation list for potential iron impairments. Stream segments 3 and 13e were not identified on the 303(d) or Monitoring and Evaluation list (CDPHE-WQCC, 2012).

It is important to note that the hydrologic function of this portion of the North Desert has been significantly altered from natural conditions given the combination of land use actions and geologic setting, which is on erosive Mancos shale that is often highly concentrated with selenium and salts. Land uses such as historic grazing, historic erosion control practices, and current recreational activities (OHV use) have degraded the landscape through surface disturbance leaving it increasingly vulnerable to erosion and susceptible flash flooding. In recent years, stormwater originating from the Study Area has traversed through residential and commercial areas in Grand Junction and have caused flooding and severe property damage (including breaching of the Government Highline Canal).

Furthermore, salt in the upper Colorado River is of concern for a number of political and socioeconomic reasons. Salinity limits in the 1974 U.S. agreement with Mexico require the United States to deliver Colorado River water of a particular quality to the border. Irrigation of crops, protection of wildlife habitat, and treatment for municipal water along the course of the river also place restrictions on the river's salt content (Tuttle & Grauch, 2009). The Colorado River Basin Salinity Control Act (Public Law 93-320) was enacted in June 1974. The Act was amended in 1984 by Public Law 98-569. Public Law 98-569 includes directing the BLM to develop a comprehensive program for minimizing salt contributions from lands under its management. Studies conducted by the Bureau of Reclamation estimate that 580,000 tons of salt are added to the Colorado River annually from the Grand Valley alone (BOR 2011[8]). It is also estimated that up to 15% of salt loading from the Grand Valley comes from diffuse sources on public lands (BLM 1985b).

3.17 Wetlands

Executive Order 11990 and DOT Order 5660.1A require Federal agencies to avoid and minimize the impact of projects on wetlands. A detailed site survey was conducted to document the presence or absence of wetlands. Detailed survey information and wetlands analysis is included in the technical memorandum in Appendix 5.

Wetlands are defined as areas inundated by surface or groundwater with a frequency sufficient to support vegetation or aquatic life requiring saturated or seasonally saturated soil conditions for growth and reproduction. According to the National Wetlands Inventory, there was a potential for wetlands near the Airport. Therefore, a complete survey of the site was completed in 2010 of both the area on the airport property and the initial BLM conveyance area of 720 acres. It is important to note that the Proposed Action Alternative only includes 188 acres of the original 720 acres of proposed BLM managed land for transfer to the Airport. Therefore, the Study Area for this resource category includes a smaller area than the survey area. The Study Area includes the 188-acre parcel of

[8] U.S. Department of the Interior-Bureau of Reclamation. 2011. Quality of Water Coloroado River Basin, Progress Report No. 23. Access April 2013. http://www.usbr.gov/uc/progact/salinity/pdfs/PR23final.pdf

BLM managed land for proposed transfer, the BLM ROW area, as well as the proposed impacted areas on airport property.

Wetland and other waters of the United States were investigated throughout the spring and summer of 2010. "Waters of the United States" or "Waters of the U.S." are within the jurisdiction of the USACE under the Clean Water Act. "Waters of the United States" is a broad term that includes waters that are used or could be used for interstate commerce. This includes wetlands, ponds, lakes, territorial seas, rivers, tributary streams including any definable intermittent waterways, and some ditches below the "Ordinary High Water Mark (OHWM)." Also included are manmade water bodies such as quarries and ponds that are no longer actively being mined or constructed. Wetlands, mudflats, vegetated shallows, riffle and pool complexes, coral reefs, sanctuaries, and refuges are all considered special aquatic sites that involve more rigorous regulatory permitting requirements. A specific, detailed definition of "Waters of the United States" can be found in the Federal Register (33 CFR 328.3).

Although no jurisdictional wetlands were found within the Study Area, two named ephemeral drainages and 11 unnamed ephemeral drainages were encountered in the field (Figure 3-8). All 13 of the ephemeral (non-relatively permanent) drainages are identified as jurisdictional water features in this EA to meet the requirements of a "Preliminary Jurisdictional Determination" by the USACE. The ephemeral drainages (arroyos) may carry water during precipitation events.

Limits to waters of the U.S. are generally delineated at the OHWM, which is identified by the shallow scoured bed, a natural scour line on the bank of the channel, erosional patterns, and lack of impacts to vegetation that exists in the bottoms of these features. The ephemeral drainages are generally classified as arroyo type discontinuous ephemeral channel features. Due to the sometimes deeply incised nature of these arroyos, the waterways appear to include a limited active floodplain within the arroyo channel confining the conveyance of surface run-off to an incised channel.

It appears that the higher flows in the past in identified drainages may be reduced in some cases by the dam features. Many of these features were originaly constructed to reduce erosion and minimize downstream flood impacts. However, due to the lack of maintenance and/or insufficient design and construction practices, these structures are no longer functional and now may contribute to the unstable banks and the narrowing and incised nature of these ephemeral drainages. In addition, all of the drainages have been subject to human disturbance and flow modifications in the form of grading and channelization within the Airport Operations Area (AOA).

Flow modifications may result in the aggradation (increase in land elevation due to sedimentation) or loss of an identifiable channel due to the diversion or withdrawal of surface water, while channelization may contribute to increased sediment transport and increased channel incision. Eight of the jurisdictional ephemeral drainages identified are piped underneath airport runways, airport facilities, and the Highline Canal to join drainage detention features and/or City of Grand Junction and Grand Valley Drainage District's drainage systems. Although three of the identified

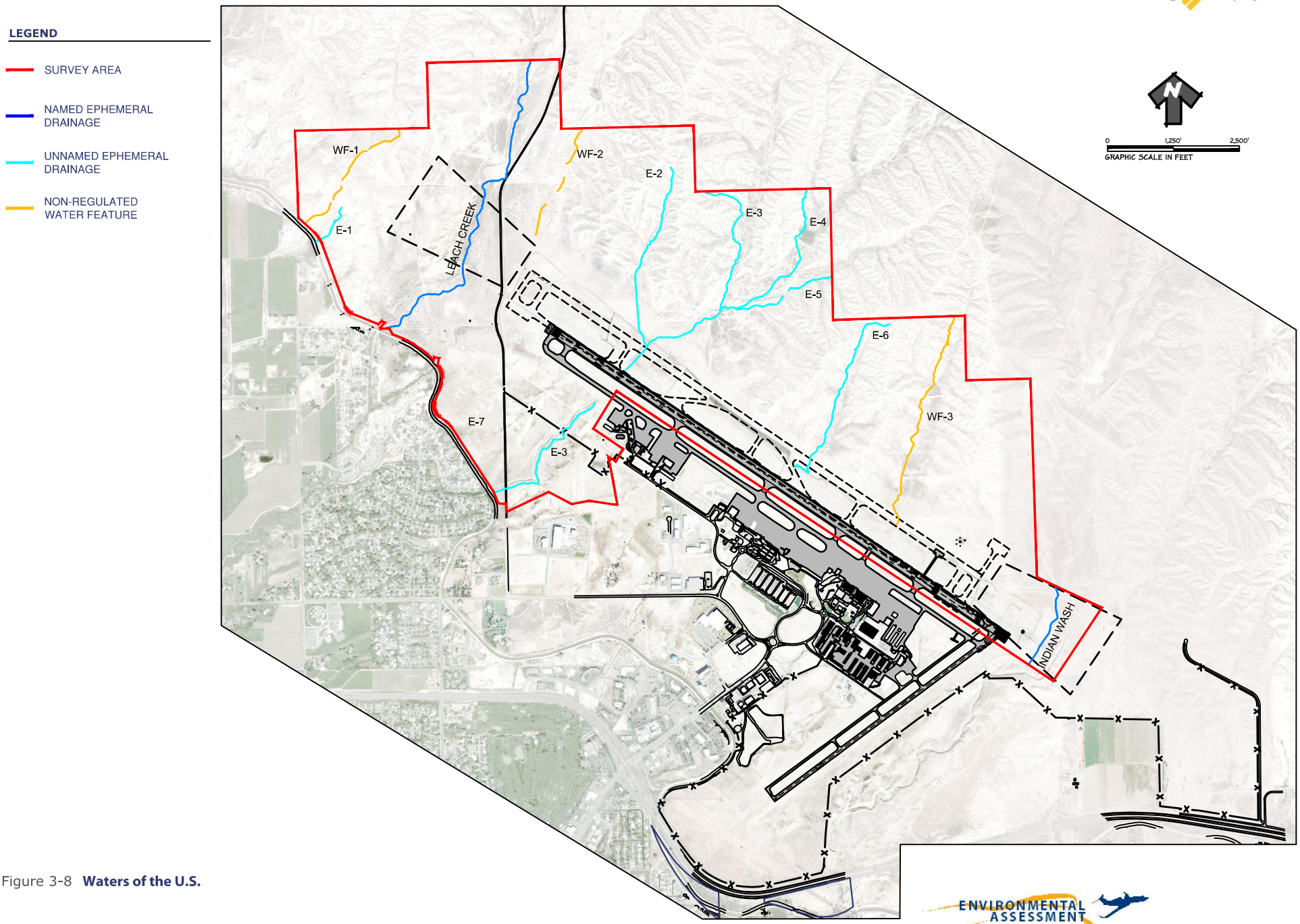

Figure 3-8 **Waters of the U.S.**

water features do not appear to have hydrologic connection to "Waters of the U.S." and may be considered "non- regulated" water feature, all 13 drainage features are identified as jurisdictional to meet the requirements of a USACE "Preliminary Jurisdictional Determination."

The type of jurisdictional water, linear footage, and acreage are recorded in Table 3-4. Ten of the regulated "Waters of the U.S." identified have a hydrologic connection to the Colorado River Basin.

Table 3-4
LINEAR FOOTAGE, WIDTH AND DEPTH OF WATERS OF THE US WITHIN THE SURVEYED AREA
Grand Junction Regional Airport Environmental Assessment

Water of the U.S.	NWI classification; Jurisdictional Status	Linear Feet w/in Surveyed Area	Avg. Width at OHWM (ft)	Avg. Depth at OHWM (in)
Leach Creek	Riverine, intermittent, streambed, seasonally flooded; Intermittent -RPW jurisdictional	7,200	2.0	3.0
Indian Wash	Riverine, intermittent, streambed, seasonally flooded; Intermittent –rpw jurisdictional	1,800	4-6	4.0
E-1	OHWM present; –Non-RPW –jurisdictional	886	1.0	1.0
E-2	OHWM present; –Non-RPW -jurisdictional	3,872	2.0	4.0
E-3 North	OHWM present; –Non-RPW -jurisdictional	5,571	5.0	1.5
E-3 South	OHWM present; –Non-RPW -jurisdictional	3,237	2.5	6.0
E-4	OHWM present; –Non-RPW -jurisdictional	3,655	1.5	2.0
E-5	OHWM present; –Non-RPW -jurisdictional	2,216	1.5	2.0
E-6	OHWM present; –Non-RPW -jurisdictional	4,266	2.0	2.0
E-7	OHWM present; –Non-RPW –jurisdictional	1,253	2.0	2.0
E-8	OHWM present; –Non-RPW –jurisdictional	1,066	2.0	2.0
WF-1	Jurisdictional-Preliminary Determination	694		
WF-2	Jurisdictional- Preliminary Determination	550		
WF-3	Jurisdictional_ Preliminary Determination	1,456		
Total		**28,914**	**N/A**	**N/A**

Source: Grand Junction Regional Airport Biological and Wetland Survey, BioEnvirons, LLC, 2010.
Note: Initial project area has been reduced to 188 acres of BLM managed land to be transferred rather than the original 720 acres of BLM managed land so as to minimize effects on public recreational land. This table includes data from the entire Surveyed Area. Analysis for impacts to wetlands on the Study Area (smaller transfer parcel of 188 acres/airport property) is included in Chapter 4, Wetlands Section.
RPW (Relatively Permanent Water).

3.18 Wild and Scenic Rivers

Wild and Scenic Rivers are designated as part of the National Wild and Scenic River Program by the US Department of the Interior under the Wild and Scenic River Act to protect the most beautiful and unspoiled rivers in the nation. River segments are designated based on their outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values and are to be preserved in free-flowing condition for the benefit and enjoyment of present and future generations.

According to a listing of Wild and Scenic Rivers compiled and managed by the USACE, the BLM, the National Park Service, the U.S. Forest Service, and the USFWS, there are no wild and scenic rivers located within the vicinity of Grand Junction Regional Airport. There are several stream segments in the GJFO that are eligible for inclusion in the National Wild and Scenic River system, however none are affected by the proposed action alternative. For these reasons, this category is eliminated from further consideration in this EA.

3.19 BLM Specific Resource Considerations

The Study Area for these BLM specific resource considerations includes the area of proposed transfer (188-acre parcel of BLM managed land) and the BLM ROW area. There are a number of BLM specific environmental resource considerations in this EA. Because the preparation of this document is being funded by FAA and primarily follows FAA orders and guidance, these BLM resource categories are being listed separately. However, where environmental resource considerations of both agencies (BLM and FAA) overlap, such as Land Use and Fish, Wildlife and Plant, the NEPA requirements of both agencies will be discussed under those specific categories.

3.19.1 Wilderness Study Areas and Lands with Wilderness Characteristics

The BLM GJFO recently updated its inventory for lands with wilderness characterstics (July 2012). No lands with wilderness characteristics or Wilderness Study Areas are located within or affected by the Study Area.

3.19.2 Transportation and Access

In preparing for this EA, the BLM conducted an inventory of the existing access routes and general recreation uses. Recreation users generally access BLM managed land in the airport vicinity along 27 ¼ Road. There are currently no developed parking areas; recreation users park along and adjacent to 27 ¼ Road with their vehicles. One of the most popular parking/staging areas is on airport property in the area immediately north of the cattleguard on 27 ¼ Road. A secondary access point is located near 29 Road, south of the Airport, near Interstate 70. The proposed transfer parcel is not used as an access point to other lands and would therefore not cut off access to other portions within the OHV area.

3.19.3 Land Tenure and Realty Authorizations

The surface and mineral estates of the lands within the Study Area are Federally-owned and are administered by the BLM. The proposed transfer of title of the surface estate is being processed in accordance with Federal regulations at 43 CFR 2640. The public lands throughout the Study Area are generally made available to all types of land use authorizations. Existing realty authorizations on public lands in the vicinity of the Study Area include right-of-way (ROW) grants for roads, gas and water facilities, and utility lines. There is one BLM-authorized ROW within the Study Area. This ROW (Serial No. COC-0-61164) was issued for a perpetual term and is held by Grand Valley Rural Power for an existing transmission line crossing Parcel A of the Study Area. The ROW would remain in place following the land transfer. The transmission line is located at a safe distance to the existing and future runway thesholds and is not an obstruction to the approach surface.

As part of this project, the Airport would file an application with the BLM for three stormwater detention ponds proposed on BLM managed land north of proposed transfer parcel B.

3.19.4 Forest Management

There are no forested areas within the Study Area.

3.19.5 Recreation

A portion of the area proposed for transfer from the BLM to the Airport is characterized by open space and is designated as part of the 11,000-acre Grand Valley OHV Recreation Area. The broader Grand Valley area is designated by the BLM as an IRMA. IRMA management objectives are not well defined, and it is a designation that is no longer used by the BLM. This area is used for recreational activities such as the use of All-Terrain Vehicles (ATVs), motorcycling, mountain biking, etc. The area receives a high volume of recreational use and traffic, mostly in the spring and fall months. Based on traffic counter data in 2010, annual visitation was estimated at 135,000 at 27 ¼ Road and 131,000 at 29 Road.

3.19.6 Mineral Resources

The area proposed for transfer from the BLM to the Airport, as well as the proposed BLM ROW area, is considered to be open to oil and gas leasing. There is one existing shut-in well head within the initial 720-acre parcel, however, the wellhead is outside the revised 188-acre parcel under the Proposed Action Alternative.[9] There are also two oil and gas leases on the property. Of the 188 acres of BLM managed land to be transferred under the Proposed Action Alternative, approximately 30.5 acres (located in Parcel B) are leased for oil and gas exploration.

No valuable locatable minerals were found in the general area. There are no mining claims on the property and no solid mineral leases are held in the area. There are no sources of decorative rock or mineral materials on site. Clay is abundant, but similar clays are found throughout the Grand Valley.

Under the Proposed Action Alternative, the surface estate of the 188 acres would be transferred, but the mineral rights would be retained by BLM and managed by BLM as a split estate.[10]

3.19.7 Livestock Grazing

The area proposed for transfer from the BLM to the Airport, as well as the proposed BLM ROW area, is currently permitted for cattle grazing in the Mount Garfield Allotment #16509 (allotment type "I" for Improve) and supports approximately 1,000 Animal Unit Months (AUMs). Season of use is 203 cattle from December 1 to April 30.

3.19.8 Soils

All soils within the project areas are developing in and from shale and sandstones of the Mancos and Mesa Verde Formations. The area is dissected by many gullies, with runoff-producing events carrying sediment into the gully system. The area is primarily degraded through previous OHV use and is primarily silty/sandy. A custom soil resource report is included in Appendix 4.

According to the *National Cooperative Soil Survey* from the Natural Resources Conservation Service (NRCS), the soils on the BLM proposed transfer property vary widely. The two most abundant soils located within airport property are Killpack-Badlands-Persayo complex (soil unit 68), 3-25% slopes, strongly saline(~25mmhos/cm) and has a moist bulk density between 1.15 and 1.3 g/cc; and Uffens fine sandy loam (soil unit 75), 1-6% slopes, moderately saline (~16 mmhos/cm) and has a moist bulk density between 1.15 and 1.3 g/cc. The soils support four vegetative communities including: 1) annual/bareground graded areas; 2) degraded saltbush areas; 3) saltbush/annuals areas; and 4) greasewood/rabbitbrush communities. The most abundant soluble mineral in the area is gypsum with calcite next in abundance. Appreciable amounts of sodium and magnesium hydrated

[9] Because of requirements of DOT Section 4(f), the FAA and the Airport reduced the initial area of acquisition to minimize the acreage needed to meet the purpose and need of the proposed project.

[10] Split estate is a situation in which a property owner is not the same party who owns the rights to extract minerals from underneath the property.

sulfates and other carbonates are present also. Chloride salts do not appear in appreciable amounts (Johnson R.K., Schumm S.A., 1982[11]).

Average sedimentation rates from primary soil units were estimated using the moist soil bulk densities reported in NRCS soil mapping data for the Mesa County Soil Survey Area and measured annually for average soil sedimentation rates occurring on Mancos shale derived soils in grazed watersheds within the Badger Wash Study Area, which indicate average sedimentation rates of 2.03 acre/ft./year (Lusby et.al., 1978[12]). Soils in the Badger Wash Study Area are also derived from Mancos shale geology and are representative of soils found in the project area. Natural sedimentation rates within the project area for soil mapping units 68 and 75 are estimated to be between 4.96 and 5.61 tons/acre/year.

Estimates for percent salt content per unit weight of the affect soils were conducted through the BLM's Grand Valley Desert Watershed Activity Plan (BLM 1985[13]). The activity plan estimates 3 percent salt content per unit weight for soils in the affected area. Using this estimate, salt yields for soil mapping units 68 and 75 range between 0.15 and 0.17 tons/acre/year.

3.19.9 Geology/Paleontology

The geology of the Study Area consists primarily of rolling, adobe hills formed from the Cretaceous age Mancos Shale. There are no known geologic concerns or geologic hazards within the Study Area. There are also no known paleontological sites surveyed within the Study Area. The Mancos Shale is rated as a Class 3 geologic unit using the BLM Potential Fossil Yield Classification (PFYC) system. This rating is given, because there is a moderate potential for the Mancos Shale to contain vertebrate fossils or scientifically important invertebrate fossil resources. Some of the fossil resources previously found locally within this geologic formation include: duck-billed dinosaurs, marine reptiles, fish, sharks, clams, oysters, ammonites, and plants.

3.19.10 Migratory Birds

Migratory birds, as well as other fish and wildlife, are addressed under Federal regulations such as the Endangered Species Act and the Migratory Bird Treaty Act in the Fish and Wildlife section of the EA. This subsection addresses BLM policy on migratory birds. The area proposed for transfer from the BLM to the Airport has breeding, feeding, and wintering habitat for migratory birds, but the quality of such habitat is not high. The two primary vegetative types, saltbush shrublands and cheatgrass flats, are attractive to a limited number of nesting species such as Western Meadowlarks

[11] Johnson R.K., Schumm S.A., 1982, Geomorphic and Lithologic Controls of Diffuse-Source Salinity, Grand Valley, Western Colorado. Completion Report OWRT Project No. B-203-COLO. Department of Earth Resources, Colorado State University.

[12] Lusby et.al, 1963. Hydrologic and Biotic Characteristics of Grazed and Ungrazed Watersheds of the Badger Wash Basin in Western Colorado, 1953-58. U.S. Geological Survey Water-Supply Paper 1532-B.

[13] Bureau of Land Management. 1985b. Grand Valley Desert Watershed Activity Plan. Grand Junction District. Grand Junction, Colorado.

and Horned Larks (*Eromiphila alpestis leucolaema).*[14] The area is primarily used during springtime, and the noise and disturbance from off-road vehicles further reduces the value of this area as nesting and feeding habitat (Appendix 5). A full description of species found during the survey was detailed previously in Table 3-1.

3.19.11 Invasive Species

The results of the field survey (Appendix 5) indicate that the majority of the Study Area consists of bare ground and/or a mix of exotic, invasive annual grasses. These invasive grasses include cheatgrass (*Anisantha tectorum*) and annual wheatgrass (*Eremopyrum triticeum*) (Appendix 5).

3.19.12 Tribal/Native American Religious Concerns

American Indian religious concerns are legislatively considered under several acts and Executive Orders, namely the American Indian Religious Freedom Act of 1978 (PL 95-341), the Native American Graves Environmental Assessment Protection and Repatriation Act of 1990 (PL 101-601), and Executive Order 13007 (1996; Indian Sacred Sites). In summary, these require, in concert with other provisions such as those found in the NHPA and Archeological Resources Protection Act (ARPA), that the Federal government carefully and proactively take into consideration traditional and religious Native American culture and life and ensure, to the degree possible, that access to sacred sites, the treatment of human remains, the possession of sacred items, the conduct of traditional religious practices, and the preservation of important cultural properties are considered and not unduly infringed upon. In some cases, these concerns are directly related to "historic properties" and "archaeological resources." In some cases, elements of the landscape without archaeological or other human material remains may be involved. Identification of these concerns is normally completed during the land use planning efforts, reference to existing studies, or via direct consultation. There is no known evidence that suggests the project area holds special significance for Native Americans, or is actively used to maintain any traditional practices. Consultation for this project occurred in 2011 and again in 2013 with the Ute Indian Tribe, the Ute Mountain Tribe, and the Southern Ute Indian Tribe. No comments or concerns were expressed during consultation for this project.

[14] Note that the species of Horned Lark found in the Study Area is separate from the Pacific Streaked Horned Lark (*Eromiphila alpestis strigata*) which is a candidate endangered speices.

3.19.13 Wild Horses

The closest wild horse area to the Study Area is the Little Book Cliffs Wild Horse Area located approximately four miles north of the Study Area.[15] This wild horse area would not be affected.

3.19.14 Fire/Fuels

Although there are small areas of cheatgrass in the Study Area, there is a limited amount of continuous vegetation. Therefore, the Study Area contains very little vegetation that would pose any type of fire hazard.

3.19.15 BLM Considerations: Existing Land Use

It should be noted that the following subsections are specific to BLM EA analysis, and the Study Area for this resource category is the area of transfer from the BLM to the Airport (188-acres), and the proposed ROW area since they only apply to the BLM managed land.

The Standards for Public Land Health would need to be met. These are specific standards that the BLM needs to evaluate in an Environmental Assessment relative to public land standards. In January 1997, Colorado Bureau of Land Management approved the Standards for Public Land Health. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. A finding for each standard will be made in the environmental analysis, including: Standard 1, Upland Soils; Standard 2, Riparian Systems; Standard 3, Plant and Animal Communities; Standard 4, Threatened and Endangered Species; and Standard 5, Water Quality.

Land Health Assessment: A Land Health Assessment has been completed for the proposed transfer area. The BLM maintains five land health standards that describe conditions needed to sustain public land health, and these standards relate to all uses of the public lands. Standards are applied on a landscape scale.

- Standard 1: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, land form, and geologic processes. Adequate soil infiltration and permeability allows for the accumulation of soil moisture necessary for optimal plant growth and vigor, and minimizes surface runoff. The land health assessment of the proposed land transfer area for Standard 1 is "*meeting with problems*," trending towards "*not meeting*." The proposed land transfer area has extensive OHV use and trails, soil loss in heavily travelled areas, and lack of native vegetation to build soils.

- Standard 2: Riparian systems associated, with both running and standing water, function properly and have the ability to recover from major disturbance such as fire, severe grazing, or 100-year floods. Riparian vegetation captures sediment and provides forage, habitat and bio-diversity. Water quality is improved or maintained. Stable soils store and release water slowly.

[15] www.blm.gov/pgdata/etc/medialib/blm/co/field_offices/grand_junction_field/PDF.Par.73208.File.dat/littlebookcliffs_web.pdf

The proposed transfer area contains no riparian systems, therefore, Standard 2 is not applicable.

- Standard 3: Healthy, productive plant and animal communities of native and other desirable species are maintained at viable population levels commensurate with the species and habitat potential. Plants and animals at both the community and population level are productive, resilient, diverse, vigorous, and able to reproduce and sustain natural fluctuations, and ecological processes. The land health assessment for Standard 3 is "*meeting with problems*," trending towards "*not meeting*." The proposed transfer area has excessive OHV use and trails, cheatgrass and annual wheatgrass invading drainage areas, and lack of perennials. In regards to animal communities, the same rating could be used. The lack of perennial vegetation and high level of motorized activity is considered problematic.

- Standard 4: Special status, threatened, and endangered species (Federal and State), and other plants and animals officially designated by the BLM, and their habitats are maintained or enhanced by sustaining healthy, native plant and animal communities. The land health assessment for Standard 4 is "*not meeting*" due to the fact that the proposed transfer area no longer supports a healthy native plant community, upon which threatened and endangered and special status species are dependent.

- Standard 5: The water quality of all water bodies, including ground water where applicable, located on or influenced by BLM managed lands would achieve or exceed the Water Quality Standards established by the State of Colorado. Water Quality Standards for surface and ground waters include the designated beneficial uses, numeric criteria, narrative criteria, and anti-degradation requirements set forth under State law as found in (5 CCR 1002-8), as required by Section 303(c) of the Clean Water Act. The land health assessment for Standard 5 is "*meeting with problems*," trending towards "*not meeting*." The proposed transfer area has excessive OHV use and trails. Plants are pedastalled indicating excessive soil loss, infiltration impaired by loss of soil, and lack of vegetation.