United States Department of the Interior

Bureau of Land Management

Safford Field Office

Safford, AZ

Land Health Evaluation Report

Sheepskin Wash Allotment

(No. 06084)

July 15, 2021

This page left intentionally blank

Table of Contents

List of Acronyms

ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AZGFD	Arizona Game and Fish Department
AUM	Animal Unit Month
BLM	Bureau of Land Management
CFR	Code of Federal Regulations
ESD	Ecological Site Description
°F	Degrees Fahrenheit
FEIS	Final Environmental Impact Statement
GPS	Global positioning system
HCPC	Historic climax plant communities
HUC	Hydrologic unit code
IPaC	Information for Planning and Conservation system
LHE	Land health evaluation
MLRA	Major Land Resource Area
NAD	North American Datum
NRCS	National Resources Conservation Service
p.z.	Precipitation zone
PRISM	Parameter-elevation Relationships on Independent Slopes Model
RMP	Resource Management Plan
ROD	Record of Decision
SW-1	Sheepskin Wash Key Area 1
TEAMS	[USFS] Talent, Expertise, Agility, Mobility, and Simplicity Enterprise Unit
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WGS	World Geodetic System

1. Introduction

The purpose of this land health evaluation (LHE) report is to determine whether the Arizona standards for rangeland health are being achieved on the Sheepskin Wash Allotment No. 06084, or, if the standards are not being achieved, to determine if livestock are the causal factor for not achieving or making significant progress towards achieving land health standards. This evaluation is not a decision document, but a stand-alone report that clearly records the analysis and interpretation of the available inventory and monitoring data.

The Secretary of the Interior approved the Bureau of Land Management (BLM) Arizona Standards for Rangeland Health and Guidelines for Grazing Administration (Arizona Standards and Guidelines) in April 1997. Arizona Standards and Guidelines and the final rule by the Department of the Interior apply to grazing administration on public lands.

Standards and guidelines are implemented through terms and conditions of grazing permits and leases, and other authorizations, grazing –related portions of activity plans (including Allotment Management Plans) and through range improvement-related activities.

Land health standards are measurable and attainable goals for the desired condition of the biological resources and physical components/characteristics of desert ecosystems found within the allotment.

The LHE Report ascertains:

1. If standards are being achieved, not achieved, and if significant progress is being made towards achievement of the land health.
2. Whether livestock grazing is a significant causal factor where it is determined that land health standards are not being achieved.

This report covers an evaluation period of 10 years (2011-2020). This is a standard evaluation period that provides the BLM the ability to collect an adequate amount of information related to grazing use and environmental factors pertaining to the lease renewal process.

1.1 Consultation, Cooperation, and Coordination

A letter to interested publics informing that the Sheepskin Wash Allotment was being considered for lease renewal was distributed via certified mail July 9, 2020. Coordination with the Sheepskin Wash Allotment lessee has been on-going. Data on special status species was obtained from the U.S. Fish and Wildlife Service (USFWS) and the Arizona Game and Fish Department (AZGFD).

A Notice of Land Health Evaluation Comment Period and Notice of Intent to Renew Grazing Lease Via Environmental Assessment, was sent out to interested publics on May 27, 2021. Comments were received from Western Watersheds Project. The comments received were not substantial and did not pertain to the LHE directly. Concerns were brought forward that will be carried forward and addressed in the forthcoming Environmental Assessment.

1.2 Definition of Arizona Standards for Rangeland Health and Guidelines for Grazing Administration

The Arizona standards for rangeland health are expressions of levels of physical and biological condition or degree of function required for healthy, sustainable rangelands and defines minimum resource conditions that must be achieved and maintained. Determination of rangeland health is based upon conformance with these standards.

Guidelines for grazing administration are tools that help managers and lessees achieve standards by considering the type and level of grazing use. Guidelines for grazing management are types of methods and practices determined to be appropriate to ensure the standards can be met, or that significant progress can be made toward meeting the standards.

Although the process of developing standards and guidelines applies to grazing administration, present rangeland health is the result of the interaction of many factors in addition to livestock grazing. Other contributing factors may include, but are not limited to, past land uses, land use restrictions, recreation, wildlife, rights-of-way, wild horses and burro, mining, fire, weather, and insects and disease (Arizona Standards and Guidelines 1997).

The Arizona Standards and Guidelines identify three standards regarding (1) upland sites, (2) riparian-wetland sites, and (3) desired resource conditions based on specific indicators, as discussed in *Section 5 Rangeland Inventory and Monitoring Methodology* of this document.

2. Allotment Profile and General Description

2.1 Location

The Sheepskin Wash Allotment (No. 06084) is in Navajo County, Arizona approximately 11 miles west of the town of Snowflake. The allotment does not have any adjacent BLM allotments near its location, and much of the area surrounding the allotment is privately owned, State Trust land, or other ownership unassociated with a BLM grazing allotment (Figure 1).

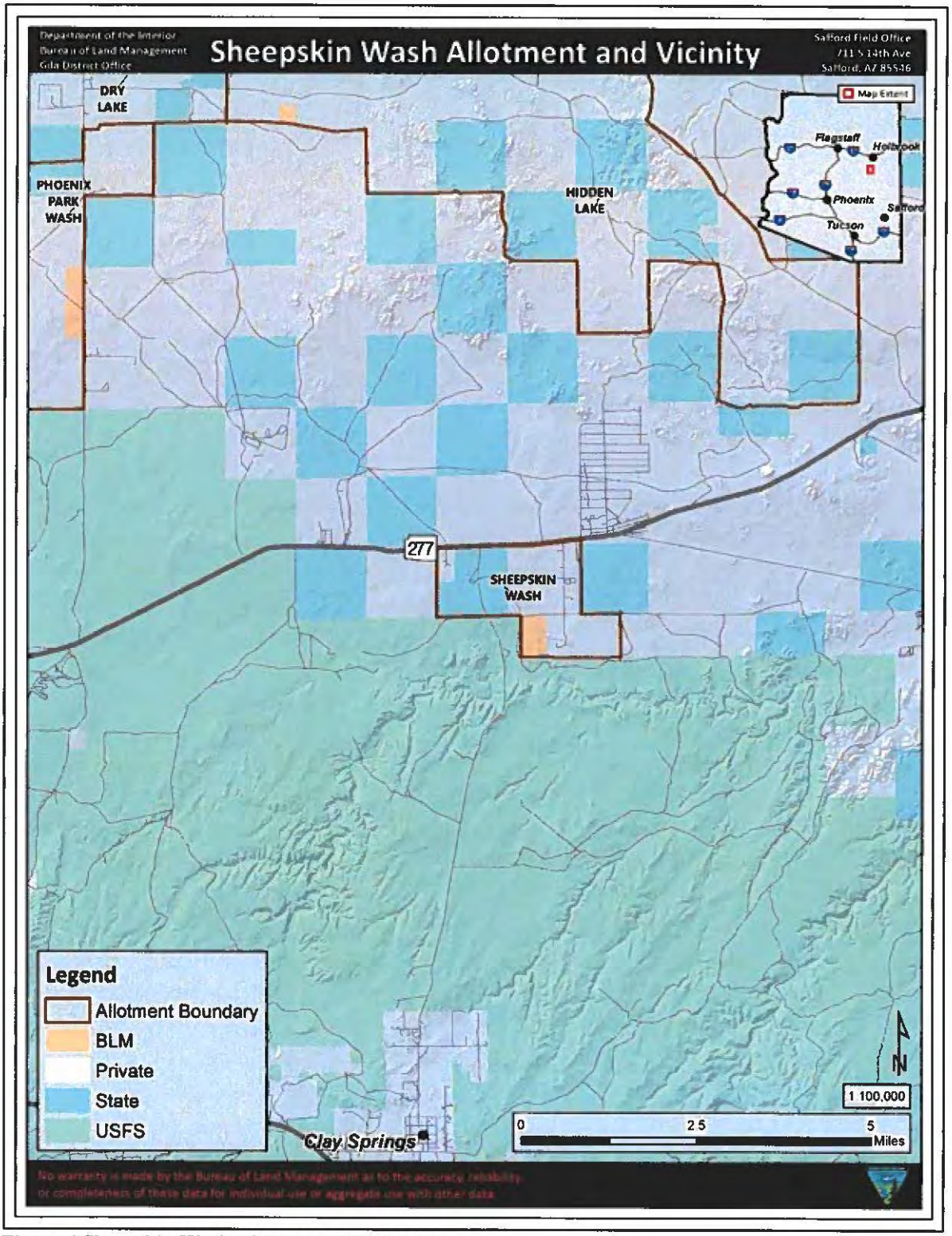


Figure *1* Sheepskin Wash Allotment and Vicinity
Source: USDI BLM 2020

2.2 Physical Description

This section describes the physical characteristics within the Sheepskin Wash Allotment.

2.2.1 Surface Land Ownership

The Sheepskin Wash Allotment is comprised predominately of private and Arizona State Trust lands. The BLM-administered portion of the allotment is 135 acres; land ownership apportionments are displayed below in Table 1.

Table 1. Sheepskin Wash Allotment Landownership

Land Classification	Acres
BLM-administered Acres	135
State Trust Land Acres	575
Private Land Acres	1,126
Total Acres	**1,836**

Source: BLM GIS data set

2.2.2 Precipitation

Average annual precipitation for the Sheepskin Wash Allotment between 2011 and 2020 was 11.74 inches (Figure 2.) During this evaluation period, 2012 received the least amount of precipitation with 7.84 inches while 2015 received the greatest amount measuring 17.47 inches. Most of the precipitation (50-60%) falls as rain from July through September and is the most effective moisture for plant growth. The remaining moisture comes as snow during the winter months. (USDA NRCS 2006).

Precipitation data from Parameter-elevation of Independent Slopes Model (PRISM) climate datasets as of April 15th, 2021 (PRISM, N.d.) were utilized by selecting a point with the Sheepskin Wash Allotment at:

- Latitude: 34.4652
- Longitude: -110.2664
- Elevation: 5,961 feet

Climatic data from this source are not collected from a single station but are modeled using data collected from many stations and physiographic factors in the area.

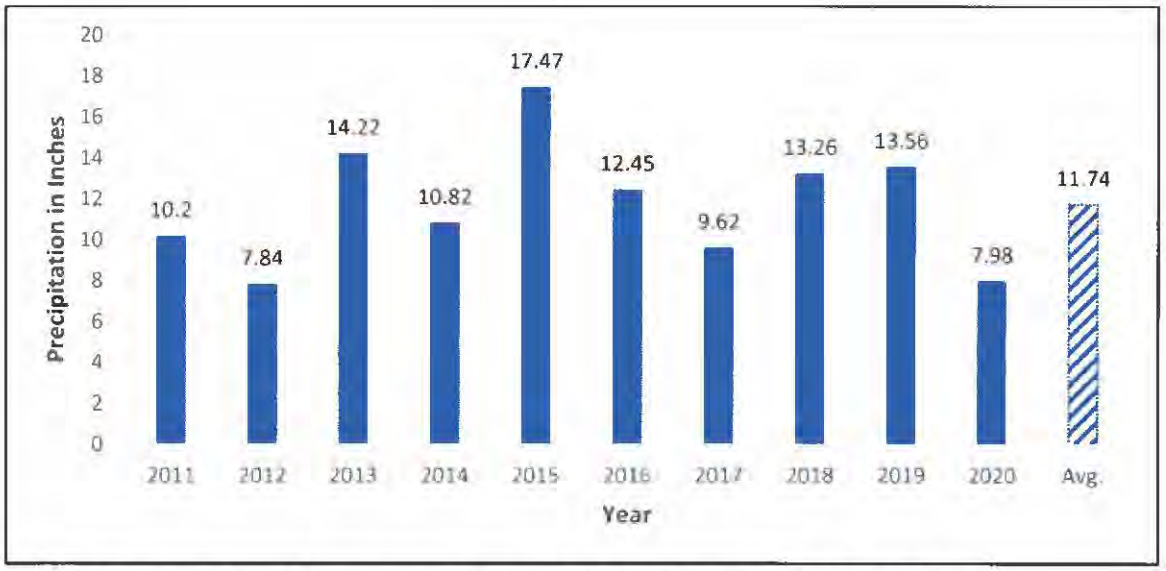


Figure 2. Average Annual Precipitation from PRISM Time Series Data 2011-2020
Source: PRISM, N.d.

2.2.3 Temperature

The following table (Table 2.) shows the average minimum, maximum and overall temperature reported each month on the Sheepskin Wash Allotment between 2011 and 2020. Average temperatures for the hottest month (July) are 73 degrees Fahrenheit (°F), and 34°F for the coldest month (January). Extreme temperatures of 105°F and -28°F have been recorded in the past (USDA NRCS 2006).

Table 2. Temperature in Degrees Fahrenheit on Sheepskin Wash Allotment

Month	Average Minimum	Average Maximum	Monthly Average
January	20°F	48°F	34°F
February	23°F	53°F	38°F
March	29°F	61°F	45°F
April	35°F	68°F	51°F
May	40°F	74°F	57°F
June	50°F	87°F	69°F
July	59°F	88°F	73°F
August	57°F	86°F	71°F
September	50°F	81°F	66°F
October	38°F	71°F	54°F
November	28°F	59°F	43°F
December	22°F	48°F	35°F
Average Annual Temperature			53°F

Source: Prism N.d.

2.2.4 Soils

The soil composition on the Sheepskin Wash Allotment varies. A breakdown of the soil types for the allotment is presented in Table 3 and Figure 3.

Table 3. Soil Map Units within the Sheepskin Wash Allotment

Soil Map Unit Name	Allotment Acres	BLM Acres	BLM Composition (percent)
Barx fine sandy loam, 3 to 10 percent sloped	1,490	58	43%
Poley fine sandy loam, 1 to 5 percent slopes	236	0	0%
Ustollic Haplargids, 1 to 30 percent slopes	121	77	57%

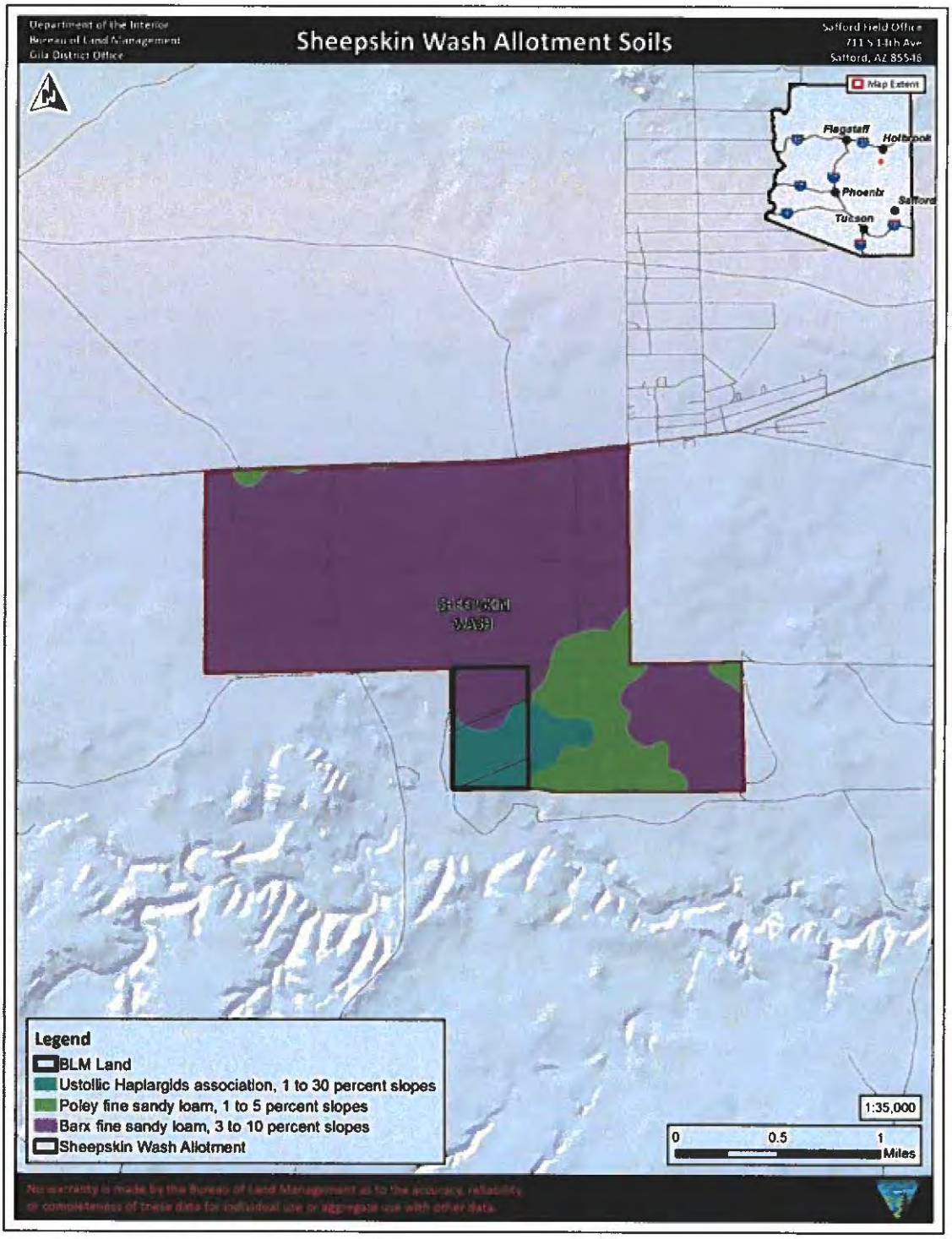


Figure 3. Sheepskin Wash Allotment Soils
Source: USDI BLM 2020

The following soil descriptions occur on BLM-administered lands within the Sheepskin Wash Allotment:

- Barx fine sandy loam, 3 to 10 percent slopes
- Ustollic Haplargids association, 1 to 30 percent slopes

Barx fine sandy loam, 3 to 10 percent slopes

This soil type occurs in elevations ranging from 5,500 to 6,500 feet and receives on average 10 to 14 inches of precipitation annually. The mean annual air temperature is 51°F to 54°F, with a frost-free period of 130 to 160 days. The soil occurs on fan terraces with slopes ranging from 3 to 10 percent, and parent material originates from mixed alluvium derived from volcanic and sedimentary rock. The soil is well drained with a depth of more than 80 inches to the restrictive layer.

Ustollic Haplargids association, 1 to 30 percent slopes

This soil type occurs in elevations ranging from 5,500 to 6,500 feet and receives on average 10 to 14 inches of precipitation annually. The mean annual air temperature is 51°F to 54°F, with a frost-free period of 130 to 160 days. The soil occurs on fan terraces and hills with slopes ranging from 1 to 30 percent, parent material originates from alluvium and/or colluvium deposits. The soil is well drained with a depth of 40 to 70 inches to the restrictive layer.

2.2.5 Watersheds

The allotment lies completely within one watershed, the Cottonwood Creek watershed (HUC-10 1502000503). Silver Creek is approximately 9 miles east of the allotment and is a tributary to the Little Colorado River, and is classified as a perennial stream by the United States Geological Survey (USGS) in their National Hydrography Dataset. The Little Colorado River, approximately 21.5 miles northeast of the allotment, is an intermittent stream with some reaches flowing perennially closer to its headwaters. The Little Colorado River is one of two major tributaries in Arizona to the Colorado River and drains the Little Colorado Basin (HUC-6 150200). The Little Colorado Basin has a drainage area of 26,000 square miles extending into New Mexico.

The allotment lies entirely within the "Little Colorado River Plateau" Arizona Department of Water Resources (ADWR) Groundwater Basin and is not within an ADWR Active Management Area. The groundwater basin consists of the following aquifers: unconsolidated alluvium from streams, volcanic bedrock (Lakeside-Pinetop Aquifer), and consolidated sedimentary aquifers: Bidahochi, C, D, N, Springerville, and White Mountain Aquifers (USDI EPA N.d.)

The only surface waters on the allotment are unnamed ephemeral washes and natural depressions, primarily having peak flows from precipitation events. These washes drain into Cottonwood Wash that is directly south of the allotment. The majority of the allotment is located within a FEMA Zone D floodplain meaning undetermined but possible flood hazard. The unnamed ephemeral wash lies within a 100-year (1% chance of flooding in any single year) floodplain. Water quality is monitored and listed by Arizona Department of Environmental Quality (ADEQ) for EPA 303(d) waterbody impairments under the federal Clean Water Act, and there are no impaired waters on the allotment.

2.2.6 Range Improvements

The Sheepskin Wash Allotment consists primarily of private and State Trust land. Only range improvements occurring on BLM-administered land are considered for this evaluation. There are no range improvements on BLM-administered land.

2.3 Biological Resources

This section discusses the biological resources within the Sheepskin Wash Allotment.

2.3.1 Major Land Resource Area

A Major Land Resource Area (MLRA) is a broad geographic area characterized by a particular pattern of soils, climate, water resources, vegetation, and land use. Each MLRA in which rangeland and forest land occur is divided into sub-resource areas, and further divided into ecological sites. The Sheepskin Wash Allotment is located in the Colorado Plateau MLRA (35) and lies within the Mixed Grass Plains (35-1) sub-resource area (EDIT, N.d.).

2.3.2 Ecological Sites

Ecological sites provide a consistent framework for classifying and describing rangeland soils and vegetation thereby delineating land units that share similar capabilities to respond to management activities or disturbance. Ecological Site Descriptions (ESD) are developed by the National Resources Conservation Service (NRCS) and partners to document the properties of ecological sites. These include climate, soil, geomorphology, hydrology, and vegetation information that describe the behavior of individual ecological sites. Since an ecological site might feature several plant communities that occur over time or in response to land management, these descriptions can be used to interpret ecological changes (Perez 2017).

f (DX035X011113) is the only ecological site present within the Sheepskin Wash Allotment (Figure 4.). Detailed NRCS reports for each ESD are stored and accessed within the Ecosystem Dynamics Interpretive Tool (EDIT) available online at https://edit.jornada.nmsu.edu/. The ESD reference sheets are considered provisional, meaning the ecological site has undergone quality control and quality assurance, and it contains a working state and transition model with enough information to identify the ecological site.

A key attribute of an ecological site is the historic climax plant community (HCPC), or reference state. The HCPC represents the natural potential plant community found on relatively undisturbed sites. The HCPC or reference state is often compared with existing range conditions to determine current land health. Soils, topography, and climate are the factors that collectively form the basis for the classification of rangeland ecological sites.

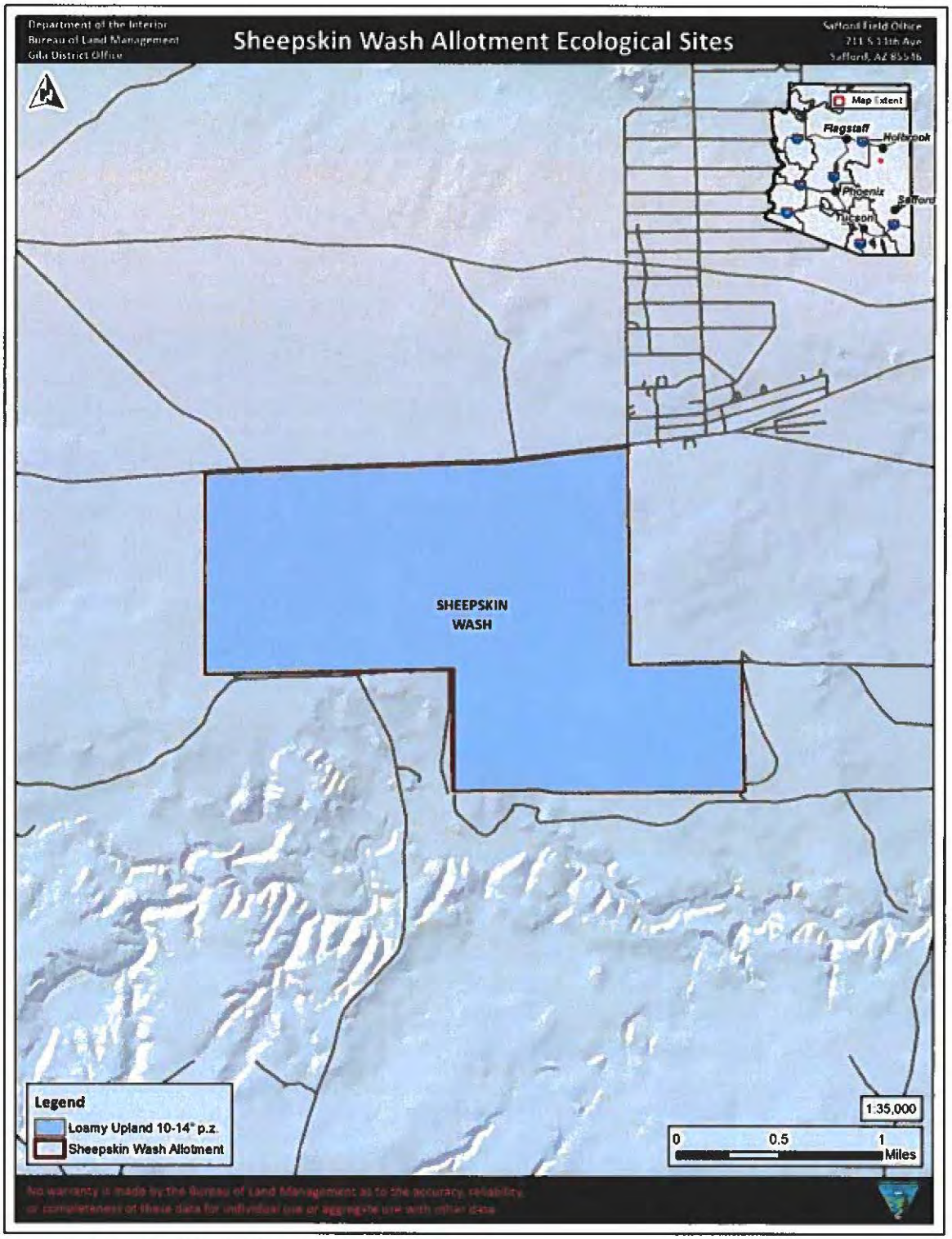


Figure 4. Sheepskin Wash Allotment Ecological Sites
Source: USDI BLM 2020

Loamy Upland 10-14" p.z. (DX035X01I113)

This ecological site occurs in Common Resource Area 35.1 – the Colorado Plateau Shrub-Grasslands. Elevations range from 4,800 to 6,300 feet and precipitation averages 10 to 14 inches per year. Vegetation includes Stipa species, Indian ricegrass, galleta, blue grama, fourwing saltbush, winterfat and cliffrose. The site is characterized by a sequence of flat to gently dipping sedimentary rocks eroded into plateaus, valleys, and deep canyons. Sedimentary rock classes dominate the plateau with volcanic fields occurring for the most part near its margin. Fifty to sixty percent of moisture falls as rain from July through September and is the most effective moisture for plant growth.

2.3.3 Wildlife Resources

This section discusses the wildlife resources in and around the Sheepskin Wash Allotment., including threatened and endangered species (T&E), BLM special status species, and species of economic and recreational importance. Refer to **Appendix A** for a complete list of species.

Threatened and Endangered Species

The grazing program for the BLM Gila District, including grazing activities within the Sheepskin Wash Allotment, was assessed pursuant to Section 7 of the Endangered Species Act (ESA) to determine whether the program would jeopardize the continued existence of a T&E species and/or their designated or proposed critical habitat. The U.S. Fish and Wildlife Service (USFWS) rendered a Biological Opinion (BO) on the Gila District Livestock Grazing Program #22410-2006-F-0414 (2012). The BO determined that no conservation measures were needed for the Sheepskin Wash Allotment due to the absence of the consulted listed species and/or designated critical habitat. Additionally, on April 16, 2021 a generated report using the USFWS Information for Planning and Conservation (IPaC) website indicated a total of seven Federally listed, proposed, and candidate species were known or expected to occur within the allotment: gray wolf, Mexican spotted owl, yellow-billed cuckoo, Chiricahua leopard frog, northern Mexican gartersnake, little Colorado spinedace, and monarch butterfly (USDI USFWS N.d.; **Appendix A**). A report generated on April 16, 2021 from the Arizona Game and Fish Department (AZGFD) Environmental Online Review Tool (AZGFD, N.d.) indicated that an additional three Federally listed species have the potential to occur within five miles of the allotment boundary and/or within the allotment based on modeling: black-footed ferret, southwestern willow flycatcher, and jaguar.

The IPaC query indicated the gray wolf as being potentially present within the allotment; however, Mexican wolf is the correct common name of *Canis lupus baileyi* and will be referred to as Mexican wolf in this document. This species requires areas with sufficient prey populations, such as deer and elk, and where human-induced mortality is controlled. Current populations are typically associated with evergreen pine-oak woodlands, pinyon juniper woodlands, and mixed-conifer montane forests. The Mexican Wolf Experimental Population Area encompasses Arizona and New Mexico from Interstate 40 south to Mexico. Based on the

most current information, species occurrence in Arizona is primarily on eastern/northeastern portions of the Apache-Sitgreaves National Forest, eastern portions of the San Carlos Apache Reservation, and eastern portions of the Fort Apache Indian Reservation according to the Mexican Wolf Recovery Program Monthly Update from January 2020 (MWIFT 2020). Due to the absence of forested habitat on the BLM-administered portions of the allotment Mexican gray wolves are expected to be absent within the jurisdiction of the BLM. Overall, the BLM-administered portions of the allotment lack suitable forested habitat to support Mexican gray wolves but is located within a Mexican wolf experimental population area and may be used by wolves for movement between blocks of suitable habitat.

Mexican spotted owls occur in riparian canyonlands, oak woodland, and mixed conifer forests of mountainous areas of Arizona. There is no suitable habitat on the Sheepskin Allotment to support Mexican spotted owls.

The western yellow-billed cuckoo is a riparian obligate species that utilizes cottonwood gallery forests and may use upland areas for foraging. The allotment does not contain the primary riparian habitat to support breeding; however, yellow-billed cuckoos may utilize the upland areas temporarily during times of migration. Southwestern willow flycatchers are also riparian obligates, they depend on very dense thickets of riparian shrubs and trees which provide the structure and microclimate for successful nesting and fledging. The nearest documentation of both yellow-billed cuckoos and southwestern willow flycatchers is 9 miles east of the allotment. Overall, due to the absence of riparian-wetland habitat, the yellow-billed cuckoo and southwestern willow flycatcher are expected to be absent from the allotment.

The Chiricahua leopard frog has various habitat requirements for each stage of its life history. Some of the most important habitat features include permanent or nearly permanent water that is free or relatively free from non-native predators (SESAT 2008). They also require shallow water with emergent and perimeter vegetation that provide areas for egg deposition, tadpole and adult thermoregulation sites, and foraging sites (SESAT 2008). Deeper water, root masses, and undercut banks provide refuge from predators and potential hibernacula during the winter (SESAT 2008). It is also important that the water is relatively clean and not overly polluted by livestock excrement or chemical pollutants (SESAT 2008). The Sheepskin Wash Allotment does not provide appropriate riparian habitat sources; therefore, the Chiricahua leopard frog is expected to be absent.

The northern Mexican gartersnake is known to be found in both lotic and lentic habitats including cienegas, stock tanks, and river habitats including pools and backwaters (USDI USFWS 2014). There are no recorded observations of the northern Mexican gartersnake being present within the allotment. Little Colorado spinedace are expected to be absent from the BLM-administered portions of the allotment due to the absence of perennial water. See section 7.1.2 below for further discussion on riparian-wetland sites. Overall, due to the absence of riparian-wetland habitat, northern Mexican gartersnake and little Colorado spinedace are expected to be absent from the allotment.

Western populations of the monarch butterfly undergo long-distance migration to the California coast and Baja California to use forest groves sheltered from winds for overwintering and diapause (Southwest Monarch Study Inc. 2018; Leong et al. 1995; Van Hook 1996) On return to

Arizona, females lay eggs on obligate milkweed host plants which later serve as a food source for larval offspring. Adult monarchs require a diversity of blooming nectar sources along breeding and migration corridors. Monarchs and milkweed are not known to occur on the allotment. It is possible butterflies could move through the area and utilize junipers as stopover roosts, but habitat is not suitable to support the species for breeding.

The black-footed ferret is associated with native grassland communities and relies solely on prairie dog burrows for shelter and suitable dens to raise their young (USDI USFWS 2017). They are highly specialized predators that rely on prairie dogs for survival, which make up more than 90 percent of their diet (USDI USFWS 2017). Gunnison prairie dogs were noted in the AZGFD report as having the potential to occur in this area based on predicted range models; however, no prairie dogs have been observed on the allotment. Based on the ESDs of this allotment and the results of monitoring data, as described below in Section 6, BLM-administered portions of the allotment contain suitable habitat to support this species if it was present. Due to the lack of their primary prey species and source for burrows, this species is expected to be absent from the allotment.

The allotment lacks the basic components that define jaguar habitat based on the description provided by the USDI USFWS (2014) Federal Register Notice for designating critical habitat. The jaguar is most commonly found in tropical climates south of the US border, while some dispersing males may move into suitable habitat in Arizona. Suitable jaguar habitat has all or many of the following characteristics: abundant prey; diverse and rugged terrain; year-round water sources with canopy cover; connectivity to suitable habitat in Mexico; and isolation from human presence and development (USDI USFWS 2014). Jaguars are rarely found in extensive arid areas and generally avoid open country like grasslands and desertscrub as they prefer closed vegetative structures of nearly every tropical or subtropical forest type. Due to the Sheepskin Wash Allotment's distance from the Mexican border and biotic communities consisting primarily of the Colorado Plateau Shrub-Grasslands, jaguars are expected to be absent from the allotment.

The northern Aplomado falcon was not listed on either the IPaC or AZGFD species reports; however, in 2006 the entire state of Arizona was designated as part of the 10(j) management area for the species (50 CFR Part 17, 42298-42315). Their habitat consists of open grassland with scattered trees, low ground cover, and elevations from 3,500 to 9,000 feet. They have a very limited distribution in the U.S. in Texas and New Mexico with their historical range extending into southeastern Arizona; however, the species is still considered to be extirpated from Arizona with no recent records of the species in the state. In Arizona, no documented nesting attempts have occurred since 1940 (AZGFD 2021). Reported observation in 1977 west of Rodeo, New Mexico in Cochise County, Arizona. Sight records since 1940 are unsubstantiated, and the falcon is considered possibly extirpated in Arizona (per conversation with USFWS; AZGFD 2021). There is no designated or proposed critical habitat for this species.

BLM Special Status Species

The BLM sensitive species that have suitable habitat present and/or are known to exist or have the potential to exist within this allotment are golden eagle, bald eagle (wintering only), ferruginous hawk, American peregrine falcon, western burrowing owl, pinyon jay, Arizona myotis, Gunnison prairie dog, spotted bat, pale Townsend's big-eared bat, and the northern leopard frog. Information on each BLM sensitive species can be found in **Appendix A**.

The Birds of Conservation Concern 2008 list considers bird species that are nongame species, gamebirds without a hunting season, subsistence-hunted nongame birds in Alaska, and ESA candidate, proposed, and recently delisted species (USDI USFWS 2008). Data derived from the Arizona Game and Fish Department Environmental Online Review Tool (AZGFD N.d.) was used for the migratory bird analysis. The allotment offers an array of habitats for migratory birds, providing valuable food and cover. Migratory species of concern that have the highest potential to occur on the allotment include several raptor species (i.e., hawks, eagles, owls, falcons) and a variety of passerine species. Bird species utilize the grassland, open shrub, and rocky outcrop habitat for hunting prey. No surveys have been conducted specifically within this allotment for this assessment to determine presence, but these species have the potential of occurring if habitat is available.

The Gunnison prairie dogs depend on grasslands and open shrub habitat for burrowing and foraging. Gunnison prairie dogs were noted in the AZGFD species report as having the potential to occur in this area based on predicted range models; however, no prairie dogs have been observed on the allotment. Bat species may occur on the allotment if roosting habitat is available. Generally, the composition, structure, and distribution of habitat for all classifications of sensitive species, are intact and would be suitable for use if the species were present.

Species of Economic and Recreational Importance

Game species predicted to occur within, or within five miles of, the Sheepskin Wash Allotment include America pronghorn, elk, mountain lion, javelina, mule deer, and mourning dove (AZGFD N.d.). Mountain lions are generalists that can be found in deserts, mountains, deciduous forests, lowlands, canyons, prairies and savannahs, and could use the allotment to migrate between more suitable patches of habitat, such as rocky outcrops or areas with dense vegetation. Javelina are widespread and live in desert washes, saguaro and palo verde forests, oak woodlands, and grasslands with mixed shrubs and cacti. Grasslands with dispersed shrub thickets, cacti and palo verde offer forage and cover habitat for pronghorn, mule deer, and mourning dove. Elk prefer mountainous pine oak mixed woodlands and open meadows depending seasonal conditions. All these species have the potential to occur on the allotment at least seasonally.

2.4 Special Management Areas

No Special Management Areas occur within the Sheepskin Wash Allotment.

2.5 Recreation Resources

Dispersed recreation activities that may occur on the Sheepskin Wash Allotment include small and big game hunting, target shooting, hiking, and off-highway vehicle operation. The allotment is comprised of mostly of private and State Trust land.

2.6 Cultural Resources

Guidelines 3-7 in the Arizona Standards and Guidelines states that, "Management practices to achieve desired plant communities will consider protection and conservation of known cultural resources, including historical sites, prehistoric sites and plants of significance to Native American peoples".

A Class I cultural review was completed on April 23, 2021 by Safford Field Office Archaeologist George Maloof. This library records search noted that there are no known archaeological sites, properties of traditional religious or cultural importance (i.e., traditional cultural properties), or sacred sites.

3. Grazing Management

This section discusses the grazing history, permitted use, and terms and conditions on the current lease for the Sheepskin Wash Allotment.

3.1 Grazing history

The BLM grazing lease for the Sheepskin Wash Allotment allows for two cattle for seven months out of the year totaling 14 animal unit months (AUMs) on BLM-administered land within the allotment. No changes have been made to the use in AUMs during the evaluation period. There are approximately 135 acres of BLM-administered land within the allotment authorized for grazing.

Grazing management on the Sheepskin Wash Allotment consists of grazing on private land, State Trust land, and BLM-administered land. For allotments such as Sheepskin Wash, livestock grazing is authorized by the BLM under Section 15 of the Taylor Grazing Act. The carrying capacity for the whole allotment is not set by the BLM; instead, the lessee is billed for the available forage utilized on public lands only.

3.2 Terms and Conditions for Permitted Use

Grazing on the Sheepskin Wash Allotment is in accordance with the terms and conditions of the current term lease. Table 4 below, provides a summary of the current permitted use for the allotment.

Table 4. Mandatory Terms and Conditions of the Sheepskin Wash Allotment Lease

Allotment Name/Number	Livestock Number/Kind	Grazing period Begin - End	% Public Land	Active Use (AUM
Sheepskin Wash (No. 06084)	2 Cattle	3/1 – 5/31	100	6
Sheepskin Wash (No. 06084)	2 Cattle	11/1 -2/28	100	8

Source: BLM, Rangeland Administration System (RAS)

No other existing terms and conditions are included on the current lease.

4. Rangeland Inventory and Monitoring Methodology

Documents and publications used in the assessment process include the Ecosystem Dynamics Interpretive Tool (EDIT) available online at https://edit.jornada.nmsu.edu/, Web Soil Survey (USDA NRCS 2020), Interpreting Indicators of Rangeland Health (IIRH) Technical Reference 1734-6 (Pellant et al. 2020, and the National Range and Allotment Handbook (USDA NRCS 2003). A complete list of references is included at the end of this document. The ID Team used rangeland monitoring data and professional observations to assess conformance with the Arizona standards for rangeland health.

4.1 Monitoring Protocol

Monitoring occurred on the Sheepskin Wash Allotment at key area SW-1. Quantitative measurements for cover and species composition were collected along each transect and were analyzed in conjunction with qualitative indicators of quality, hydrologic function, and biological health. This was completed to assess the existing conditions within the ecological site Loamy Upland 10-14" p.z. (DX035X011113). The existing conditions were compared to site-specific reference conditions established by the NRCS, which are considered to be representative of relatively undisturbed states within a given soil-plant community type. This comparison between existing and reference conditions determines the level of departure from the potential natural community.

The key area was recorded using a global positioning system (GPS) using a projection of World Geodetic System (WGS) 84. Inventory and monitoring data are provided in **Appendix B** and **Appendix C**.

4.1.1 Line Point Intercept

The method used to obtain transect data pertaining to species composition and soil cover is line point intercept (LPI). This method consists of a horizontal, linear measurement of plant intercepts along the course of a line (meter tape) 50 meters in length. The LPI method is rapid and accurate for measuring occurrence of grass or grass-like plants, forbs, shrubs, and trees in which vegetation composition is extrapolated. It also quantifies soil cover, including vegetation, litter, rocks, and biotic crusts. These measurements are indicators of wind and water erosion, water infiltration, and the ability of the site to resist and recover from degradation. A summary of the LPI measurements is incorporated into the discussions for Standards 1 and 3.

4.1.2 Indicators of Rangeland Health

The five steps for the IIRH include protocols for evaluating the three rangeland health attributes (soil and site stability, hydrologic function, and biotic integrity), as outlined in Technical Reference 1734-6 (Pellant et al. 2020). They are:

Step 1. Identify the Key Area; Determine the Soil and Ecological Site

Step 2. Obtain or Develop the Reference Sheet and the Corresponding Evaluation Matrix

Step 3. Collect Supplementary Information

Step 4. Rate the 17 Indicators on the Evaluation Sheet

Step 5. Determine the Functional Status of the Three Rangeland Health Attributes:

1. Soil and Site Stability (S) – The capacity of an area to limit redistribution and loss of soil resources (including nutrients and organic matter) by wind and water.
2. Hydrologic Function (H) – The capacity of an area to capture, store, and safely release water from rainfall, run-on and snowmelt (when relevant), to resist a reduction in this capacity, and to recover this capacity when a reduction does occur.
3. Biotic Integrity (B) – The capacity of the biotic community to support ecological processes within the normal range of variability expected for the site, to resist a loss in the capacity to support these processes, and to recover this capacity when losses do occur. The biotic community include plants, animals, and microorganisms occurring both above and below ground.

The IIRH provides information on the functioning of ecological processes (water cycle, energy flow, and nutrient cycle) relative to the reference state for the ecological site or other functionally similar unit for that land area. This assessment provides information that is not available with other methods of evaluation. It gives an indication of the status of the three rangeland attributes chosen to represent the health of the key area (i.e., the area where the evaluation of the rangeland health attributes occurs). The following are the 17 indicators that are evaluated during a IIRH assessment and the attribute(s) they measure:

1. Rills: S, H
2. Water Flow Patterns: S, H
3. Pedestals and/or Terracettes: S, H
4. Bare Ground: S, H
5. Gullies: S, H
6. Wind-Scoured, Blowout, and/or Depositional Areas: S
7. Litter Movement: S
8. Soil Surface Resistance to Erosion: S, H, B
9. Soil Surface Loss or Degradation: S, H, B

10. Plant Community Composition and Distribution Relative to Infiltration and Run off: H
11. Compaction Layer: S, H, B
12. Functional/Structural Groups: B
13. Plant Mortality/Decadence: B
14. Litter Amount: H, B
15. Annual Production: B
16. Invasive Plants: B
17. Reproductive Capability of Perennial Plants: B

Attribute ratings reflect the degree of departure from expected levels for each indicator per the reference sheet. The degree of departure may be categorized (rated) as:

- None to Slight
- Slight to Moderate
- Moderate
- Moderate to Extreme
- Extreme to Total

5. Objectives

This section provides an overview of the Safford Field Office management objectives that are associated with the Sheepskin Wash Allotment per the Phoenix Resource Management Plan (RMP) (USDI BLM 1989), as amended by the decision record for Arizona Standards and Guidelines. The Phoenix RMP incorporates by reference the decisions from the Eastern Arizona Grazing Final Environmental Impact Statement (FEIS) Record of Decision (ROD; 1987).

5.1 Land Use Plan Management Objectives

- Grazing Management (GM-02): The grazing program in the area is managed under the provisions of the Taylor Grazing Act of 1934, the Federal Land Policy and Management Act of 1976 (FLPMA), and the Public Rangelands Improvement Act of 1978. [Phoenix] RMP page 14-15.

- GM-03: Management of rangeland resources is guided by the Range Program Summary Record of Decision (RPS) which selected the Preferred Alternative analyzed in the 1987 Arizona Grazing FEIS. [Phoenix] RMP page 15.

- Wildlife/Fisheries (WF-03): Wildlife and plants which are federally listed or proposed for listing as either threatened or endangered are protected under provisions of the Endangered Species Act of 1973, as amended. [Phoenix] RMP page 15.

- WF-04: It is BLM policy to avoid jeopardizing the continued existence of any listed or proposed species and to actively promote species recovery. [Phoenix] RMP page 15.

- WF-05: It is BLM policy to manage federal candidate species and their habitat to prevent the need for listing as threatened or endangered. [Phoenix] RMP page 15.

Further, The Phoenix RMP provides the following grazing management objectives: 1) to restore and improve rangeland condition and productivity; 2) to provide for use and development of rangeland; 3) to maintain and improve habitat and viable wildlife populations; 4) to control future management actions; and 5) to promise sustained yield and multiple use.

5.2 Allotment Specific Objectives

The Sheepskin Wash Allotment is subject to the following objectives as established in the Arizona Standards for Rangeland Health:

5.2.1 Land Health Standards

Standard 1 - Upland Sites

Objective: Upland soils exhibit infiltration, permeability, and erosion rates that are appropriate to soil type, climate and landform (ecological site).

Standard 2 - Riparian-Wetland Site

Objective: Riparian-wetland areas are in proper functioning condition.

Standard 3 - Desired Resource Conditions

Objective: Productive and diverse upland and riparian-wetland communities of native species exist and are maintained.

5.2.2 Key Area Objectives

In grazing administration, a key area is defined as a relatively small portion of a range selected because of its location, use, or grazing value as a monitoring point for grazing use. Key areas are indicator areas that can reflect what is happening on a larger area as a result of on-the-ground-management actions. A key area should be a representative sample of a large stratum, such as a pasture, grazing allotment, wildlife habitat area, herd management area, watershed area. Objectives should be developed so that they are specific to the key area. Monitoring studies can then be designed to determine if these objectives are being met (USDI BLM and USDA USFS 1996).

The key area SW-1 falls within the Loamy Upland 10-14" p.z. ecological site and is the only ecological site present within the Sheepskin Wash Allotment (Table 5, Figure 5). This location was chosen because it was determined to be representative of the vegetation composition, soils, vegetative production, and overall grazing management on the BLM-administered land within the allotment.

Table 5. Location of Sheepskin Wash Key Area

Ecological Site	ESD ID	Key Monitoring Area	Coordinates
Loamy Upland 10-14" p.z.	DX035X01I113	SW-1	Latitude: 34.46574 Longitude: -110.26685

This LHE presents and evaluates the results from monitoring of the key area conducted by the Safford BLM interdisciplinary (ID) Team made up of a specialist in range, natural resources (wildlife) and hydrology. Refer to **Appendix B** and **Appendix C** for the monitoring data completed in 2020.

The key area objectives for the Sheepskin Wash Allotment are to meet the land health standards as established in the Arizona Standards for Rangeland Health. Specific objectives are defined below to guide the determination of whether land health standards are being met.

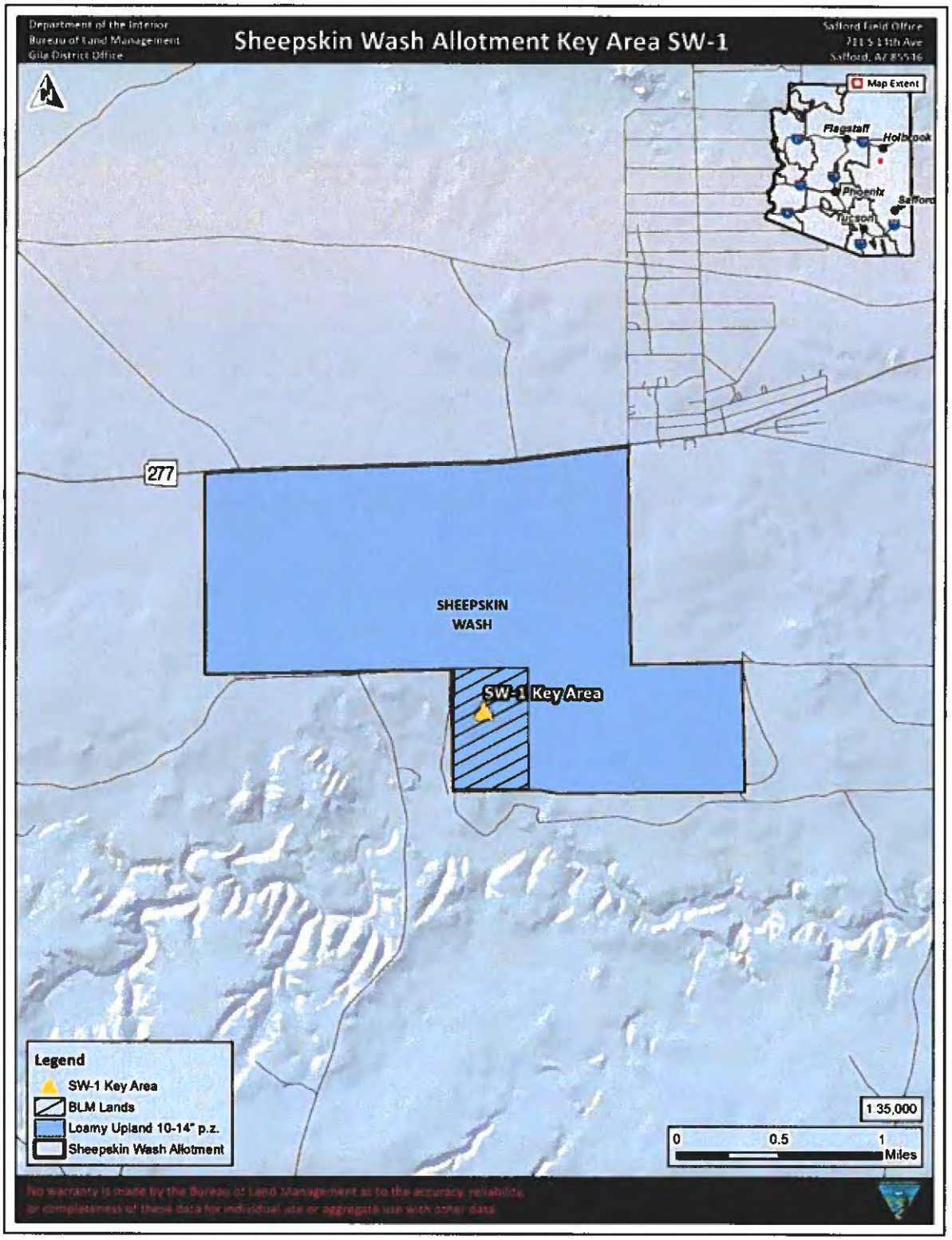


Figure 5. Sheepskin Wash Allotment Key Area SW-1
Source: USDI BLM 2020

Standard 1 – Upland Sites

Objective: Upland soils exhibit infiltration, permeability, and erosion rates that are appropriate to soil type, climate, and landform (ecological site).

Signs of accelerated erosion that are rated None to Slight or Slight to Moderate are appropriate for this ecological site as indicated by ground cover (litter, rock, vegetative [canopy] cover, etc.) and signs of erosion. This objective applies to the key area and the corresponding ecological site. A departure of Moderate or greater would not be achieving the standard. A departure of None to Slight or Slight to Moderate is considered achieving the standard.

Standard 2 – Riparian-Wetland Site

Objective: Riparian-wetland areas are in proper functioning condition.

Standard 2 is not applicable because no riparian-wetland habitats exist on BLM-administered lands within the allotment.

Standard 3 – Desired Resource Conditions

Objective: Productive and diverse upland and riparian-wetland communities of native species exist and are maintained.

The DPC objectives are criteria established to evaluate a site's capability of achieving desired resource conditions. The DPC objectives are typically specific to the ecological sites within the allotment; therefore, the DPC objectives were established using the ESD reference sheet for Loamy Upland 10-14" p.z. (DX035X011113). The ESD report is available at https://edit.jornada.nmsu.edu/catalogs/esd/035X/DX035X011113. The DPC Objectives and Methodology is provided in **Appendix D**. Desired resource conditions are based upon the following DPC objectives: plant community composition, bare ground, and litter.

The ESD reference sheet for Loamy Upland 10-14" p.z. (DX035X011113) defines the reference state as follows: "The reference state is composed primarily of warm season mid-grasses and short grasses with a mix of cool season grasses and half shrubs. Natural climatic variation result in changes in the amount of both individual plants and warm season versus cool season plants, particularly in grasses".

Canopy and Basal Cover

The site's reference sheet indicates a desired average of canopy cover as follows:

- 30 to 40 percent canopy cover
- 10 to 20 percent basal cover

Plant Community Composition

The Site's reference sheet indicates a desired range of plant community composition as follows:

- 74 to 83 percent grasses

- 11 to 15 percent shrubs
- 2 to 4 percent forbs
- 2 to 3 percent succulents
- 2 to 4 percent trees

Bare Ground
The site's reference sheet indicates a desired range of bare ground as follows:

- 30 to 50 percent

Litter Cover
The site's reference sheet indicates a desired range of litter cover as follows:

- 20 to 40 percent

Summary
In summary, The Sheepskin Wash Allotment DPC objectives for key area SW-1, based on the Loamy Upland 10-14" p.z. (DX035X01I113) ecological site, are presented as the following evaluation area DPC objectives:

- Maintain an average of 30 to 40 percent canopy cover and 10 to 20 percent basal cover.
- Maintain an average plant composition of 74 to 83 percent grasses, 11 to 15 percent shrubs, 2 to 4 percent forbs, 2 to 3 percent succulents, and 2 to 4 percent trees.
- Maintain an average bare ground of 30 to 50 percent.
- Maintain an average litter cover of 20 to 40 percent.

Maintaining the DPC objectives for plant community composition of grasses, shrubs, forbs, succulents, and trees will provide important nesting and escape cover for birds, as well as adequate forage for wildlife and livestock on the Sheepskin Wash Allotment while continuing to achieve land health standards.

As a section 15 lease, the BLM does not set carrying capacity for the allotment but rather charges for the amount of forage provided by the BLM-administered land. Sheepskin wash contains only 7 percent BLM-administered land with the rest of the allotment being predominately state or private land. This limits the degree in which the BLM can control or influence plant community changes across the broader allotment. The DPC objectives established above are realistic in terms of what is possible to achieve within the BLM-administered portions of the allotment.

6. Land Health Standards and Determination

The following information is the evaluation and summary of the monitoring data collected on the Sheepskin Wash Allotment in year 2020.

6.1 Actual Use

Full permitted AUMs have been implemented on the Sheepskin Wash Allotment during the evaluation period totaling 14 AUMs per year.

Livestock grazing for the Sheepskin Wash Allotment is permitted as a Section 15 lease. Allowable AUMs are calculated on BLM-administered land only. Lease holders are billed for their maximum use available on public lands unless non-use is requested and approved. Non-use by the lessee was not requested during the evaluation period for this LHE.

6.2 Land Health Evaluation

The IIRH assessment of the three rangeland health attributes was completed at key area SW-1 on the Sheepskin Wash Allotment. Ratings of Moderate or more are considered to indicate resource concerns for soil erosion, water quantity, and plant productivity. The ratings given by the ID Team are made relative to the potential for the site. For example, a site with highly erodible soils and low potential for stabilizing vegetation may be rated as having a Slight departure from reference conditions even though the actual amount of soil movement is significant, while a site with a high potential for stability rated Moderate may have relatively little soil movement. Monitoring data recorded for the LHE is provided in **Appendix B** and **Appendix C**. A summary of the IIRH assessment conducted at key area SW-1 is presented in Table 6 below.

Table 6. Summary of IIRH at Key Area SW-1

Key Area	Ecological Site	Range Health Attributes – Degree of Departure		
		Soil and Site Stability	Hydrologic Function	Biotic Integrity
SW-1	Loamy Upland 10-14" p.z. (DX035X01I113)	None to Slight	None to Slight	Moderate

SW-1 Loamy Upland 10-14" p.z. DX035X01I113

For the indicators of rangeland health, the ecological site reference sheet indicates:

1. **Number and extent of rills:** No rills expected. A few minor rills may form on slopes greater than 5 percent due to moderate permeability and moderate runoff.
2. **Presence of water flow patterns:** Water flow patterns are infrequent, short (1 to 2 meters), and poorly developed with less than 10% coverage they may become more common on steeper slopes due to slow to moderate permeability and medium runoff characteristics.
3. **Number and height of erosional pedestals and terracettes:** Pedestals less than 1" may be common and often associated with waterflow patterns. Terracettes are infrequent, but they should be short. Both may be more developed and common during a drought, due to moderate wind erosion hazards of the soils. Moderate wind erosion hazard occurs on the soils with a coarse-loamy surface texture. Pedestals and terracettes may be more common, especially on steeper slopes, but they should be short.
4. **Bare ground from Ecological Site Description or other studies:** Bare ground ranges from 30 to 50%. Drought may cause an increase in bare ground.
5. **Number of gullies and erosion associated with gullies:** None.

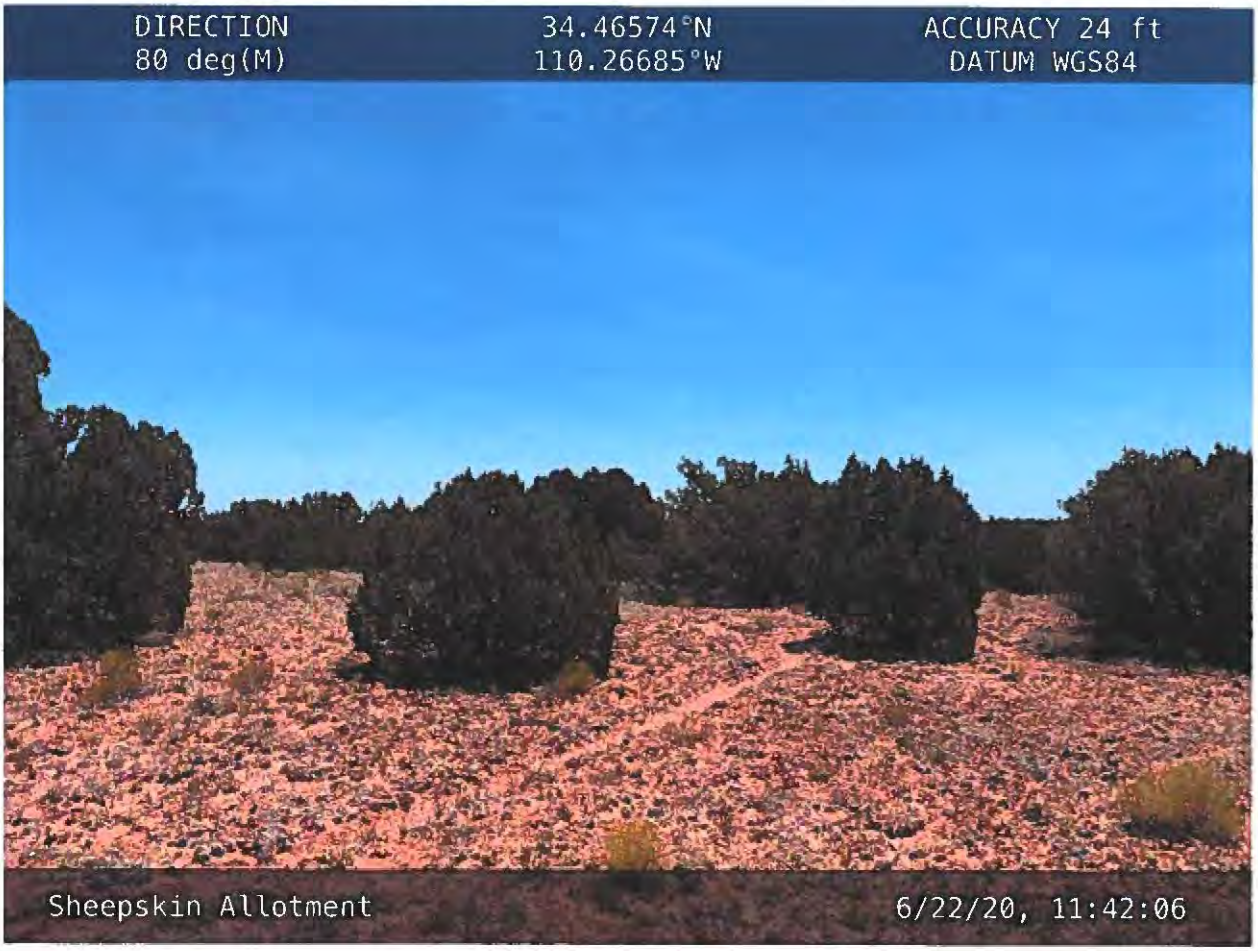
6. **Extent of wind scoured, blowouts and/or depositional areas:** No blowouts are present on this site. Some small mounding may around long-lived perennial plant baes common, especially during droughts due to low to moderate wind erosion hazard of the soil.
7. **Amount of litter movement:** Most herbaceous and fine woody litter will be transported by wind and in short water flow pathways, while a small percentage stays in place. Coarse woody litter and duff will accumulate under shrub and tree canopies.
8. **Soil Surface (top few mm) resistance to erosion:** Soil aggregate stability should average 4-5 (range 3 to 6) under plant canopies and 2-3 (range 1 to 3) in the interspaces. There is usually less than 5% cover of rock fragments on the surface. When well vegetated, soils have a moderate resistance to water erosion and moderate to high resistance to wind erosion.
9. **Soil surface structure and SOM content:** Soil structure is mostly granular (weak to moderate, very fine) with some platy (weak, thin and medium) and sub angular blocky (weak, fine to medium). Surface thickness typically ranges from 2-8 inches but is mostly 2-4 inches. Color is typically reddish brown to brown but can vary depending on parent material.
10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and run off:** This site is characterized by a relatively even distribution of mostly grasses with some shrubs and a few forbs. This type of plant community is moderately effective at capturing and storing precipitation thus reducing runoff. Cover averages 30-40% (25 to 30% grasses, 5 to 10% shrubs, 2 to 5% forbs). Basal plant cover averages 10-20% (15% grasses, 2% shrubs, 1% forbs) Both cover values decrease during a prolonged drought.
11. **Presence and thickness of compaction layer:** The occurrence of compaction layers should be rare to none. Soils with sandy clay loam and clay loam textures, can be easily compacted when wet, if there are no rock fragments in surface horizons. Some surface horizons are naturally platy.
12. **Functional/Structural Groups:**

    Dominant: >40%: None
    Sub-dominant: 11-40%: warm season bunchgrasses > warm season colonizing grasses > shrubs > cool season bunchgrasses >
    Other: Minor (3-10%): forbs = cacti = trees(trace)
13. **Amount of plant mortality and decadence:** In a normal year up to 10% of grasses and shrubs die off. During and after drought years there can be from 10 to 15% die off of shrubs and grasses. Severe winter droughts affect shrubs, trees and cool season grasses the most. Severe summer droughts affect the warm season grasses the most.
14. **Average percent litter cover (%) and depth (in):** Average percent litter cover ranges from 20-40% and depth 1/8" inch. Within plant interspaces litter ranges from 5 to 20% cover, while under shrub and tree canopies litter can range up to 50% cover with depths from 1/8 to 1/4 inch thick.

15. **Expected annual-production:** Total production ranges from; 300-375 pounds per acre (dry weight) in drought years; 572-725 pounds per acre in average years; 725-800 pounds per acre in wet years.
16. **Potential invasive species:** Mormon tea, Broom snakeweed, Greene's rabbitbrush, Prickly pear, Whipple cholla cactus and false buffalo grass are all native to the site but have the ability to increase and dominate the area after unmanaged grazing. Oneseed juniper is native to the site but has the ability to increase and dominate the site after unmanaged grazing and/or fire exclusion. Russian thistle is an exotic forb that has the ability to increase and dominate the site after heavy grazing and/or ground disturbance.
17. **Perennial plant reproductive capability:** All plants native to this site are adapted to the climate and are producing seeds, stolons and rhizomes in all but the most severe droughts.

6.2.1 Sheepskin Wash SW-1 IIRH Assessment

Photo 1 Sheepskin Wash at Key Area SW-1



Rangeland Health Attribute 1: Soil and Site Stability

There were no rills or gullies observed, these indicators were rated None to Slight. Water flow patterns were not observed at the site and were rated None to Slight. Pedestals and terracettes were not observed and soil was stable at the plant base; therefore, the indicators were rated None to Slight. Bare ground was measured at 32 percent as compared to the reference sheet's range of 30 to 50 percent bare ground and was therefore rated None to Slight. There was no evidence of wind-scouring observed so that indicator was rated None to Slight. All litter size classes remained at the base of plants with little to no movement observed and was rated None to Slight. Soil surface resistance to erosion was rated None to Slight based on observations that the appropriate litter cover and vegetative cover was present and providing protection of the soils from erosion. No compaction layers were observed, and the soils remained intact, and no soil surface loss or degradation was observed resulting in both indicators receiving a rating of None to Slight.

All ten indicators for soil and site stability were rated None to Slight; therefore, the overall rating for the Soil and Site Stability attribute rating was rated None to Slight.

Rangeland Health Attribute 2: Hydrologic Function

There were no rills or gullies, or other water flow patterns observed which resulted in the ID Team rating both indicators as None to Slight. Pedestals and terracettes were not observed and soils were found to be stable at the plant base; therefore, these indicators were rated None to Slight. Bare ground was measured at 32 percent as compared to the reference sheet that gives a range of 30 to 50 percent and was therefore rated None to Slight. Soil surface resistance to erosion was rated None to Slight due to the ID Team observing a well-vegetated site with a gravel component protecting the soils from erosion. Soil surface loss or degradation was not observed. Plant community composition showed a higher-than-expected percentage of juniper, but in relation to infiltration it was rated None to Slight, it was determined that the site still had adequate cover and would be able to retain precipitation at acceptable levels to continue functioning at an adequate level. No compaction layers were observed, and the indicator was rated None to Slight. Litter amount was measured at 36 percent which was within the acceptable range of 20 to 40 percent so litter amount was rated None to Slight as well.

All ten indicators for hydrologic function were rated None to Slight; therefore, the overall rating for the Hydrologic Function attribute was rated None to Slight.

Rangeland Health Attribute 3: Biotic Integrity

Soil surface resistance to erosion was rated None to Slight due to the site being well vegetated with a gravel component protecting the soils from erosion, soil surface loss or degradation. No compaction layers were observed so this indicator was also rated None to Slight. The functional structure groups indicator was rated Slight to Moderate due to the juniper encroachment that was observed at the site. Juniper accounted for 32 percent of composition for the LPI data and exceeded the 2 to 4 percent range as provided in the ESD, grasses did remain the dominate group at 45 percent composition. The other indicators for biotic integrity were rated None to Slight except for invasive plants, this indicator was rated Moderate also due to the increased presence of juniper. It was determined that the ecological processes within the site would not be significantly impacted by the increased presence of juniper, therefore the rating was determined

to show a Slight to Moderate departure. Plant mortality and decadence was rated None to Slight due to an even distribution of age classes amongst the vegetation species. Litter amount was measured at 36 percent and was with the acceptable range of 20 to 40 percent, so the indicator for litter amount was rated None to Slight. Annual production fell within the ESD parameters of 300 to 375 lbs. per acre in drought years. This was measured using an ocular estimation and was rated None to Slight. Invasive plants were rated at a Moderate departure due to the increase in juniper at the location, juniper is a native plant but does have the ability to take over and dominate the site. The LPI data indicated 32 percent composition of juniper and this exceeded the reference state range of 2 to 4 percent. The reproductive capability of perennial plants was rated None to Slight due to an even distribution of age classes being observed at the site indicating that plant species are capable of reproducing.

Overall, seven indicators for biotic integrity were rated None to Slight, one indicator was rated Slight to Moderate, and one indicator was rated at Moderate therefore, the ID Team rated the Biotic Integrity attribute as having a Moderate departure rating.

7. Determinations of Land Health Standards

7.1 Sheepskin Wash Key Area SW-1

7.1.1 Standard 1: Upland Sites

Objective: Upland soils exhibit infiltration, permeability, and erosion rates that are appropriate to soil type, climate.

Determination:

☒ Meeting the Standard
☐ Not Meeting the Standard; Making Significant Progress Toward the Standard
☐ Not Meeting the Standard; Not making Significant Progress Toward Standard

Rationale:

Overall, the soils throughout key area SW-1 are productive, stable, and in a sustainable condition. The key area monitoring data reflects the conditions described in the ESD. The data at the key area shows that canopy cover, bare ground, and litter amount are adequate to ensure soil stabilization and appropriate permeability rates within the ecological site. Bare ground was measured at 32 percent and was within the range of 30 to 50 percent as described in the ESD. Canopy cover was measured at 40 percent and litter cover was measured at 36 percent, the respected ranges as described in the ESD are 30 to 40 percent for canopy cover and 20 to 40 percent for litter cover. These indicators show that the soils are well protected and are in a sustainable condition appropriate for the ecological site. No rills or gullies were observed and terracettes were rated None to Slight.

7.1.2 Standard 2: Riparian-Wetland Sites

Objective: Riparian-wetland areas are in proper functioning condition.

Determination:

☐ Meeting the Standard

☐ Not Meeting the Standard; Making Significant Progress Toward the Standard

☐ Not Meeting the Standard; Not making Significant Progress Toward Standard

☒ Standard Does Not Apply

Rationale:
There are no riparian-wetland sites on BLM-managed land within the Sheepskin Wash Allotment; therefore, Standard 2 does not apply.

7.1.3 Standard 3: Desired Resource Conditions

Objective: Productive upland and riparian-wetland communities of native species exist and are maintained

Determination:

☒ Meeting the Standard

☐ Not Meeting the Standard; Making Significant Progress Toward the Standard

☐ Not Meeting the Standard; Not making Significant Progress Toward Standard

Rationale:

Based on the monitoring data and evaluation, current livestock grazing is not preventing the Sheepskin Wash Allotment from providing a productive and diverse upland of native plant species that provides for multiple uses. The IIRH assessment indicates that soil and site stability, hydrologic function, and biotic integrity are meeting the standard for this site based on the evidence that the site is achieving the objectives for canopy cover, bare ground, and litter cover. Plant community composition was the only indicator that was not meeting the criteria as outlined in the ESD reference sheet, and this is further described below. The ID Team determined, in the end, that the site was still functioning within its expected range despite the encroachment of juniper trees. This determination is supported by the observations that the soils are remaining stable and not experiencing forms of erosion due to the appropriate canopy, ground and litter covers providing protection as well as proper infiltration of precipitation.

The DPC objectives for canopy cover and basal cover are established as follows: "Maintain an average canopy cover of 30 to 40 percent and basal cover of 10 to 20 percent".

> SW-1: Canopy cover was measured at 40 percent, putting it within the range of acceptability based on the ESD. Basal cover was at 6 percent, which falls slightly below the 10 to 20 percent range given in the ESD. Canopy and basal cover are both indicators for resistance to degradation, basal cover is a more reliable long-term indicator but due to canopy cover being within an acceptable range and the slight departure of basal cover it was determined that overall, DPC objectives for canopy cover and basal cover on the key area SW-1 are being achieved

The DPC objectives for plant community composition are established as follows: "Maintain an average of 74 to 83 percent grasses, 11 to 15 percent shrubs, 2 to 4 percent forbs, 2 to 3 percent succulents, and 2 to 4 percent trees". The following data was collected for the LHE.

SW-1: Plant community composition was derived from the LPI data (**Appendix C**). The dominate vegetation type and composition was grasses at 45 percent followed by trees at 32 percent, forbs at 18 percent, shrubs at 5 percent, and 0 percent for succulents. The data collected from the LPI showed variation and or departure in all plant communities. Based on the information provided in the ESD reference sheet and transition model the key area is reflective of Community Phase 2.1 with a juniper over story and a grass understory. Juniper accounted for 32 percent composition along the LPI transect which exceeds the 2 to 4 percent as described in the ESD reference sheet. Community Phase 2.1 can be influenced through a lack of grazing management and or fire intervals. For this location it is believed that both historic grazing management and the lack of an ecologically appropriate fire interval are contributing to the variance in plant community composition. The ESD sheet also states that natural climatic variation influences the amount and ratio of plant composition within an ecological site. These variables can and do influence transitions into different plant community phases. Arizona as a whole has experienced recent years of drought that may also be contributing to the variation in vegetation within the Sheepskin Wash Allotment. With the variation in composition of all plant communities it was determined that plant community composition objectives were not being met at key area SW-1

The DPC objective for bare ground was established as follows: "Maintain bare ground at 30 to 50 percent". Data collected for the LHE indicates:

SW-1: Bare ground was measured at 32 percent, which is within the acceptable range of 30 to 50 percent as derived from the ESD reference sheet. The site had an adequate amount of gravel and vegetation cover reducing the amount of bare ground present and provides sufficient soil protection as well as allows for adequate infiltration of precipitation. The DPC objective for bare ground at key area SW-1 is being achieved.

The DPC objective for litter cover was established as follows: "Maintain litter cover at 20 to 40 percent". Data collected for the LHE indicates:

SW-1: Litter cover was measured at 36 percent, which is within the acceptable range of an average of 20 to 40 percent according the ESD reference sheet. The amount of litter cover present will provide adequate protection of the soils from erosion and will not negatively impact the ecological site. The DPC objective for litter cover at Key area SW-1 is being achieved.

8. Recommended Management Actions

Based on the determination in *Section 7 Determination of Land Health Standards*, the following management actions are recommended:

1. Grazing management on the Sheepskin Wash Allotment should change in accordance with the terms and conditions of the term lease, as follows:
    - Mandatory terms and conditions of the lease should consider a change from the current authorized 2 cattle, with a season of use for March 1 – May 31, and November 1 – February 28 (7 months) to the proposed yearlong season of use depicted below.

Allotment Name/Number	Livestock Number/Kind	Grazing period Begin - End	% Public Land	Active Use (AUM)
Sheepskin Wash (No. 06084)	1 Cattle	3/1 – 2/28	100	14

Rationale: The Sheepskin Wash Allotment is authorized under section 15 of the Taylor Grazing Act of 1934 (43 USC 315), grazing leases may be authorized for public lands that are outside of the grazing district. These public lands include isolated or disconnected tracts of land and make up a small percentage of the overall allotment. The carrying capacity for the allotment is not set by the BLM; instead, the lessee is billed for the available forage utilized on public lands only. The Sheepskin Wash Allotment is currently billed for 14 AUMs and this is to remain the same with the recommended change from seasonal to year-round use.

The Sheepskin Wash Allotment is primarily made up of State and Private land, while BLM-administered public lands account for approximately 135 acres of the total 1,836 acres within the allotment. The State lease within the allotment is issued for year-round grazing, the proposed season of use adjustment would allow for flexible management and coincide with the State and Private lands within the allotment.

BLM grazing allotments are also assigned a grazing management category, the Sheepskin Wash Allotment is currently categorized as a custodial allotment. Custodial management is designated when it is believed the BLM-administered public lands will have low resource production potential, or are producing near their potential, and limited resource-use may exist. Based on the data in the LHE it was determined that the Land Health Standards were being met or did not apply. The allotment is functioning within its capability and would not be expected to be negatively impacted from adjusting the season of use as AUMs are not being changed. Management for both BLM and the lessee would benefit from this change, grazing could occur year long on the BLM-administered public lands but with less intensity due to increased management flexibility that would come from the BLM lease mirroring the State land lease and therefore it is expected that standards would.continue to be met.

2. The following Other Terms and Conditions should be added to the BLM lease:

- In order to improve livestock distribution on the public lands, all salt blocks and/or mineral supplements shall not be placed within a ¼ mile of any riparian area, wet meadow or watering facility (either permanent or temporary) unless stipulated through a written agreement or decision in accordance with 43 CFR 4130.3-2(C).
- The lessee shall submit, upon request, a report of the actual grazing use made on this allotment for the previous grazing period, March 1 to February 28. Failure to submit such a report by March 15 of the current year may result in suspension or cancellation of the grazing lease.
- Lessee shall provide reasonable administrative access across private and leased lands to the BLM for the orderly management and protection of the public lands.

9. List of Preparers

BLM Staff:

Amanda Eavenson, Hydrologist
Amelia Taylor, Assistant Field Manager-Renewables
Brandon Schurch, Rangeland Management Specialist
Casey Bruner, Wildlife Biologist
Emily Burke, Natural Resource Specialist and Acting Assistant Field Manager-Renewables
George Maloof, Cultural Resource Specialist
Sarah Sherman, Planning and Environmental Coordinator
Shelby Leachet, GIS Specialist
Tommy Schnell, Rangeland Management Specialist

10. Authorized Officer Concurrence

I have reviewed the determinations presented in *Section 7 Determinations of Land Health Standards* and the grazing and other management actions identified in *Section 8 Recommended Management Actions.*

X I concur with the conclusions and recommendations as written.

___ I do not concur.

___ I concur, but with the following modifications.

Scott C. Cooke

7/15/21

Scott C. Cooke Date

11. References

Arizona Department of Environmental Quality (ADEQ). Available online at http://www.azdeq.gov/

Arizona Game and Fish Department (AZGFD). (N.d.). Arizona Environmental Online Review Tool Report – Generated Report. Generated 4/16/2021. Retrieved from http://azhgis2.esri.com/content/map.

Dickard, M., M. Gonzalez, W. Elmore, S. Leonard, D. Smith, S. Smith, J. Staats, P. Summers, D. Weixelman, S. Wyman. (2015). Riparian area management: Proper functioning condition assessment for lotic areas. Technical Reference 1737-15. U.S. Department of the Interior, Bureau of Land Management, National Operations Center, Denver, CO.

Ecosystem Dynamics Interpretive Tool (EDIT). (N.d.). *EDIT*. edit.jornada.nmsu.edu/.

Hughes, Janice M. (2015). Yellow-billed Cuckoo (*Coccyzus americanus*), version 2.0. The Birds of North America (P.G. Rodewald, editor). Cornell Lab of Ornithology, Ithaca, New York, USA. Available online at https://birdsna.org/Species-Account/bna/species/yebcuc/introduction. Accessed 01/25/2018

Leong KLH, O'Brien E, Lowerisen K, Colleran M. (1995). Mating activity and status of overwintering monarch butterflies (Lepidoptera, Danaidae) in central California. Annals of the Entomological Society of America 88:45-50

Mexican Wolf Interagency Field Team (MWIFT). (2020). Mexican Wolf Recovery Program Monthly Update, June 1- 30, 2020. https://www.fws.gov/southwest/es/mexicanwolf/pdf/2020JuneMonthlyUpdateIFTFINAL.pdf

Parameter-elevation Regressions on Independent Slopes Model (PRISM). (2017). PRISM Climate Group, Oregon State University, http://prism.oregonstate.edu, created 15 April 2021.

Pellant, M., P.L. Shaver, D.A. Pyke, J.E. Herrick, N. Lepak, G. Riegel, E. Kachergis, B.A. Newingham, D. Toledo, and F.E. Busby. (2020). Interpreting Indicators of Rangeland Health, Version 5. Tech Ref 1734-6. U.S. Department of the Interior, Bureau of Land Management, National Operations Center, Denver, CO

Perez, J. (2017). The Jornada Rangeland Research Programs. Retrieved from https://jornada.nmsu.edu/esd

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at the following link: http://websoilsurvey.sc.egov.usda.gov/. Accessed April 2021

Southwest Endangered Species Act Team (SESAT). (2008). Chiricahua leopard frog (Lithobates [Rana] chiricahuensis): Considerations for making effects determinations and

recommendations for reducing and avoiding adverse effects. U.S. Fish and Wildlife Service, New Mexico Ecological Services Field Office, Albuquerque, New Mexico. 75 pp.

Southwest Monarch Study Inc. (2018). Fall migration south [online]. https://www.swmonarchs.org/migration-map-south.php [Accessed 12 May 2021].

U.S. Department of Agriculture (USDA). (2003). National range and pasture handbook. Washington, D.C.

U.S. Department of the Interior, Bureau of Land Management (USDI BLM). (N.d.). Rangeland Administration System. Available at https://www.blm.gov/ras/. Accessed 04/08/2021.

U.S. Department of the Interior, Bureau of Land Management (USDI BLM). (1989). Phoenix Resource Management Plan and Environmental Impact Statement.

U.S. Department of the Interior, Bureau of Land Management (USDI BLM). (1987). Eastern Arizona Grazing Environmental Impact Statement Final.

U.S. Department of the Interior, Bureau of Land Management (USDI BLM). (1997). Arizona standards for rangeland health and guidelines for grazing administration. Phoenix, AZ. 164 pp.

U.S. Department of the Interior, Bureau of Land Management (USDI BLM) and U.S. Department of Agriculture (USDA USFS). (1996). Sampling vegetation attributes. Technical Reference 1734-4. Denver, CO.

U.S. Department of the Interior, Environmental Protection Agency (USDI EPA). (N.d.). MyWaters Mapper. Water Quality and Impairments. Online https://watersgeo.epa.gov/mwm/

U.S. Department of the Interior, U.S. Fish and Wildlife Service (USDI USFWS). (N.d.). Information for Planning and Consultation (IPaC) – Generated Report. Produced 04/16/2021. Retrieved from https://ecos.fws.gov/ipac/

U.S. Department of the Interior, U.S. Fish and Wildlife Service (USDI USFWS). (2008). Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management. Arlington, VA. 85pp. http://www.fws.gov/migratorybirds/.

U.S. Department of the Interior, U.S. Fish and Wildlife Service (USDI USFWS). (2012). Biological opinion on the BLM Gila District livestock grazing program [#22410-2006-F-0414]. Arizona Ecological Services Office, Phoenix, AZ.

U.S. Department of the Interior, U.S. Fish and Wildlife Service (USDI USFWS). (2014). Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Jaguar; Final Rule. Federal Register 50 CFR Part 17, Vol. 78, No. 126:39237-39250.

U.S. Department of the Interior, U.S. Fish and Wildlife Service (USDI USFWS). (2014). Northern Mexican Gartersnake (Thamnophis eques megalops). U.S. Fish and Wildlife Service, Southwest Region, Arizona Ecological Services. https://www.fws.gov/southwest/es/arizona/MexGartersnake.htm

U.S. Department of the Interior, U.S. Fish and Wildlife Service (USDI USFWS). (2017). Black-footed ferret (*Mustela nigripes*). U.S. Fish and Wildlife Service, Region 6 – Mountain-Prairie Region.

Van Hook T. (1996). Monarch butterfly mating ecology at a Mexican overwintering site: Proximate causes of non-random mating. Dissertation. University of Florida. 259 pp.

Appendix A: Federally Listed, BLM Special Status, and General Wildlife Species

Threatened & Endangered Species			
Species	**Status**	**Critical Habitat**	**Comments**
Black-footed ferret[B] *Mustela nigripes*	Endangered	No Designation	The black-footed ferret relies solely on native grasslands and the presence of prairie dogs for their prey source and for providing burrows to use for shelter and nesting. The BLM-administered portions of the allotment provide suitable grassland habitat to support this species; however, no prairie dogs are known to occur within the allotment. Due to the absence of the key prey source this species is expected to be absent from the allotment.
Chiricahua leopard frog[^] *Lithobates chiricahuensis*	Endangered	Designated	No perennial water or suitable aquatic habitat exist on the allotment to support this species.
Jaguar[B] *Panthera once*	Threatened	Designated	The allotment is not within the designated critical habitat. The allotment lacks the components of suitable jaguar habitat including connectivity to Mexican populations, dense and complex vegetation cover, and permanent water sources.
Mexican spotted owl[^] *Strix occidentalis caurina*	Endangered	Designated	No record of the species occurring within the allotment. No suitable habitat is present on the allotment.
Little Colorado spinedace[^] *Lepidomeda vittata*	Threatened	Designated	No suitable aquatic habitat exists on the BLM-administered portions of the allotment to support this species. This species was consulted on in the 2012 BO (USDI USFWS 2012) and conservation measures were provided for the allotments containing critical habitat for this species, which does not include the Sheepskin Wash Allotment.

Mexican wolf[A] *Canis lupus baileyi*	Endangered, experimental	No Designation	No wolves occur within the action area. If individual wolves disperse from the experimental population into the action area, humans working near individuals could disturb the wolves, but they would only move to other areas. Livestock grazing would be managed to improve or maintain the productivity of the area and would not affect the native prey base of the wolf. The USFWS issued a letter of concurrence (USDI USFWS 2012) for the determination of "may affect, not likely to adversely affect" regarding the Gila District Grazing Program's actions. Conservation measures will continue to be followed and implemented.
Monarch butterfly[A] *Danaus plexippus*	Candidate	No designation	In Arizona, monarch butterflies oviposition on obligate milkweed host plants which later serve as a food source for larval offspring. Adult monarchs require a diversity of blooming nectar sources along breeding and migration corridors. It is possible individuals could move through the Sheepskin Wash Allotment but habitat within the Allotment does not provide the food source plants to support this species.
Northern Mexican Gartersnake[A] *Thamnophis eques megalops*	Threatened	Proposed	Allotment is not within the designated critical habitat. Allotment lacks suitable riparian plant communities to support this species.
Southwestern willow flycatcher[B] *Empidonax traillii extimus*	Endangered	Designated	Breeds near surface water or saturated soil along rivers and streams, reservoirs, ciénegas, and other wetlands. Nesting habitat is typically dense vegetation in the 2- to 5-meter range, with or without a high overstory layer, where surface water or soil moisture is high enough to maintain appropriate vegetation characteristics and humidity to support insect prey. Nests in cottonwood/willow and tamarisk vegetation communities with dense canopy cover and surface water along rivers and streams. Known to breed along Little Colorado and have been observed in Snowflake in Cottonwood Wash. During migration, the subspecies uses a wider array of forest and shrub habitats, although riparian vegetation may still be a preferred migration habitat type The allotment is not within critical habitat and lacks suitable site characteristics to support southwestern willow flycatchers.
Western yellow-billed cuckoo[A] (distinct population segment) *Coccyzus americanus*	Threatened	Designated	Yellow-billed cuckoos primarily occur in cottonwood-willow gallery forests of riparian zones of Arizona. Cuckoos may utilize upland areas of the allotment, comprised of pinyon-juniper, for 2-3 weeks prior to migration to and from suitable breeding habitat (Hughes, 2015). The allotment is not within the designated critical habitat and lacks suitable riparian plant communities to support this species.

[A] IPaC report, retrieved April 16, 2021 (USDI USFWS N.d.)
[B] AZGFD Report, retrieved April 16th, 2021 (AZGFD N.d.)

BLM Sensitive Species	
Species	**Justification**
Amphibians	
Northern leopard frog *Lithobates pipiens*	No perennial water or suitable aquatic habitat exists. Low potential of occurrence.
Birds	
Bald eagle (wintering) *Haliaeetus leucocephalus*	Wintering bald eagles occur along the Little Colorado River and may use the allotment as foraging habitat. There are no known impacts of livestock on bald eagles.
American Peregrine falcon *Falco peregrinus anatum*	This species breeds in open landscapes with cliffs for nest sites. During migration and winter periods, you can find the species in nearly any open habitat, but with a greater likelihood along or near large bodies of water and mudflats. The allotment is within their year-round habitat range. Non-breeding adults or dispersing sub-adults could utilize features in the allotment sporadically, perch on utility poles or fences and use the area for hunting.
Ferruginous hawk *Buteo regalis*	Ferruginous hawk nest in grasslands, shrublands and forest lands. Suitable nesting habitat occurs on the allotment. There are no known impacts of livestock on ferruginous hawks.
Golden eagle *Aquila chrysaetos*	There is no suitable nesting habitat for golden eagles on the allotment. Golden eagles may fly and hunt over the areas of the allotment. There are no known impacts of livestock on golden eagles.
Pinyon jay *Gymnorhinus cyanocephalus*	Pinyon jay occurs in pinyon-juniper woodland. This habitat is available on the allotment in limited amounts; therefore, this species may be impacted by livestock browsing seedling trees or low-hanging branches. This species is known to travel vast distances in response to localized abundance or shortages of forage.
Western burrowing owl *Athene cunicularia hypugaea*	Can be found in open, treeless areas with low, sparse vegetation, usually on gently sloping terrain. Often associated with grasslands, deserts, and steppe environments as well as golf courses, pastures, agricultural field, airport medians, and road embankments. They are often associated with burrowing mammals such as prairie dogs and ground squirrels. This allotment provides suitable wintering habitat but lacks the presence of burrowing animals.
Fish	
There are no BLM sensitive fish known to occur in the allotment.	
Invertebrates	
There are no BLM sensitive invertebrates known to occur on the Zuni Concho Allotment.	
Mammals	
Arizona myotis *Myotis occultus*	Arizona myotis occurs in ponderosa pine and oak-pine woodlands near water. Little of this habitat exists on this allotment. The species will not be impacted.
Gunnison's prairie dog *Cynomys gunnisonii*	Gunnison's prairie dog is not known to be present on the allotment, however suitable habitat does exist and may be colonized if the species becomes more abundant in the surrounding area.

BLM Sensitive Species	
Species	**Justification**
Pale Townsend's big-eared bat *Corynorhinus townsendii*	This species occurs in pine forests and arid desert scrub, always near caves or other roosting sites. Little of this habitat occurs on the allotment. This species will not be impacted.
Spotted bat *Euderma maculatum*	Spotted bats are strongly associated with steep canyonlands where they utilize outcrops for roosting. They forage in desert scrub and open forests and are always associated with a water source such as springs, rivers, creeks and lakes. Little of this habitat occurs on the allotment. This species will not be impacted.
Reptiles	
There are no BLM sensitive reptiles known to occur in the allotment.	
Plants	
There are no BLM sensitive plants known to occur in the allotment.	

Sources: AZGFD Report, retrieved April 16th, 2021 (AZGFD N.d.)

Migratory Birds, Birds of Conservation Concern [1, 2]	
Species	**Comments**
Bald eagle *Haliaeetus leucocephalus*	Addressed as BLM Sensitive Species in table above.
Bendire's thrasher *Toxostoma bendirei*	This species is uncommon and can be found in desert habitats including arid grasslands, shrublands, and agricultural habitats. Prefers more open areas with shorter vegetation. The Allotment is within their potential breeding range and provides adequate habitat to support this species if present. Low-to-moderate potential for this species to occur.
Brewer's sparrow *Spizella breweri*	This is a sagebrush-obligate species, meaning they depend almost exclusively on the sagebrush ecosystem when breeding, which covers a large portion of the arid West. Some individuals will also use large clearings in pinyon-juniper woodlands, which share similar vegetation with the traditional sagebrush steppe community. Moderate potential for species to occur.
Chestnut-collared longspur *Calcarious ornatus*	Found in shortgrass prairies, rangelands, and desert grasslands. Eastern Arizona contains wintering habitat for this species. The allotment provides a minimal amount of potentially suitable wintering habitat to support this species. Low potential for this species to occur.
Ferruginous hawk *Buteo regalis*	Addressed as BLM Sensitive Species in table above.
Golden eagle *Aquila chrysaetos*	Addressed as BLM Sensitive Species in table above.

[1]The migratory bird species listed are species of particular conservation concern (e.g., Birds of Conservation Concern) that may occur on or near the allotment. It is not a list of every bird species that may be found in this location, nor a guarantee that all of the bird species on this list will be found on or near this location. This list was compiled from data provided by AZGFD (N.d.) and USFWS (2008).

[2] Habitat information and determinations compiled from species profiles found on USFWS website (https://ecos.fws.gov) and the All About Birds website (https://www.allaboutbirds.org/news/).

Migratory Birds, Birds of Conservation Concern [1,2]	
Gray vireo *Vireo vicinior*	Found in pinyon-pine/juniper, mesquite scrub, oak scrub, and chaparral habitats. They prefer hot, arid habitats that usually have dense brush from near the ground to six feet high. There is a low potential for this species to occur on the allotment.
Juniper titmouse *Baeolophus ridgwayi*	Found mainly in dry, open pinyon-pine/juniper woodlands of the Great Basin and Upper Sonoran Zone. The species occurs with sagebrush, Joshua tree, and other understory shrub species. Older pinyon-pine/juniper trees are needed for nesting cavities. This allotment provides a minimal amount of low-quality pinyon-pine/juniper habitat to support this species. Low potential for this species to occur.
Peregrine falcon *Falco peregrinus*	Found near cliffs for nesting and in any open habitat that is near large open bodies of water. This allotment could be used for foraging but would not support breeding or wintering individuals. Low potential for this species to occur.
Pinyon jay *Gymnorhinus cyanocephalus*	Addressed as BLM Sensitive Species in table above.
Prairie falcon *Falco mexicanus*	Found near bluffs and cliffs for nesting, including in alpine habitat. Breeding habitats include grasslands, shrub steppe desert, areas of mixed shrubs and grasslands, or alpine tundra that supports their prey base. Foraging sometimes occurs in agricultural fields. The allotment lacks the majority of their required habitat for nesting and breeding but may be used for opportunistic foraging. Low potential for this species to occur.
Sage thrasher *Oreoscoptes montanus*	Allotment is within migration range. Species found in sagebrush plains and similar expansive sparse brushlands. Moderate-to-high potential to occur on the allotment.
Southwestern willow flycatcher *Empidonax traillii extimus*	Addressed as Federally Listed Species in table above.
Western burrowing owl *Athene cunicularia*	Addressed as BLM Sensitive Species in table above.
Western yellow-billed cuckoo *Coccyzus americanus*	Addressed as Federally Listed Species in table above.

AZGFD Report, retrieved April 16, 2021(AZGFD N.d.); USFWS Birds of Conservation Concern 2008 (USDI USFWS 2008)

Species of Economic and Recreational Importance	
Common Name	**Scientific Name**
America pronghorn	*Antilocapra americana*
Mule deer	*Odocoileus hemionus*
Mountain Lion	*Puma concolor*
Mourning dove	*Zenaida macroura*
Scaled quail	*Callipepla squamata*

Source: AZGFD Report, retrieved April 16, 2021 (AZGFD N.d.)

Appendix B: Monitoring Data 2020

Table 7 Summary of SW-1 Line Point Intercept Data

Sheepskin Wash Allotment *Ecological Site ID: DX035X011113* *Key Area SW-1* *Lattitude:34.46574* *Longitude: -110.26685*		
Species	**Line point Intercept cover at SW-1**	
	Canopy	**Basal**
Blue Gramma (*Bouteloua gracillis*)	14 %	4%
Ring Muhly (*Muhlenbergia gracillima*)	4 %	0%
Threeawn spp. (*Threeawn spp.*)	2%	2%
Oneseed Juniper (*Juniperus monosperma*)	14 %	0%
Unknown Forb 1	4 %	0%
Annual Forb	2%	0%
Broom Snakeweed (Gutierrezia sarothrae)	0%	0%

Cover/Litter/Bare Ground	
Bare Ground	32%
Basal Cover	6%
Canopy Cover	40%
Litter	36%

Source: Line Point Intercept Data

Appendix C: DPC Compared to Species Composition from LPI Data

Table 8 Key Area SW-1 Plant Community Composition Compared to DPC Objectives

DPC Objectives for Plant Community Composition	Species Composition SW-1
Grasses 74-84% Composition	blue gramma – 31% ring muhly – 9% threeawn – 4%
	Total – 45%
Forbs 2-4% Composition	Unknown Forb 1 – 9% Annual Forb – 9%
	Total – 18%
Shrubs 11-15% Composition	broom snakeweed – 5%
	Total – 5%
Succulents 2-3% Composition	NA
	Total – 0%
Trees 2-4 % Composition	oneseed juniper – 32%
	Total – 32%

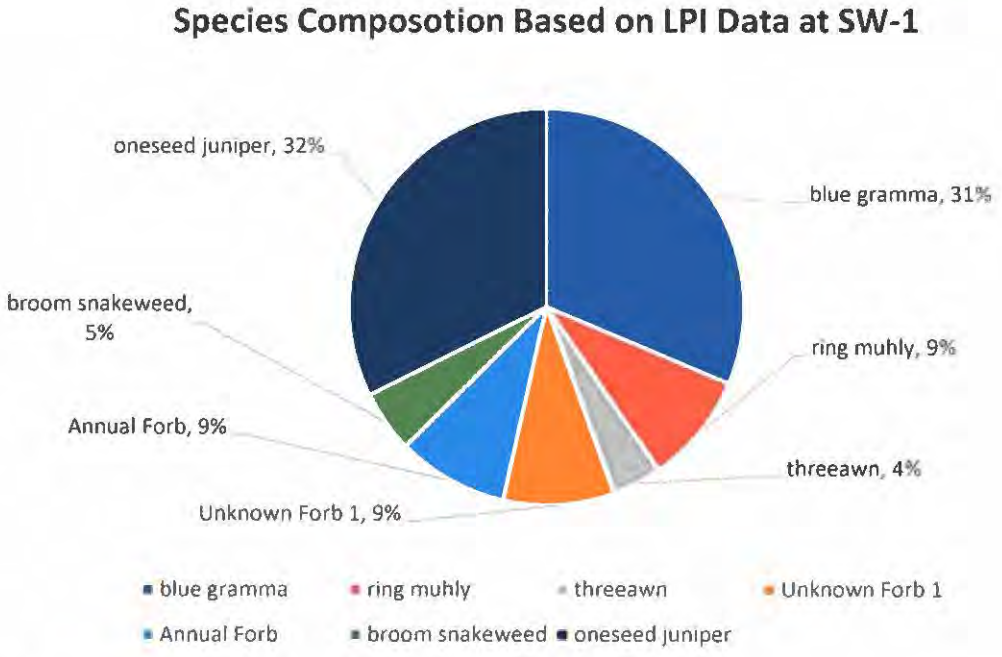


Figure 6 Species Composition Based on LPI Data at SW-1

Appendix D: DPC Objectives and Methodology for Key Area SW-1

Bare ground/Litter Cover

Loamy Upland 10-14" p.z. DX035X01I113

The DPC objectives for bare ground and litter cover were provided from the indicators section from the ESD reference sheet. Bare ground was presented in indicator four and litter cover was presented in indicator fourteen (pictured below) The ESD reference sheet was accessed through.

https://edit.jornada.nmsu.edu/catalogs/esd/035X/DX035X01I113

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground ranges from 30-50%. Drought may cause an increase in bare ground.

14. **Average percent litter cover (%) and depth (in):** Average percent litter cover ranges from 20-40% and depth 1/8"inch. Within plant interspaces litter ranges from 5 to 20% cover ,while under shrub and tree canopies litter can range up to 50% cover with depths from 1/8 to 1/4 inch thick.

Figure 7 Objectives for Bare Ground and Litter Cover
Source: ESD Reference Sheet

Canopy Cover/Basal Cover

These indicators were provided in indicator ten of the ESD reference sheet (pictured below).

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial**

distribution on infiltration and runoff: This site is characterized by a relatively even distribution of mostly grasses with some shrubs and a few forbs. This type of plant community is moderately effective at capturing and storing precipitation thus reducing runoff. Cover averages 30-40% (25 to 30% grasses, 5-10% shrubs, 2-5% forbs). Basal plant cover averages 10-20% (15% grasses, 2% shrubs, 1% forbs). Both cover values decrease during a prolonged drought.

Figure 8 Objectives for Canopy and Basal Cover
Source: ESD Reference Sheet

Desired Plant Community Composition:

The Table below presents the process used for establishing Desired Plant Community Composition for the Loamy Upland 10-14" p.z. ecological site. The species composition was established using the annual production range by plant type as provided in table 8 of the ESD reference sheet. Table 8 provides a low and high annual production values for all vegetation type. Under each vegetation type the low and high annual production values were added up. These sums were then divided by the total low and high annual production values for all

vegetation types, this resulted in a percent composition for that vegetation type providing an appropriate range for the desired plant community composition.

Table 9 Desired Plant Community Composition Methodology for Key Area SW-1

Desired Plant Community Composition Methodology **For Key Area SW-1** **ESD = Ecological Site Description for Loamy Upland 10-14" p.z. (DX035X01I113)**		
Total Annual Production for All Vegetation *(* Note this is the sum of all values as provided in Table 8 of the ESD Reference Sheet)* **413 – 895 lbs. per acre**		
Vegetation Type	**Low Production Values**	**High Production Values**
Grasses	345/413 * 100 = 83%	660/895 * 100 = 74%
Shrubs	44/413 * 100 = 11%	135/895 * 100= 15%
Forbs	7/413 * 100 = 2%	35/895 * 100 = 4%
Succulents	9/413 * 100 = 2%	30/895 * 100 = 3%
Trees	8/413 * 100 = 2%	35/895 * 100 = 4%

Desired Plant Community Composition Objectives for Loamy Upland 10-14" p.z. (DX035X01I113) Methodology: The DPC objectives were established using the percentages calculated above and are summarized below.	
Vegetation Type	**Range of Acceptable Composition**
Grasses	74-83%
Shrubs	11-15%
Forbs	2-4%
Succulents	2-3%
Trees	2-4%

Appendix E: Comments from Interested Publics

Western Watersheds Project

Arizona Office
738 N 5th Ave. Suite 206
Tucson, AZ 85705
tel: (520) 272-2454
fax: (208) 475-4702
email: cyndi@westernwatersheds.org
web site: www.westernwatersheds.org

Working to protect and restore Western Watersheds and Wildlife

June 9, 2021

Bureau of Land Management
Safford Field Office
Attention: Scott Cooke
711 S. 14th Avenue
Safford, Arizona 85546
scooke@blm.gov
Sent via email this date

RE: Sheepskin Wash Allotment (No. 06084), Safford Field Office

Dear Mr. Cooke,

Thank you for providing Western Watershed's Project (WWP) with a copy of the Sheepskin Washing Land Health Evaluation (LHE) and notice of intent to renew the grazing lease using an Environmental Assessment (EA). The following comments are submitted on behalf of the members of Western Watersheds Project (WWP) who are concerned with the management of our public lands and who have real and concrete interests in the native plants and wildlife on these public lands, specifically in the area managed by the Safford Field Office.

We appreciate the fact that the Recommended Management Action is to reduce the number of livestock by 50 percent (one cow). However, we don't understand, based on the information available in the LHE and notice, why the livestock are now to be grazed year round instead of for seven months of the year. The allotment is departed from the ESD for biotic integrity and the factors that cause that departure – juniper encroachment and invasive species of plants – are related to livestock grazing. Given the number of threatened and endangered species that are, or may be, present on this small allotment as well as ongoing, long-term drought and climate change impacts, this is a great opportunity for BLM to retire this allotment.

We are concerned about the potential for Mexican gray wolves to be negatively impacted by livestock grazing management throughout the Safford Field Office and on this allotment. It would be a tragedy for a Mexican gray wolf, or any other threatened or endangered species to be harmed on BLM managed lands because of the presence of a single cow.

As a part of forthcoming EA, we ask the BLM to analyze and disclose the economic impacts of this livestock operation. How much does it cost the BLM to manage these two cows (and now possibly one cow)? How much did it cost to draft, print, and mail (via certified mail) the LHE and notice? How much did it cost to evaluate the key area for the LHE? How much money does the BLM bring in from this allotment from the grazing fee of $1.35 per AUM? How much does it cost to administer this permit? The true cost of permitting livestock grazing on this allotment must be disclosed.

During the development of the EA for this project, the BLM should consider a range of alternatives, including a "no grazing" alternative that would provide the agency and the public with a better understanding of the impacts of livestock grazing in the project area, and provide the BLM with the opportunity to eliminate livestock grazing on this allotment. The BLM could also include a provision in the permit, if it is reissued, that allows the permittee to voluntarily retire the permit and then BLM can close this allotment.

Thank you for your full consideration of our comments and concerns. We look forward to reviewing future NEPA documents for this project. Please ensure that we are advised of the availability of any AMP or EA and that WWP remains on the contact list/interested party list for this project.

Sincerely,

Cyndi C. Tuell

Cyndi C. Tuell
Arizona and New Mexico Director
Western Watersheds Project
520-272-2454
cyndi@westernwatersheds.org