United States Department of the Interior
Bureau of Land Management
Safford Field Office
Safford, AZ

Land Health Evaluation Report

Wiregrass Lake (No. 06230)

Straddling Lake (No. 06076)

May 21, 2021

Table of Contents

List of Figures

List of Tables

List of Acronyms

ADEQ	Arizona Department of Environmental Quality
ADWR	Arizona Department of Water Resources
AUM	animal unit month
AZGFD	Arizona Game and Fish Department
BLM	Bureau of Land Management
BO	Biological Opinion
CFR	Code of Federal Regulations
DPC	desired plant community
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESD	ecological site description
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FLPMA	Federal Land Policy and Management Act
GIS	geographic information system
GPS	global positioning system
HCPC	historical climax plant communities
HUC	hydrologic unit code
ID Team	Interdisciplinary Team
IIRH	Interpreting Indicators of Rangeland Health
IPaC	Information for Planning and Conservation system
LHE	land health evaluation
LPI	line point intercept
LUP	land use plan
MLRA	Major Land Resource Area
NRCS	Natural Resources Conservation Service
P.L.	Public Law
p.z.	precipitation zone
PRISM	Parameter-elevation Regression on Independent Slopes Model
RAS	Rangeland Administration System
RHA	rangeland health assessment
RMP	resource management plan
ROD	Record of Decision
T&E	threatened and endangered
TEAMS	[USFS] Talent, Expertise, Agility, Mobility, and Simplicity Enterprise Unit
USC	United States Code
U.S.C	United States Code
USDA	U.S. Department of Agriculture
USDI	U.S. Department of Interior
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

1.0 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 Wiregrass and Straddling lake Allotments, or if the standards are not being achieved, to determine if livestock is 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. Signed by the Arizona BLM State Director, the Arizona Standards and Guidelines provide for full implementation of the Standards and Guidelines in Arizona BLM land use plans (LUP). Standards and guidelines are implemented by the BLM through terms and conditions of grazing permits, 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 for rangeland health are being achieved, not achieved, or if significant progress is being made towards achievement of land health standards.
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 (2010-2019). 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 permit renewal process.

1.1 Consultation, Cooperation, and Coordination

A letter to interested publics informing that the Wiregrass Lake Allotment and Straddling Lake Allotment were being considered for permit renewal was distributed via certified mail August 13, 2020. No responses were received. The draft of this LHE was sent to interested publics on September 11, 2020 and one comment was received.

Comment #1: “In the Land Health Evaluation Report sent to us containing the reports on our leased land we noticed that the boundaries are wrong. Part of sections 13 and 18 are part of the Straddling Lake Allotment.”

Response: Upon review of the Wiregrass Lake Allotment and Straddling Lake Allotment grazing files the boundary lines depicted in in the draft LHE were incorrect. This was confirmed through legal descriptions located in the grazing files for both allotments, case file reviews and through correspondence with each allotments leasee regarding how the land is managed on the ground.

This boundary correction was due to a GIS error and therefore does not warrant a change to the allotments' authorized AUMs, or any management associated with the grazing lease. The change consisted of moving the boundary fence in BLM GIS maintained layers. Previous boundary layers showed the boundary was located at T 11N R 27E section 19 and 24, where no fence existed, changes moved the boundary to the center of sections 13 and 18 of the same township and range. BLM has corrected the GIS layer to match the grazing files and what it is on the ground. For this LHE, the boundary correction resulted in changes to the total allotment acreages, as well as the soil and ESD percentages for each allotment. With those changes, the maps within this LHE were updated to reflect those changes. The sites that were monitored were not impacted by the boundary change. No range improvements were impacted by the boundary changes.

Additional consultation, cooperation and coordination occurred through data on special status species being obtained from the U.S. Fish and Wildlife Service (USFWS) and the Arizona Game and Fish Department (AZGFD).

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 consider 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. Guidelines are tools that help managers and lessees achieve 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 grazing livestock. Other contributing factors may include, but are not limited to past land uses, land use restrictions, recreation, wildlife, rights-of-way, wild horses and burros, 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.

2.0 Allotment Profile and General Description of Evaluation Area

2.1 Location

The Wiregrass Lake Allotment and Straddling Lake Allotment are located approximately 11 miles south of the town of St. Johns, Arizona and 2 miles southwest of Lyman Lake State Park. See Figure 1.

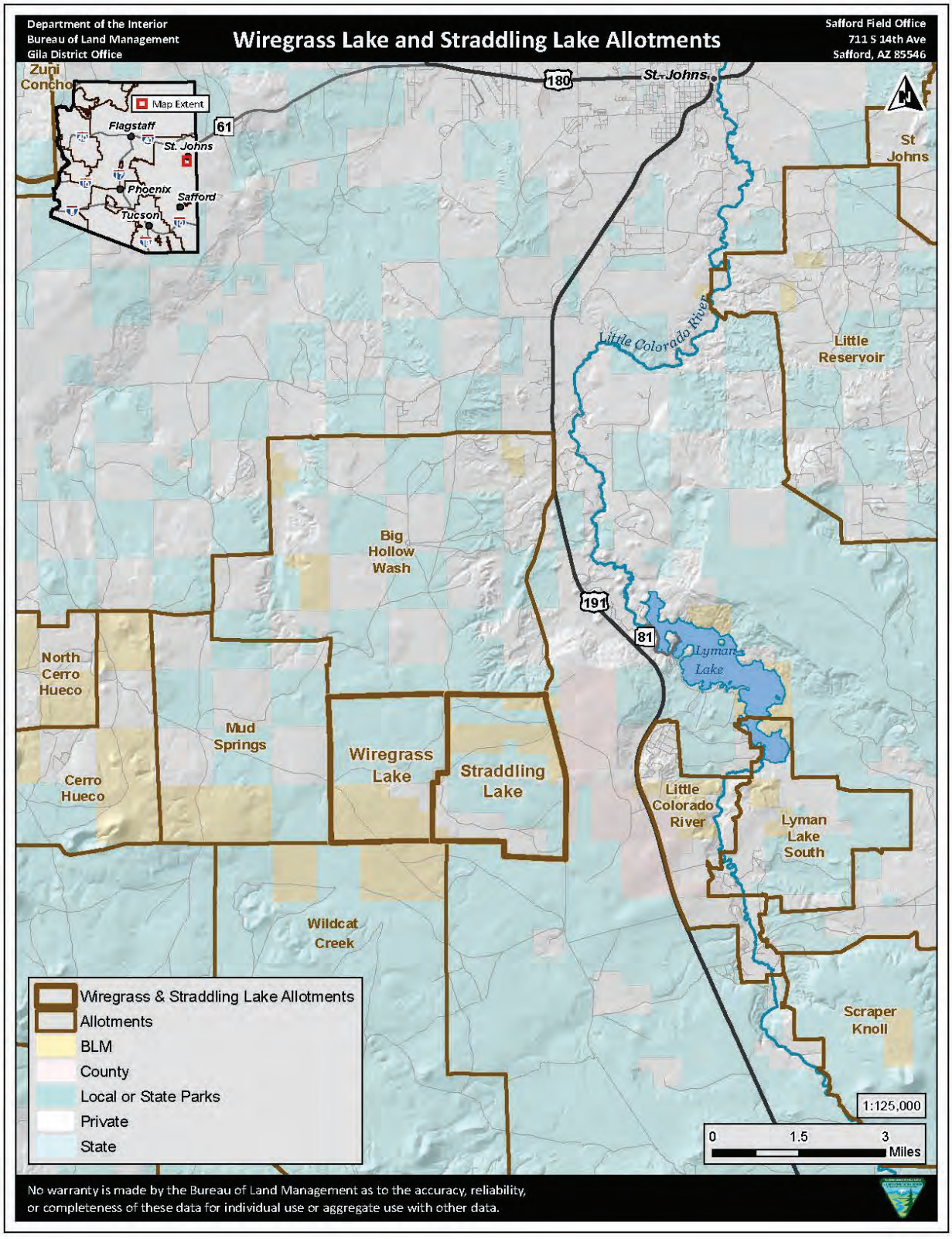


Figure 1. Wiregrass Lake and Straddling Lake Allotments Vicinity

2.2 Physical Description

A physical description of the Wiregrass Lake and Straddling Lake Allotments follows.

2.2.1 Surface Land Ownership

The Wiregrass Lake Allotment is comprised predominately of State Trust lands intermixed with private Lands. The BLM-administered portion of the allotment is 983 acres, 32 percent of the total allotment. Straddling Lake is comprised predominately of State Trust Lands intermixed with private and county lands. The BLM-administered portion of the allotment is 819 acres, 23 percent of the total allotment. Land ownership apportionments are displayed in Table 1 for the Wiregrass Lake Allotment and Table 2 for the Stradling Lake Allotment.

Table 1. Wiregrass Lake Allotment Landownership

Land Classification	Acres
BLM-administered Acres	983
State Trust Land Acres	1,867
Private Land Acres	271
Total Acres	**3,120**

Source: BLM GIS data set

Table 2. Stradling Lake Allotment Landownership

Land Classification	Acres
BLM-administered Acres	819
State Trust Land Acres	1,988
Private Land Acres	714
County Land Acres	37
Total Acres	**3,557**

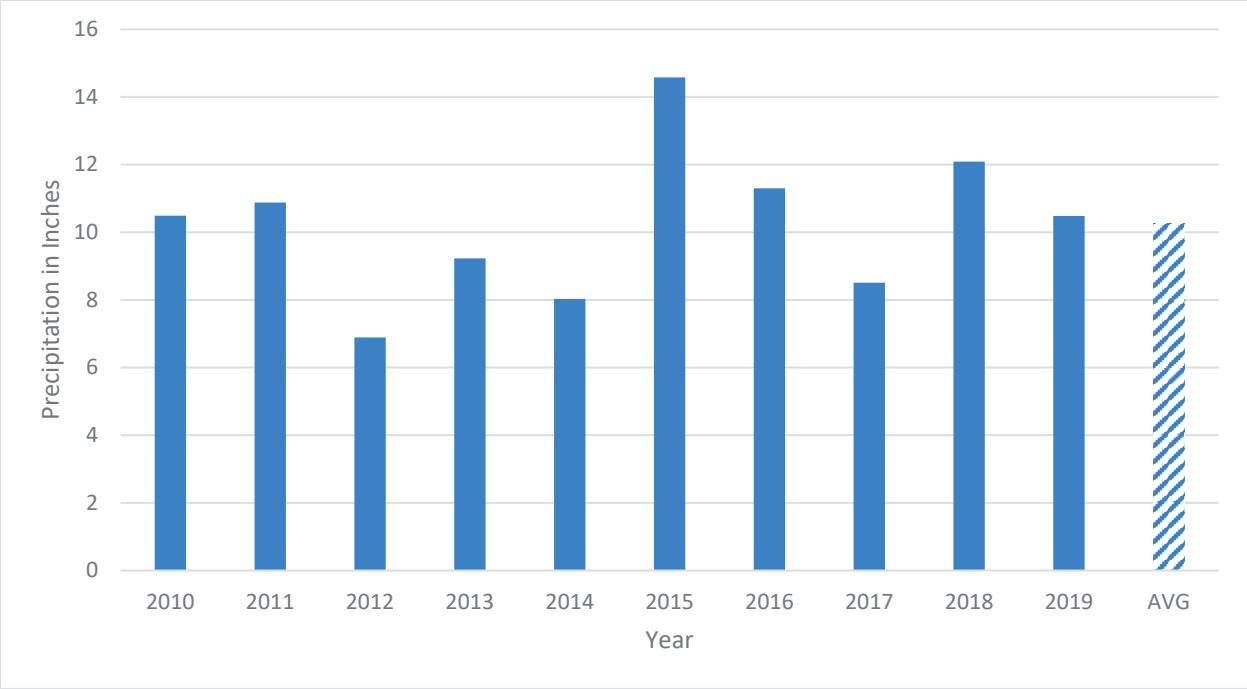
Source: BLM GIS data set

2.2.2 Precipitation

Precipitation data from PRISM climate datasets (PRISM 2020) were utilized for Figure 2 by selecting a central point that is representative of both allotments for both precipitation and temperature as follows:

- Latitude: 34.3405
- Longitude: -109.4366
- Elevation of 6,368 feet

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



Source: PRISIM 2020.

Figure 2. Average Annual Precipitation from PRISM Time Series Data 2010-2019

2.2.3 Temperatures

The following, Table 3 represents the typical minimum, maximum, and average temperature within the Wiregrass Lake and Straddling Lake Allotments between 2010 and 2019.

Table 3. Temperatures in Degrees Fahrenheit on Wiregrass Lake Allotment and Straddling Lake Allotment

Year	Minimum (°F)	Maximum (°F)	Average (°F)
2010	36.5	67.2	51.8
2011	34.9	67.4	51.1
2012	36.4	70.2	53.3
2013	35.7	66.9	51.3
2014	37.6	69.3	53.4
2015	38	53.2	68.4
2016	36.9	69.2	53.1
2017	38.4	70.8	54.6
2018	37.7	69.6	53.6
2019	36.9	66.9	51.9

Source: PRISM 2020.

2.2.4 Soils

The soil composition on the Wiregrass Lake Allotment and Straddling Lake Allotment is varied as presented in Table 4, Table 5, and Figure 3. All the soils found located within these allotments are classified as arid and semiarid.

Table 4. Soil Composition on the Wiregrass Lake Allotment

Soil Map Unit Name	Allotment Acres	Total Composition	BLM Acres	BLM Composition
Hereford loam, 0 to 8 percent slopes	266	9%	0	0%
Rudd Complex, o to 8 percent slopes	2,854	91%	983	100%

Source: USDA NRCS Web Soil Survey (2015)

Table 5. Soil Composition on the Straddling Lake Allotment

Soil Map Unit Name	Allotment Acres	Total Composition	BLM Acres	BLM Composition
Hubert gravelly loam, 2 to 15 percent slopes, eroded	199	6%	76	9%
Rough broken land	11	0%	2	0%
Rudd Complex, 0 to 8 percent	3,347	94%	741	91 %

Source: USDA NRCS Web Soil Survey (2015)

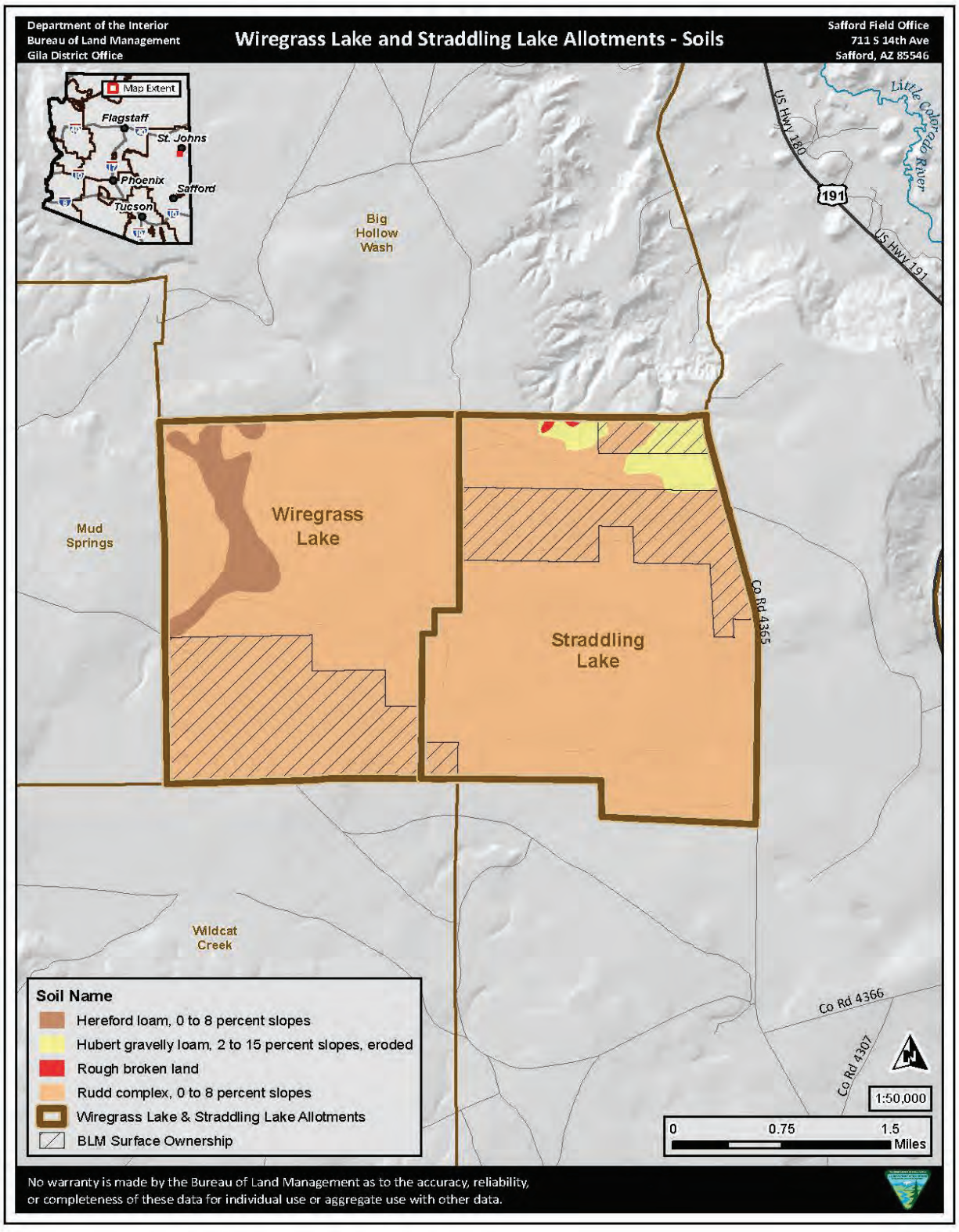


Figure 3. Soil Descriptions on the Wiregrass Lake and Straddling Lake Allotments
Source: USDI BLM 2017, USDA NRCS 2015

The following soil descriptions occur on BLM-administered lands within the Wiregrass Lake Allotment and Straddling Lake Allotment:

- Rudd complex 0 to 9 percent slopes
- Hubert gravelly loam, 2 to 15 percent slopes, eroded

Rudd complex 0 to 9 percent slopes
The Rudd series consists of very shallow and shallow, well drained soils that formed in alluvium from basalt. Rudd soils are on basalt mesas and lava flows and have slopes of 0 to 45 percent. The mean annual precipitation is about 12 inches, and the mean annual air temperature is about 51 degrees Fahrenheit (°F).

Hubert gravelly loam, 2 to 15 percent slopes, eroded
The Hubert series consists of very deep, well drained soils that formed in Tertiary alluvium containing fragments of quartzite, sandstone, limestone, travertine, basalt and andesite on nearly level to moderately sloping old valley fill and fans. The mean annual air temperature is about 50°F, and the mean annual precipitation is about 14 inches.

2.2.5 Watershed

These allotments lie within three watersheds, Big Hollow Wash; Canero Creek-Little Colorado River; and Little Colorado River, Lyman Lake to Big Hollow Wash watersheds (HUC-10 1502000202, 1502000104, and 1502000201 respectively). The Little Colorado River is an intermittent stream with some reaches flowing perennially closer to its headwaters and is one of two major tributaries to the Colorado River in Arizona. The Little Colorado River drains the Little Colorado Basin (HUC-6 150200), which has a drainage area of 26,000 square miles extending into New Mexico.

These allotments lie 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 nearest surface waters to the allotments are ephemeral washes and natural depressions, primarily having peak flows from precipitation events. Big Hollow Wash and Alamo Wash flow through the northwest corner and north portion of the Wiregrass Lake Allotment on state managed land. Both washes are tributaries to the Little Colorado River. The majority of both allotments are located within a Federal Emergency Management Agency (FEMA) Zone D floodplain meaning undetermined but possible flood hazard. Big Hollow Wash lies within a 100-year, 1 percent chance of flooding in any single year, floodplain. Water quality is monitored and listed by Arizona Department of Environmental Quality (ADEQ) for Environmental Protection Agency (EPA) 303(d) waterbody impairments under the federal Clean Water Act, and there are no impaired waters on these allotments. Lyman Lake lies on the Little Colorado River approximately 2.5 miles east of these allotments and was found impaired for mercury in fish from 2004-2010, with probable sources of Atmospheric Deposition and Resource Extraction of Abandoned Mine Lands.

2.2.6 Range Improvements

Range improvements on BLM-administered lands within the Wiregrass Lake Allotment consist of boundary fencing in the southwest corner of the allotment (Figure 4).

The Straddling Lake Allotment range improvements located on BLM-administered land consist of two storage tanks, two troughs, one well, one windmill, one corral and one dirt tank.

Only range improvements on BLM-administered land are considered for this evaluation. See Figure 4 for Wiregrass Lake and Straddling Lake Range Improvements.

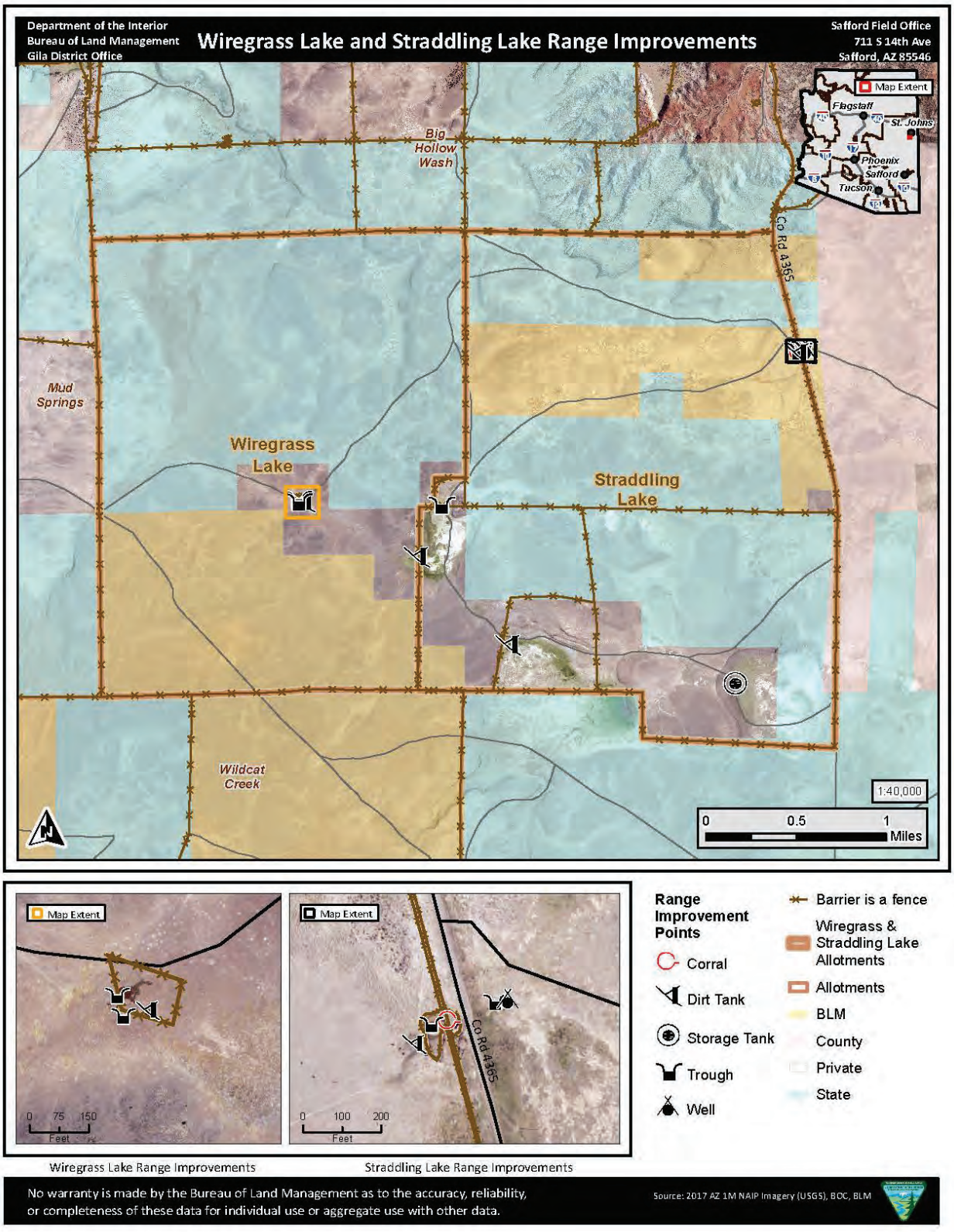


Figure 4. Wiregrass Lake Allotment and Straddling Lake Allotments Range Improvements
Source: USDI BLM 2017

2.3 Biological Resources

This section discusses the biological resources within the Wiregrass Lake and Straddling Lake Allotments.

2.3.1 Major Land Resource Areas

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 forestland occur is divided into sub-resource areas, and further divided into ecological sites. The Wiregrass Lake Allotment and Straddling Lake Allotment are located in the Colorado Plateau MLRA (35) and lie within the Mixed Grass Plains (35-1) sub-resource area.

2.3.2 Ecological Sites within the Wiregrass Lake Allotment and Straddling Lake Allotment

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).

Ecological sites within the allotments are presented below in Table 6, Table 7, and Figure 5:

Table 6. Ecological Sites on the Wiregrass Lake Allotment

Ecological Site	Allotment Acres	BLM Acres	BLM Composition
Shallow Loamy 10-14” p.z. (R035XA119AZ)	2,854	983	100%
Loamy Upland 10-14” p.z. (RX035X01I113)	266	0	0%

Source: National Resources Conservation Service (NRCS).

Table 7. Ecological Sites on the Straddling Lake Allotment

Ecological Site	Allotment Acres	BLM Acres	BLM Composition
Shallow Loamy 10-14” p.z. (R035XA119AZ)	3347	741	
Loamy Upland 10-14” p.z. (RX035X01I113)	199	76	9.3%
Shale Upland 6-10” p.z. (R041XC323AZ)	11	2	0.2%

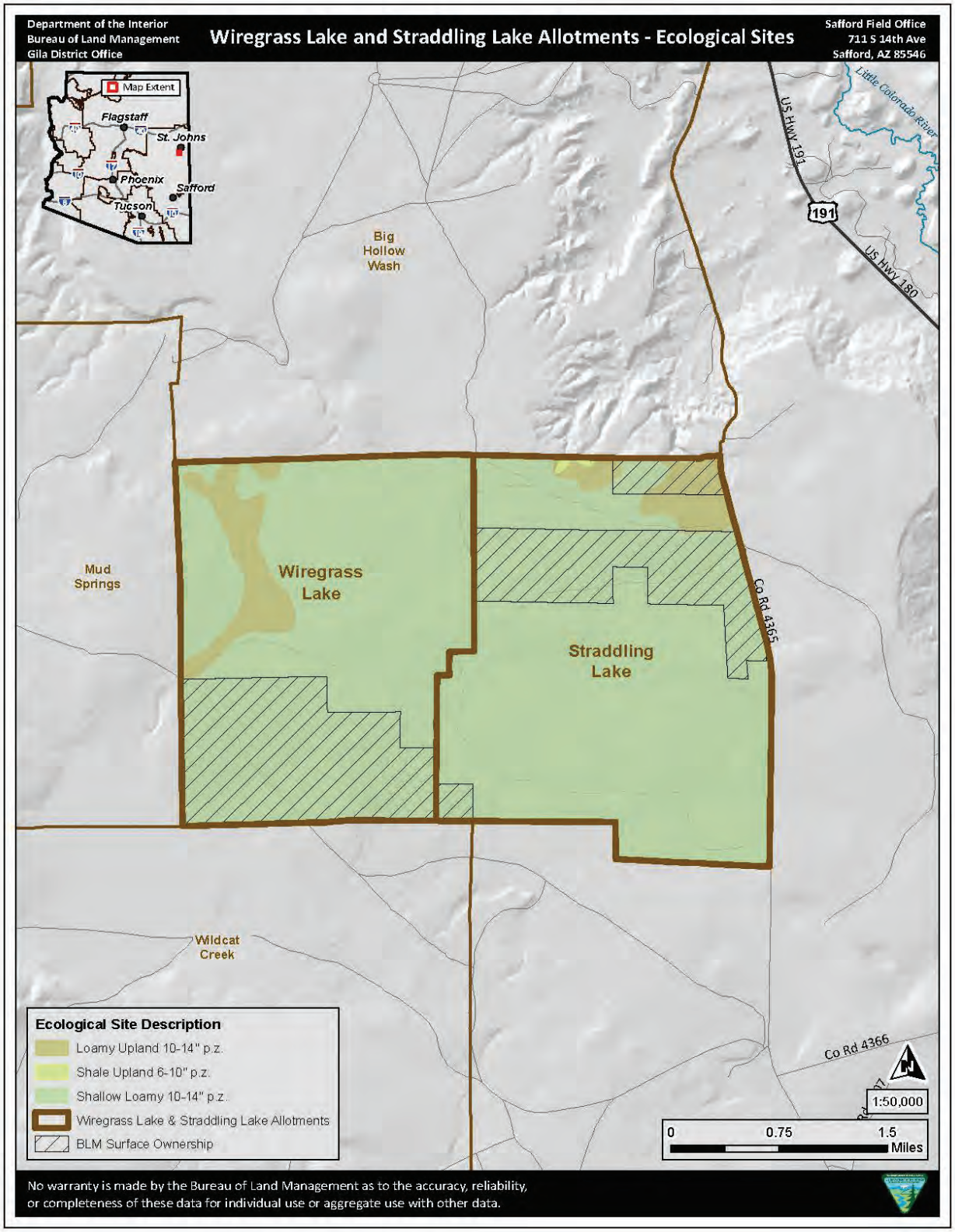
Source: National Resources Conservation Service (NRCS).

Shallow Loamy 10-14" p.z. (R035XA119AZ)

This ecological site occurs in Common Resource Area 35.1 - the Colorado Plateau Mixed Grass Plains. This site occurs in an upland position on structural benches, mesas and ridges. Slopes generally range from 0-15 percent with occasional steeper slopes. It does not benefit significantly from run-in moisture or suffer from excessive run-off. Precipitation in this common resource area ranges from 10 to 14 inches yearly with elevations from 4,800 to 6,300 feet. Soils in this site are very shallow and shallow (5-20 inches) to limestone, sandstone or basalt bedrock or other plant root restricting layers.

The historic climax plant community (HCPC) on this ecological site is made up primarily of mid and short grasses, shrubs and a relatively small percentage of forbs and a scattered overstory of junipers. There is a mixture of both cool and warm season grasses.

Grass species found in the Shallow Loamy 10-14" p.z. include but are not limited to needle and thread, blue grama, sideoats grama, New Mexico feathergrass, and galleta. Shrub species found include Bigelow sagebrush, ephedra, Mexican cliffrose, rabbitbush and fourwing saltbush. Tree species found are oneseed juniper, Utah juniper, and Colorado pinyon.



Source: USDI BLM 2017, USDA NRCS 2015

Figure 5. Ecological Sites on the Wiregrass Lake and Stradling Lake Allotments

2.3.3 Wildlife

This section discusses the wildlife resources in and around the Wiregrass Lake and Straddling Lake Allotments, including threatened and endangered species (T&E), BLM special status species, and species of economic and recreational importance. Refer to **Appendix B** for a complete list of species.

Threatened and Endangered Species

The grazing program for the BLM Gila District, including grazing activities within the Wiregrass Lake and Straddling Lake Allotments, was assessed pursuant to Section 7 of the Endangered Species Act (ESA) to determine whether the program would jeopardize the continued existence of an endangered or threatened species and/or their designated or proposed critical habitat. The USFWS rendered a Biological Opinion (BO) on the Gila District Livestock Grazing Program #22410-2006-F-0414 (2012), which determined that there were no T&E species or critical habitat present within the two allotments. Additionally, on May 21, 2021, a generated report using the USFWS Information for Planning and Conservation (IPaC; N.d.) website indicated a total of eight Federally listed or proposed species were known or expected to occur within the allotments: gray wolf, Mexican spotted owl, monarch butterfly, yellow-billed cuckoo, northern Mexican gartersnake, Chiricahua leopard frog, Little Colorado spinedace, and Zuni bluehead sucker. A species report generated on August 3, 2020 from the AZGFD Environmental Online Review Tool (AZGFD N.d.) indicated that no other Federally listed species have the potential to occur within 5 miles of the allotment boundaries and/or within the allotments. **Appendix B** provides information regarding non-T&E species associated with the Wiregrass Lake and Straddling Lake Allotments.

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.

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 yellow-billed cuckoo is a riparian obligate species that utilizes cottonwood gallery forests and may use upland areas for foraging. The allotments do not contain the primary riparian habitat; however, yellow-billed cuckoos may utilize the upland areas temporarily during times of migration. 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 allotments. The Chiricahua leopard frog also occurs in cienegas, pools, livestock tanks, lakes, reservoirs, streams, and rivers at elevations of 3,281 to 8,890 feet. This species has not been documented on Safford Field Office managed lands to date. The Little Colorado spinedace and Zuni bluehead sucker are expected to be absent from the BLM-administered portions of the allotments due to the absence of perennial water. See Sections 7.1.2 and 7.2.2 below for further discussion on riparian-wetland sites. Overall, due to the lack of perennial water sources and riparian habitat, the yellow-billed cuckoo, northern Mexican gartersnake, Chiricahua leopard frog, Little Colorado spinedace, and Zuni bluehead sucker are expected to be absent from the allotments.

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 are known to exist or have the potential to exist within these allotments are the bald eagle, golden eagle, ferruginous hawk, western burrowing owl, American peregrine falcon, pinyon jay, Arizona myotis, spotted bat, pale Townsend's big-eared bat, Gunnison's prairie dog, northern leopard frog, little Colorado sucker, bluehead sucker, and speckled dace.

A total of five USFWS Birds of Conservation Concern (USDI USFWS 2008) not already addressed as BLM sensitive species have the potential to occur within the allotment and are included in **Appendix B**. 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 AZGFD Environmental Online Review Tool (AZGFD N.d.) was used for the migratory bird analysis.

The allotments offer 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 allotments include several raptor species (i.e., hawks, eagles, owls) and a variety of passerine species. No surveys have been conducted specifically within these allotments for this LHE to determine presence, but these species have the potential of occurring if habitat is available. Bird species utilize the grassland and open shrub habitat for hunting prey. The Gunnison prairie dog utilizes grasslands and open shrub habitat for burrowing and foraging. Bat species may occur on the allotments 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.

Due to the absence of perennial water sources within the BLM-administered sections of the allotments, there is no potential for the northern leopard frog, little Colorado sucker, bluehead sucker, or speckled dace to occur.

Species of Economic and Recreational Importance

Game species within the Wiregrass Lake and Straddling Lake Allotments include the America pronghorn and the mourning dove. Grasslands with dispersed shrub thickets and cacti, as well as grasslands associated with juniper woodlands, offer forage and cover habitat for the pronghorn and mourning dove. Livestock waters allow game species to occupy habitat that would otherwise only be available ephemerally as precipitation allowed.

2.4 Special Management Areas

No Special Management Areas occur within Wiregrass Lake Allotment or Straddling Lake Allotment.

2.5 Recreation Resources

Dispersed recreation activities that may occur on the Wiregrass Lake Allotment or Straddling Lake Allotment include small and big game hunting, target shooting, hiking, and off-highway vehicle operation.

2.6 Cultural Resources

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

3.0 Grazing Management

This section discusses the grazing history, permitted use, and terms and conditions on the current lease for the Wiregrass Lake Allotment and Straddling Lake allotments.

3.1 Grazing History

Grazing management on the Wiregrass Lake and Straddling Lake allotments consists of grazing on private land, State Trust land, and BLM-administered land. For allotments such as Wiregrass Lake and Straddling Lake, 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. Figure 1 shows the land status within the Wiregrass Lake and Straddling Lake allotments.

Wiregrass Lake Allotment

The BLM grazing lease for the Wiregrass Lake Allotment allows for 36 cattle March 1–June 30 for a total of 144 animal unit months (AUMs) on BLM-administered land within the allotment and 36 cattle February 1–February 28 for a total of 33 AUMs on BLM-administered land within the allotment. The grazing year for the BLM starts on March first. There are approximately 1,106 acres of BLM-administered land within the allotment authorized for grazing.

Straddling Lake Allotment

The BLM grazing lease for the Straddling Lake Allotment allows for 11 cattle March 1–February 28 for a total of 132 AUMs on BLM-administered land within the allotment. There are approximately 696 acres of BLM-administered land within the allotment authorized for grazing.

3.2 Current Terms and Conditions for Permitted Use on the Wiregrass Lake Allotment and Straddling Lake Allotment

Wiregrass Lake Allotment

Grazing use on the Wiregrass Lake Allotment is in accordance with the terms and conditions of their current term lease. Table 8 below, provides a summary of the current permitted use for the allotments.

Table 8. Current Mandatory Terms and Conditions on the Wiregrass Lake Allotment

Allotment	Number and Kind of Livestock	Season of Use	Percent Public Lands	AUMs
Wiregrass Lake (No. 06230)	36 Cattle	March 1 – June 30	100	144
Wiregrass Lake (No. 06230)	36 Cattle	February 1 – February 28	100	33

Source: BLM Rangeland Administration System (RAS)

Other Terms and Conditions:

- In accordance with Sec. 325, Title III, H.R. 2691, Department of the Interior and related agencies Appropriations Act, 2004 (P.L. 108-108), which was enacted on November 10, 2003, this grazing permit or lease is renewed under section 402 of the Federal land Policy and Management Act of 1976, as amended (43 U.S.C. 1752), Title III of the Bankhead-Jones Farm Tenant Act (7 U.S.C. 1010 ET SEQ.), or, if applicable, section 510 of the California Desert Protection Act (16 U.S.C. 410AAA-50). In accordance with Public Law 108-108 the terms and conditions contained in the expired or transferred permit or lease shall continue in effect under the renewed permit or lease until such time as the Secretary of the Interior completes processing of this permit or lease in compliance with all applicable laws and regulations, at which time this permit or lease may be canceled, suspended, or modified, in whole or in part, to meet the requirements of such applicable laws and regulations.
- In order to improve livestock distribution on the public lands, all salt blocks and/or mineral supplements shall not be placed within 1/4 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 Code of Federal Regulations (CFR) 4130.3-2 (C).
- If in connection with allotment operations under this authorization, any human remains, funerary objects, sacred objects or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (P.L. 101-601; 104 Stat. 3048; U.S.C. 3001) are discovered, the Permittee shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the Authorized Officer of the discovery. The Permittee shall continue to protect the immediate area of the discovery until notified by the Authorized Officer that operations may resume.

Straddling Lake Allotment

Grazing use on the Straddling Lake Allotment is in accordance with the terms and conditions of their current term lease. Table 9 below, provides a summary of the current permitted use for the allotment.

Table 9. Current Mandatory Terms and Conditions on the Straddling Lake Allotment

Allotment	Number and Kind of Livestock	Season of Use	Percent Public Lands	AUMs
Straddling Lake (No. 06076)	11 Cattle	March 1 – February 28	100	132

Source: BLM Rangeland Administration System (RAS)

Other Terms and Conditions:

- In accordance with Sec. 325, Title III, H.R. 2691, Department of the Interior and related agencies Appropriations Act, 2004 (P.L. 108-108), which was enacted on November 10, 2003, this grazing permit or lease is renewed under section 402 of the Federal land Policy and Management Act of 1976, as amended (43 U.S.C. 1752), Title III of the Bankhead-

Jones Farm Tenant Act (7 U.S.C. 1010 ET SEQ.), or, if applicable, section 510 of the California Desert Protection Act (16 U.S.C. 410AAA-50). In accordance with Public Law 108-108 the terms and conditions contained in the expired or transferred permit or lease shall continue in effect under the renewed permit or lease until such time as the Secretary of the Interior completes processing of this permit or lease in compliance with all applicable laws and regulations, at which time this permit or lease may be canceled, suspended, or modified, in whole or in part, to meet the requirements of such applicable laws and regulations.

- In order to improve livestock distribution on the public lands, all salt blocks and/or mineral supplements shall not be placed within 1/4 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 Code of Federal Regulations (CFR) 4130.3-2 (C).
- If in connection with allotment operations under this authorization, any human remains, funerary objects, sacred objects or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (P.L. 101-601; 104 Stat. 3048; U.S.C. 3001) are discovered, the Permittee shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the Authorized Officer of the discovery. The Permittee shall continue to protect the immediate area of the discovery until notified by the Authorized Officer that operations may resume.

4.0 Objectives

This section provides an overview of the Safford Field Office management objectives that are associated with the Wiregrass Lake Allotment and Straddling Lake 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).

4.1 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 (RPS) Record of Decision 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 promote sustained yield and multiple use.

4.2 Allotment-Specific Objectives

The Wiregrass Lake Allotment and Straddling Lake Allotment is subject to the following objectives as established in the Arizona Standards for Rangeland Health.

4.2.1 Land Health Standards

The following land health standards are established by the Arizona Standards for Rangeland Health:

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.

4.2.2 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, and 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).

1.2.1.1 Wiregrass Lake Allotment

The Key area WL-1 falls within the Shallow Loamy 10-14” p.z. as shown in Figure 6. The Desired Plant Community (DPC) objectives were established using the Shallow Loamy 10-14” p.z. ESD.

Refer to Table 10 and Figure 6 for the location of the key area on the Wiregrass Lake Allotment. Addressed in this LHE report are the results from the key area monitoring conducted by an interdisciplinary (ID) team that included a Hydrologist, Natural Resource Specialist and two Rangeland Management Specialists in 2020.

The key area objective for the Wiregrass Lake Allotment is 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 the land health standards are being met.

Table 10. Location of the Wiregrass Lake Allotment Key Areas.

Key Area	Ecological Site	Ecological Site ID	GPS Coordinates (Web Mercator)
WL-1	Shallow Loamy 10-14" p.z.	R035XA119AZ	UTM 12 S 639873.46, 3799751.37

Source: USDI BLM 2017, USDA NRCS 2015

1.2.1.2 Straddling Lake Allotment

The key area SL-1 falls within the Shallow Loamy 10-14" p.z. as shown in Figure 6. The DPC objectives were established using the Shallow Loamy 10-14" p.z. ESD.

Refer to Table 11 and Figure 6 for the location of the key area on the Straddling Lake Allotment. Addressed in this LHE report are the results from the key area monitoring conducted by an ID Team that included a Hydrologist, Natural Resource Specialist and two Rangeland Management Specialists in 2020.

The key area objective for the Straddling Lake Allotment is 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 the land health standards are being met.

Table 11. Location of the Straddling Lake Allotment Areas

Key Area	Ecological Site	Ecological Site ID	GPS Coordinates (Web Mercator)
SL-1	Shallow Loamy 10-14" p.z.	R035XA119AZ	UTM 12 S 644111.25, 3800758.64

Source: USDI BLM 2017, USDA NRCS 2015

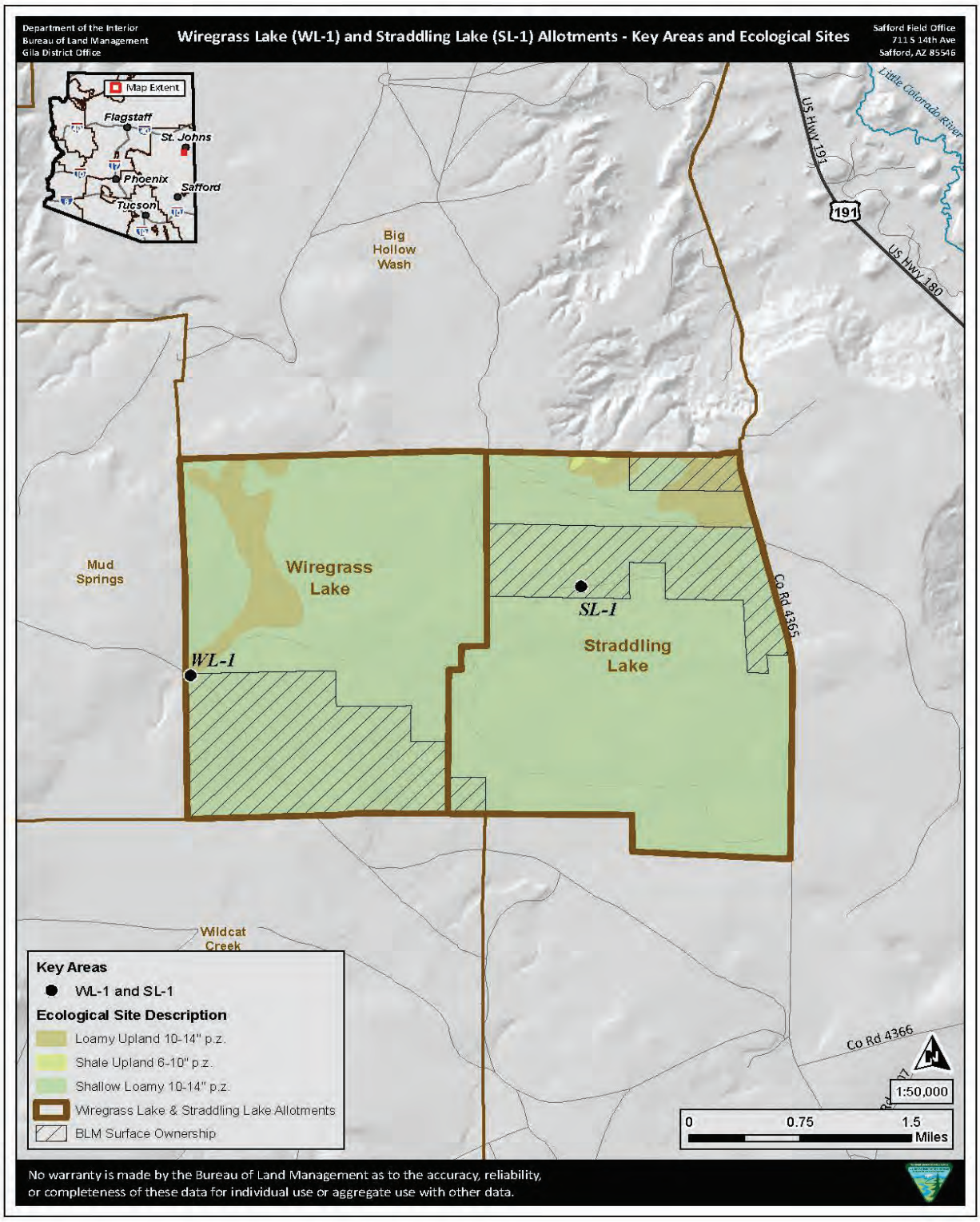


Figure 6. Key Areas Relative to Ecological Sites on the Wiregrass Lake and Straddling Lake Allotments
Source: USDI BLM 2020

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 Wiregrass Lake Allotment or the Straddling Lake 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 BLM ID Team established DPC objectives based on the ESD reference sheet for Shallow Loamy 10-14" p.z. (R035XA119AZ). Desired resource conditions are based upon the following DPC objectives: plant community composition, bare ground, and litter.

The ESD reference sheet for Shallow Loamy 10-14" p.z. (R035XA119AZ) defines the reference state as follows:

"This plant community is made up primarily of mid and short grasses, shrubs and a relatively small percentage of forbs and a scattered overstory of junipers. There is a mixture of both cool and warm season grasses". The full ESD reference sheet is available at https://edit.jornada.nmsu.edu/catalogs/esd/035X/R035XA119AZ

Canopy and Basal Cover

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

- 35 percent average canopy cover
- 10 percent average basal cover

Plant Community Composition

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

- 57 to 78 percent grasses
- 13 to 28 percent shrubs

- 7 to 9 percent forbs
- 2 to 6 percent trees

Bare Ground

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

- 20 to 40 percent bare ground

Litter Cover

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

- 20 to 30 percent litter cover

Summary

In summary, the Wiregrass Lake and Straddling Lake allotments DPC objectives for both WL-1 and SL-1 key areas, based on the Shallow Loamy 10-14" p.z. (R035XA119AZ) ecological site, are presented as the following evaluation area DPC objectives:

- Maintain an average of 35 percent canopy cover and 10 percent basal cover.
- Maintain an average plant composition of 57 to 78 percent grasses, 13 to 28 percent shrubs, 7 to 9 percent forbs, and 2 to 6 percent trees.
- Maintain average bare ground between 20 to 40 percent.
- Maintain an average litter cover of 20 to 30 percent.

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

As a Section 15 lease, there are limitations to 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 allotments.

5.0 Rangeland Inventory and Monitoring Methodology

5.1 Monitoring Protocol

Monitoring occurred on the Wiregrass Lake Allotment and Straddling Lake Allotment at key areas WL-1 and SL-1. Quantitative measurements for cover and species composition were collected along each transect and were analyzed in conjunction with qualitative indicators of soil quality, hydrologic function, and biological health. This was completed to assess the existing conditions within the ecological site Shallow Loamy 10-14" p.z. (R035XA119AZ). The existing conditions were compared to site specific reference conditions established by the NRCS, which are 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 areas were recorded using a global positioning system (GPS) using a projection of Web Mercator. Inventory and monitoring data are provided in **Appendix A**.

5.1.1 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 (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.

5.1.2 Indicators of Rangeland Health

The five steps for Interpreting Indicators of Rangeland Health (IIRH) are 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 2005). 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

6.0 Management Evaluation and Summary of Studies Data

The following information is the evaluation and summary of the Rangeland Health Assessments (RHA) conducted on the Wiregrass Lake Allotment and Straddling Lake Allotment in 2020.

6.1 Actual Use

Full permitted AUMs have been implemented on each allotment during the evaluation period totaling 177 AUMs per year for Wiregrass Lake Allotment and 132 AUMs per year for Straddling Lake Allotment.

Livestock grazing for the Wiregrass Lake Allotment and Stradling Lake Allotment is permitted as a Section 15 grazing 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.

6.2 Rangeland Health Assessments

The IIRH assessment of the three rangeland attributes was completed at key area WL-1 on The Wiregrass Lake Allotment and at SL-1 on the Straddling Lake Allotment (Figures 7-8).

Ratings of Moderate or more are considered to indicate resource concerns for soil erosion, water quantity, and plant productivity. It is important to remember that these ratings 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 None to 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 A**. Summaries of the IIRHs conducted at key area WL-1 on the Wiregrass Lake Allotment and SL-1 on the Straddling Lake Allotment is presented in Table 12 below.

Table 12. Summary of Range Health Assessment Ratings

Key Area	Ecological Site	Range Health Attributes – Degree of Departure		
		Soil and Site Stability	Hydrologic Function	Biotic Integrity
WL-1	Shallow Loamy 10-14” p.z. (R035XA119AZ)	None to Slight	None to Slight	None to Slight
SL-1	Shallow Loamy 10-14” p.z. (R035XA119AZ)	None to Slight	Slight to Moderate	Slight to Moderate

17 Indicators: Key Areas WL-1 and SL-1

For the 17 indicators of rangeland health for Shallow Loamy 10-14” p.z. R035XA119AZ, the ecological site reference sheet condition indicates:

1. **Number and extent of rills:** A few rills may occur on steeper slopes due to moderate permeability, rapid runoff and shallow depth of soils. They should be very uncommon in areas that have a lot of rock fragments on the surface and in the soil profile.

2. **Presence of water flow patterns:** Water flow patterns may be common due to moderate permeability, rapid runoff, and shallow depth of soils. Flow pattern will increase after drought dieback. There will be more water flow patterns on very shallow (<10") soils and in areas adjacent to large expanses of rock outcrop.
3. **Number and height of erosional pedestals or terracettes:** A few pedestals and terracettes may form, but they should be very short.
4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):** Bare ground ranges from 20-40 percent. Sites with a greater cover of rock fragments or bedrock have less bare ground. This site has an average water capacity of only 2 inches, so the potential to produce plant cover is very low, except in areas where plants have access to water in bedrock crops. 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:** None.
7. **Amount of litter movement (described size and distance expected to travel):** Herbaceous and fine woody litter will be transported in water flow pathways. Coarse woody litter will remain under shrub and tree canopies. Litter movement may be greater on very shallow soils or in areas adjacent to large expanses of rock outcrop.
8. **Soil surface (top few mm) resistance to erosion (stability values are averages – most sites will show a range of values):** Soil aggregate stability ratings average 5 under plant canopy and 3 in the interspaces. Many areas are protected by blue grama root mats and rock fragments. Soil surface textures range from sandy loam to clay loam. Many soils have a significant amount of rock fragment armor on the surface and in the profile. When well vegetated or covered with rock armor, soils have a high resistance to both water and wind erosion.
9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):** Surface structure is predominantly granular (weak fine, moderately fine and strong fine), but some soils have subangular blocky (weak to moderate, fine to medium) or massive surface structures. Some soils have a platy (weak, medium) surface structure. Surface thickness ranges from 1-12 inches. Surface colors vary depending on parent material.
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 uniform distribution of mostly grasses with some shrubs and a few forbs. Some locations have an open scattered tree canopy. Canopy cover averages 35 percent (20 percent grasses, 3 percent forbs, 10 percent shrubs, 2 percent trees). Basal cover of plants averages 10 percent (8 percent grasses, 1 percent forbs, 1 percent shrubs, trace moss/lichen). The cover (especially basal cover) is reduced by the amount of rock fragment ground cover. Both cover values (especially canopy cover) decrease during a prolonged drought. This type of plant community is moderately effective at capturing and storing precipitation.
11. **Presence and thickness of compaction layer (usually non; describe soil profile features which may be mistaken for compaction on this site):** None. These soils are not easily compacted due to large amount of rock fragments on the surface and in the profile. In areas without significant rock fragments, however, most soil types may be

easily compacted when wet. One soil sometimes has a natural platy surface structure.

12. **Functional/Structural Groups**: (List in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>,>, = to indicate much greater than, greater than, and equal to): Dominant: cool season bunchgrasses; Sub-dominant: warm season bunchgrasses > warm season colonizing grasses > shrubs Other: Minor: forbs > trees > cacti Trace: cool season colonizing grasses = annual grasses.
13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):** All functional groups are adapted for survival except during the most severe droughts. Severe winter droughts affect shrubs and trees the most. Severe summer droughts affect grasses the most. Very shallow (<10") soils will show the most mortality in all functional groups.
14. **Average percent litter cover and depth:** Mostly herbaceous litter, but up to 1/3 may be woody. There is generally less litter on rocky sites. Litter amounts increase during the first few years of drought, then decrease in later years.
15. **Expected annual-production (this TOTAL above-ground annual-production, not just forage annual-production):** 250-500 pounds per acre (dry weight) in drought years, 400-650 pounds per acre in median years, 550-800 pounds per acre in wet years.
16. **Potential invasive (including noxious) species (native and non-native). List species with BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:** Greene rabbitbrush, Douglas rabbitbrush, broom snakeweed, baby aster and Whipple cholla are native to the site but have the potential to increase and dominate the area after disturbance. One seed juniper is native to the site but has the potential to increase and dominate after unmanaged grazing and/or fire exclusion. Russian thistle is an exotic forb that can invade the site from neighboring farm fields and disturbed lands if the soil is disturbed.
17. **Perennial plant reproductive capability:** All plants native to this site are adapted to the climate and are capable of producing seeds, stolons and rhizomes in all but the most severe droughts.

6.2.1 Wiregrass Lake Allotment Rangeland Health Attributes

Figure 7. Wiregrass Lake Allotment Key Area Monitoring Photo

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 uncommon on the site and were rated None to Slight. A few pedestals were present and were rated None to Slight. Terracettes were not observed and were rated None to Slight. Bare ground was measured at 12 percent, less than expected reference sheet range of 20-40 percent and was rated None to Slight. There was no evidence of wind-scouring observed and was rated None to Slight. All litter size classes remained at the base of plants with little to no movement and was rated None to Slight. Soil surface resistance to erosion was rated Slight to Moderate, soils were naturally armored by small gravel, but soil was too fragile to get a ped[1] to perform the soil stability test. The reference sheet for this location has a stability rating of 3 under plant canopies and 5 in the interspaces. Since the test was unable to be performed the ID Team determined there was a departure; the site's gravel cover does aid in the resistance to erosion. Soil surface loss or degradation was rated None to Slight as soil remained intact. No

[1] Soil peds are natural, relatively permanent aggregates, separated from each other by voids or natural surfaces of weakness.

compaction layers were observed and was rated None to Slight.

Nine indicators for soil and site stability were rated None to Slight. One was rated Slight to Moderate. Therefore, the overall rating for the Soil and Site Stability attribute is None to Slight.

Rangeland Health Attribute 2: Hydrologic Function

There were no rills or gullies observed, these indicators were rated None to Slight. Water flow patterns were uncommon on the site and were rated None to Slight. A few pedestals were present and was rated None to Slight. Terracettes were not observed and were rated None to Slight. Bare ground averaged 12 percent, below the reference sheet average range of 20-40 percent, and was rated at None to Slight. There was no evidence of wind-scouring observed and was rated None to Slight as all litter size classes remained at the base of plants with little to no movement. Soil surface resistance to erosion was rated Slight to Moderate, soils were naturally armored by small gravel, but soil was too fragile to get a ped to perform the soil stability test. The reference sheet for this location has a stability rating of 3 under plant canopies and 5 in the interspaces. Since the test was unable to be performed the ID Team determined there was a departure; the sites gravel cover does aid in the resistance to erosion. Soil surface loss or degradation was rated None to Slight as soil remained intact due to natural armoring. Plant community composition was rated None to Slight as the site's basal cover and canopy cover values exceeded the reference sheet averages. Canopy cover averaged 44 percent, with the reference sheet average in at 35 percent. Basal cover averaged 12 percent, and the reference sheet's average is 10 percent. No compaction layers were observed and was rated None to Slight. The reference sheet for litter cover is 20-30 percent and mostly herbaceous. Litter amount was measured at 32 percent and was mostly herbaceous it was rated None to Slight.

Nine indicators for hydrologic function were rated None to Slight. One indicator for hydrologic function was rate Slight to Moderate. 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 Slight to Moderate, soils were naturally armored by small rock fragments, but soil was too fragile to get a ped to perform the soil stability test. The reference sheet lists a stability rating of 3 under plant canopies and 5 in the interspaces. Since the test was unable to be performed the ID Team determined there was a departure; the site's small sized gravel cover does aid in the resistance to erosion. Soil surface loss or degradation was rated None to Slight as soils remained intact due to natural armoring. No compaction layer was detected. Plant functional structure groups were rated None to Slight, blue grama and tobosa grasses dominated the site followed by cacti, forbs, and trees as expected from the reference sheet. The composition of cacti was higher than expected but the function of the ecological site was not impacted because cacti still remained as a minor part of the functional structural group. Plant mortality and decadence was rated None to Slight because there was an even distribution of age classes amongst the vegetation and the site has experienced repeated drought conditions in recent years. Litter amount was measured at 32 percent, slightly higher than the 20-30 percent range of the reference sheet and was mostly herbaceous, it was rated None to Slight.

Annual production was ocularly estimated at 300 pounds per acre and was rated None to Slight. The reference sheet lists a range of 250-500 pounds per acre in drought years. This estimate can

be further supported by the percent canopy cover exceeding the reference sheet, the percent bare ground measuring less than the reference sheet range and the repeated drought conditions described in Figure 2. Invasive plants were not observed growing on site but there were some decadent Russian thistle plants that blew onto the site; therefore, it was rated None to Slight. Reproductive capability of perennial plants was rated None to Slight because the native plants are adapted to the climate and capable of reproducing except during the most severe droughts.

Eight indicators for biotic integrity were rated as None to Slight. One indicator was rated Slight to Moderate. Therefore, the overall rating for the biotic integrity attribute is None to Slight.

6.2.2 Straddling Lake Allotment Rangeland Health Attributes

Figure 8. Straddling Lake Allotment Key Area Monitoring Photo

Rangeland Health Attribute 1: Soil and Site Stability

There were no rills or gullies observed, these indicators were rated None to Slight. Pedestals were uncommon and was rated None to Slight. Water flow patterns and terracettes were not observed and were rated None to Slight. Bare ground was measured at 32 percent, the within reference sheet range of 20-40 percent and was rated None to Slight. There was no evidence of wind-scouring observed and was rated None to Slight. All litter size classes remained at the base of plants with little to no movement and was rated None to Slight. Soil surface resistance to

erosion was measured with an interspace average as 3 and 4 average under the canopy. With averages slightly off from the reference sheet average ratings of 5 in the interspaces and 3 under plant canopies, soil surface resistance to erosion was rated None to Slight, as the soil remains in place due being naturally armored by gravel and all litter size classes remained at the base of plants with little to no movement. Soil surface loss or degradation was rated None to Slight as soil remained intact due to natural armoring. At this site, there were a few spots where there was a vegetated, surface compaction layer and it was rated Slight to Moderate. Recent livestock use at this site was identified as the cause for the localized compaction layer.

Nine indicators for soil and site stability were rated None to Slight. One indicator for soil and site stability was rate Slight to Moderate. Therefore, the overall rating for the Soil and Site Stability attribute is None to Slight.

Rangeland Health Attribute 2: Hydrologic Function

There were no rills or gullies observed, these indicators were rated None to Slight. Pedestals were uncommon and given a None to Slight rating. Water flow patterns and terracettes were not observed and were rated None to Slight. Bare ground measured 32 percent and was rated None to Slight as it was within the 20-40 percent range of the reference sheet. Soil surface resistance to erosion measured at averages of 3 within the interspaces and 4 under the canopy, slightly off from the reference sheet average ratings of 5 in the interspaces and 3 under plant canopies. As the soil remains in place due being naturally armored by gravel and no litter movement, soil surface resistance to erosion was rated None to Slight. Soil surface loss or degradation was rated None to Slight as soil remained intact due to natural armoring. Plant community composition did not average near the reference sheet averages as the site's basal cover and canopy cover values were lower. Canopy cover averaged 24 percent, which is lower than the 35 percent average in the reference sheet. Basal cover averaged 2 percent, and the reference sheet's average is 10 percent. The reference sheet states that both cover values, especially canopy cover, decrease during a prolonged drought. The reference sheet also states that cover, especially basal cover, is reduced by the amount of rock fragment ground cover, which is prevalent at the site. The vegetation classes of dominate grasses followed by shrubs, then trees were as expected although infiltration of moisture may be slightly impacted, as less cover may promote run off, therefore plant community composition was rated Slight to Moderate. Detected at this site were a few spots of vegetated, surface compaction layer and it was rated Slight to Moderate. Recent livestock use at this site was identified as the cause for the localized compaction layer. Litter amount was measured at 44 percent which was above the reference sheet range of 20-30 percent range and was rated None to Slight as the reference sheet states that litter may increase in the first few years of drought.

Eight indicators for Hydrologic Function were rated None to Slight. Two indicators for Hydrologic Functions were rate Slight to Moderate. Therefore, the overall rating for the Hydrologic Function attribute was rated Slight to Moderate.

Rangeland Health Attribute 3: Biotic Integrity

Soil surface resistance to erosion measured at averages of 3 within the interspaces and 4 under the canopy, slightly off from the reference sheet average ratings of 5 in the interspaces and 3 under plant canopies. With little to no litter movement and the soils remaining in place due being

naturally armored by gravel, soil surface resistance to erosion was rated None to Slight. Soil surface loss or degradation was rated None to Slight as soils remained intact. Plant composition and functional structure groups were rated None to Slight, grasses dominated the site followed by shrubs, then trees. Detected at this site were a few spots of vegetated, surface compaction layer and it was rated Slight to Moderate. Recent livestock use at this site was identified as the cause for the localized compaction layer. Plant mortality and decadence was rated None to Slight because there was an even distribution of age classes amongst the vegetation. Litter amount was averaged 44 percent was rated None to Slight due to current site conditions of prevalent gravel and past years at or lower than average precipitation events. The reference sheet states that there is generally less litter on rocky sites and litter amounts increase during the first few years of drought, then decrease in later years. An ocular estimate of 300 pounds per acre was given for the annual production. The reference sheet describes a range of 250-500 pounds per acre in drought years. This estimate can be further supported by the percent bare ground measuring within the reference sheet range and the repeated drought conditions described in Figure 2; therefore, annual production was rated None to Slight. Invasive plants were not observed growing on site but there were some decadent Russian thistle plants that blew onto the site. Therefore, it was rated None to Slight. Reproductive capability of perennial plants was rated None to Slight because the native plants are adapted to the climate and capable of reproducing except during the most severe droughts.

Eight indicators for biotic integrity were rated as None to Slight. One indicator was rated Slight to Moderate. Therefore, the overall rating for the Biotic Integrity attribute is Slight to Moderate.

7.0 Determinations of Land Health Standards

7.1 Wiregrass Lake Allotment

Standard 1: Upland Sites

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

Determination:

☒ Meeting the Standard

☐ Not Meeting the Standard; Making Significant Progress Toward Standard

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

☐ Standard Does Not Apply

Rationale:
Overall, the soils throughout the Wiregrass Lake Allotment are productive, stable, and in a sustainable condition. The key area monitoring data reflect the conditions as described in the ESD's reference sheets and are acceptable for meeting the upland sites standard. The data at the key area shows that the canopy cover was better than expected and there was less bare ground. Litter remained in place and prevalent rock cover is adequate to ensure soil stabilization and appropriate permeability rates within the ecological site. Little to no signs of erosion were observed at the site. There were no rills, gullies or and terracettes. A few pedestals were present but were within the

reference sheet expectation. Wind-scouring was not detected. Soil surface is naturally armored by rock and canopy cover.

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 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 Wiregrass Lake Allotment; therefore, Standard 2 does not apply.

Standard 3: Desired Resource Conditions on the Wiregrass Lake Allotment.

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

Standard 3 is determined by evaluating whether DPC objectives are being supported and provided with consideration for all multiple uses: rangeland health, State water quality standards, and habitat for endangered, threatened, and sensitive species. Standards 1 and 2, when present, help to inform whether the desired plant communities are being supported or have the ability to function as desired.

Determination:

☒ Meeting the Standard

☐ Not Meeting the Standard; Making Significant Progress Toward Standard

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

☐ Standard Does Not Apply

Rationale:
Based on the monitoring data and this evaluation, current livestock grazing is not preventing the Wiregrass Lake Allotment from providing a productive and diverse upland native plant community that provides for all multiple uses. Due to the absence of riparian-wetland habitat there are no riparian-wetland plant communities considered in this evaluation of Standard 3.

The IIRH assessment indicates that Soil and Site Stability, Hydrologic Function, and Biotic Integrity are meeting the standard (as outlined in Standard 1) for this site. Data from the allotment's key area indicate that the site is achieving the objectives for canopy cover, plant community composition, bare ground, and litter cover. The vegetation composition and density are sufficient to provide forage and shelter for livestock and wildlife species. Therefore, the ID Team determined that the Wiregrass Lake Allotment is currently meeting Standard 3.

The following DPC objectives were established to ensure current conditions on the allotment are maintained or improved. The DPC objectives provide a diverse plant community that will allow for natural ecological functions and provide habitat features, such as increased sources for shelter, cover and foraging, for the wildlife species described above in Section 2.3.3

- Maintain an average of 35 percent canopy cover and 10 percent basal cover.
- Maintain an average plant composition of 57 to 78 percent grasses, 13 to 28 percent shrubs, 7 to 9 percent forbs, and 2 to 6 percent trees.
- Maintain average bare ground between 20 to 40 percent.
- Maintain an average litter cover of 20 to 30 percent.

Shallow Loamy 10-14" p.z. (R035XA119AZ) Key Area WL-1

Canopy and Basal Cover

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

- 35 percent average canopy cover
- 10 percent average basal cover

WL-1: Canopy cover was measured at 44 percent, and basal cover at 12 percent. Canopy cover was slightly higher than the average set forth in the ESD's reference sheet and is exceeding the DPC objective. With the canopy cover exceeding the average it suggests that the hydrologic function of the site is doing well. Basal cover was slightly higher than the DPC objective, it was determined the DPC objective for basal cover on the Wiregrass Lake Allotment are being achieved.

Plant Community Composition

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

- 57 to 78 percent grasses
- 13 to 28 percent shrubs
- 7 to 9 percent forbs
- 2 to 6 percent trees

WL-1: Plant community composition was derived from the LPI data, see **Appendix A**. The dominant vegetation type was grasses at 88 percent composition. Shrubs were at 8 percent, forbs were at 4 percent composition, and trees were at 0 percent.

The average compositions calculated from the reference sheet can show variance from the actual data gathered during the LPI monitoring method. The IIRH technical reference 1734-6 provides a departure matrix for the indicators. Indicator ten "Effects of Plant Community Composition and Distribution on Infiltration" is measured by the reduction of infiltration. The departure matrix states that for the indicator to be rated as Slight to Moderate there needs to be a change in composition or distribution that will result in moderate reduction in infiltration and Slight to Moderate increase in runoff. This indicator was rated None to Slight in the IIRH assessment

completed for key area WL-1 because it was representative of the reference sheet. The reason it was rated None to Slight is because the plant community composition has not had an impact to infiltration and runoff that results for a departure as is stated on the reference sheet stated.

Grasses remained the dominant group of vegetation followed by shrubs and forbs. Shrubs were slightly below the ranges established from the ESD sheet, but the overall impact of infiltration would not be affected by these subtle differences. The composition of grasses and shrubs indicates that there is suitable habitat to support a variety of raptor and passerine species, as well as the game species discussed in Section 2.3.3. Overall, the DPC objectives for plant community composition on the Wiregrass Lake Allotment is being achieved.

Bare Ground

This site's reference sheet indicates a desired average of bare ground as follows:

- 20 to 40 percent bare ground

WL-1: Bare ground was measured at 16 percent. The percentage of bare ground is slightly below the objective for this site. The site had 84 percent presence of rock fragments and or vegetative cover which reduced the percentage of exposed soils, providing sufficient soil protection and stability, and allowing for adequate infiltration. Therefore, the DPC objective for bare ground on the Wiregrass Lake Allotment is being achieved.

Litter Cover

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

- 20 to 30 percent litter cover

WL-1: The mostly herbaceous litter was measured at 32 percent, slightly above the range of the objective stated in the reference sheet. The 2 percent increase in litter can be attributed to the repeated drought conditions described in Figure 2. With the indictors of rangeland health determining the site is very similar to the reference state objectives, litter cover on the Wiregrass Lake Allotment is being achieved.

7.2 Straddling Lake Allotment

Standard 1: Upland Sites

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

Determination:

☒ Meeting the Standard

☐ Not Meeting the Standard; Making Significant Progress Toward Standard

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

☐ Standard Does Not Apply

Rationale:

Overall, the soils throughout the Straddling Lake Allotment are productive, stable, and in a sustainable condition. The key area monitoring data reflects the conditions as described in the ESD's reference sheet. There were localized areas of a compaction layer detected, however the compaction layer is not impairing infiltration due to no sign erosion such as rills, gullies or terracettes were detected and litter was held in place. Canopy and basal cover did measure less than the reference sheet average, but the amount of cover present is promoting moisture infiltration and soil stability as is the gravel that has naturally armored the soil. A reduction in cover is expected within the reference sheet and is attributed to near drought or drought conditions which the site had experienced in past years.

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 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 Straddling Lake Allotment; therefore, Standard 2 does not apply.

Standard 3: Desired Resource Conditions on the Straddling Lake Allotment.

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

Standard 3 is determined by evaluating whether DPC objectives are being supported and provided with consideration for all multiple uses: rangeland health, State water quality standards, and habitat for T&E and sensitive species. Standards 1 and 2, when present, help to inform whether the desired plant communities are being supported or have the ability to function as desired.

Determination:

☒ Meeting the Standard

☐ Not Meeting the Standard; Making Significant Progress Toward Standard

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

☐ Standard Does Not Apply

Rationale:

Based on the monitoring data and this land health evaluation, current livestock grazing is not preventing the Straddling Lake Allotment from providing a productive and diverse upland native plant community that provides for all multiple uses The IIRH assessment indicates that soil/site

stability, hydrologic function, and biotic integrity are meeting the standard (as outlined in Standard 1) for this site. Data from the allotment's key area indicate that the site is achieving the objectives for bare ground, and litter cover. The canopy and basal cover, vegetation composition and density are sufficient to provide forage and shelter for livestock and wildlife species. Therefore, the ID Team determined that the Straddling Lake Allotment is currently meeting Standard 3.

The following DPC objectives were established to ensure current conditions on the allotment are maintained or improved. The DPC objectives provide a diverse plant community that will allow for natural ecological functions and provide habitat features, such as increased sources for shelter, cover and foraging, for the wildlife species described above in Section 2.3.3

- Maintain an average of 35 percent canopy cover and 10 percent basal cover.
- Maintain an average plant composition of 57 to 78 percent grasses, 13 to 28 percent shrubs, 7 to 9 percent forbs, and 2 to 6 percent trees.
- Maintain average bare ground between 20 to 40 percent.
- Maintain an average litter cover of 20 to 30 percent.

Shallow Loamy 10-14" p.z. (R035XA119AZ) Key Area SL-1

Canopy and Basal Cover

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

- 35 percent average canopy cover
- 10 percent average basal cover

SL-1: Canopy cover was measured at 24 percent, and basal cover at 2 percent. Canopy cover and basal cover were slightly lower than the average set forth in the ESD, however, it is meeting the standard because the soil was protected by its naturally armored rock cover and there was not a negative impact of infiltration on the site.

Plant Community Composition

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

- 57 to 78 percent grasses
- 13 to 28 percent shrubs
- 7 to 9 percent forbs
- 2 to 6 percent trees

SL-1: Plant community composition was derived from the LPI data, see **Appendix A**. The dominant vegetation type is grasses at 72 percent composition. Shrubs measured at 28 percent, forbs 0 percent, and trees were at 0 percent composition.

The average compositions calculated from the ESD reference sheet can show variance from the actual data gathered during the LPI monitoring method. The IIRH technical reference 1734-6 provides a departure matrix for the indicators, Indicator ten "Effects of Plant Community

Composition and Distribution on Infiltration" is measured by reduction of infiltration. This indicator was rated Slight to Moderate in the IIRH assessment completed for key area SL-1. The Slight to Moderate rating was due to a slight increase in runoff is expected from having a lower cover average with the current plant community composition. Grasses remained the dominant group of vegetation followed by shrubs. Shrubs were within the ranges established from the ESD sheet, but the overall impact of infiltration would not be affected by these subtle differences. The composition of grasses and shrubs indicates that there is suitable habitat to support a variety of raptor and passerine species, as well as the game species discussed in Section 2.3.3. Overall, the DPC objectives for plant community composition on the Straddling Lake Allotment is being achieved.

Bare Ground

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

- 20 to 40 percent bare ground

SL-1: Bare ground was measured at 32 percent with a mixture of vegetation cover and rock cover.

Litter Cover

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

- 20 to 30 percent litter cover

SL-1: Litter was measured at 44 percent and is above the range of the objective. The indicator was rated None to Slight was as the reference sheet states that litter may increase in the first few years of drought. With the IIRH determining the site is very similar to the reference state the DPC objectives for litter cover on the Straddling Lake Allotment are being achieved.

8.0 Recommended Management Actions

8.1 Terms and Conditions for the Wiregrass Lake Allotment

Based on the determinations in Section 7 Determinations of Land Health Standards, the following management actions are recommended:

1. Grazing management on the Wiregrass Lake Allotment should change in accordance with the terms and conditions of the term lease, as follows:
    - Mandatory terms of conditions of lease should consider a change from the current authorized 36 cattle, with a season of use for February 1 – June 30 (five months) to the proposed yearlong season of use depicted below.

Allotment	Number and Kind of Livestock	Season of Use	Percent Public Lands (%)	AUMs
Wiregrass Lake (No. 06230)	14 Cattle	March 1 – February 28	100	177

Rationale: The proposed change is extending the season of use to year-round would allow the operator more flexibility in grazing management and time to graze outside the growing season. Historically, the Wiregrass Lake Allotment was grazed year-round. The flexibility given to the operator with year-round use would allow the leasee to better manage the allotment as a whole, which includes their year-round State lease within the allotment boundary. Monitoring conducted for this LHE as well as the evaluation completed in this LHE supports the decision to allow for year-round use due to the ID Team's determination that the soils are stable and protected from erosion through appropriate amounts of vegetative and ground covers, which are also promoting adequate infiltration of precipitation and supporting healthy and vigorous native plant communities. Additionally, by allowing the leasee flexibility in adjusting their grazing management throughout the year it allows them to be proactive in situations such as drought or other disturbances, and as a result resources on the allotment would continue to be supported and provided for, such as wildlife habitat and overall ecological function. All of the adjacent allotments to the Wiregrass Lake Allotment are grazed year-round. Straddling Lake Allotment has the same ecological site as the Wiregrass Lake Allotment and is also grazed year-round. The change to year-round use would not change to the permitted AUMs for the allotment.

2. Continue with these Other Terms and Conditions:
    - 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).

3. The following Other Terms and Conditions should be deleted as it is a duplicate of the Standard Terms and Conditions associated with this BLM lease:

- If in connection with allotment operations under this authorization, any human remains, funerary objects, sacred objects or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (P.L. 101-601; 104 Stat. 3048; U.S.C. 3001) are discovered, the Permittee shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the Authorized Officer of the discovery. The Permittee shall continue to protect the immediate area of the discovery until notified by the Authorized Officer that operations may resume.

4. The following Other Terms and Conditions should be deleted as it is not a Term and Condition and is therefore irrelevant to the management of the lease:

   - In accordance with Sec. 325, Title III, H.R. 2691, Department of the Interior and related agencies Appropriations Act, 2004 (P.L. 108-108), which was enacted on November 10, 2003, this grazing permit or lease is renewed under Section 402 of the Federal land Policy and Management Act of 1976, as amended (43 U.S.C. 1752), Title III of the Bankhead-Jones Farm Tenant Act (7 U.S.C. 1010 ET SEQ.), or, if applicable, Section 510 of the California Desert Protection Act (16 U.S.C. 410AAA-50). In accordance with Public Law 108-108 the terms and conditions contained in the expired or transferred permit or lease shall continue in effect under the renewed permit or lease until such time as the Secretary of the Interior completes processing of this permit or lease in compliance with all applicable laws and regulations, at which time this permit or lease may be canceled, suspended, or modified, in whole or in part, to meet the requirements of such applicable laws and regulations.

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

   - 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.
   - The lessee shall provide reasonable administrative access across private and leased lands to the BLM for the orderly management and protection of the public lands.

8.2 Terms and Conditions for the Straddling Lake Allotment

1. Grazing management on the Straddling Lake Allotment would continue in accordance with the terms and conditions of the term lease, as follows:

Allotment	Number and Kind of Livestock	Season of Use	Percent Public Lands (%)	AUMs
Straddling Lake (No. 06076)	11 Cattle	March 1 – February 28	100	132

2. Continue with these Other Terms and Conditions:

- 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).

3. The following Other Terms and Conditions should be deleted as it is a duplicate of the Standard Terms and Conditions associated with this BLM lease or are no longer relevant to the lease:

   - If in connection with allotment operations under this authorization, any human remains, funerary objects, sacred objects or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (P.L. 101-601; 104 Stat. 3048; U.S.C. 3001) are discovered, the Permittee shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the Authorized Officer of the discovery. The Permittee shall continue to protect the immediate area of the discovery until notified by the Authorized Officer that operations may resume.

4. The following Other Terms and Conditions should be deleted as it is not a Term and Condition and is therefore irrelevant to the management of the lease:

   - In accordance with Sec. 325, Title III, H.R. 2691, Department of the Interior and related agencies Appropriations Act, 2004 (P.L. 108-108), which was enacted on November 10, 2003, this grazing permit or lease is renewed under Section 402 of the Federal land Policy and Management Act of 1976, as amended (43 U.S.C. 1752), Title III of the Bankhead-Jones Farm Tenant Act (7 U.S.C. 1010 ET SEQ.), or, if applicable, Section 510 of the California Desert Protection Act (16 U.S.C. 410AAA-50). In accordance with Public Law 108-108 the terms and conditions contained in the expired or transferred permit or lease shall continue in effect under the renewed permit or lease until such time as the Secretary of the Interior completes processing of this permit or lease in compliance with all applicable laws and regulations, at which time this permit or lease may be canceled, suspended, or modified, in whole or in part, to meet the requirements of such applicable laws and regulations.

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

   - 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.
   - The lessee shall provide reasonable administrative access across private and leased lands to the BLM for the orderly management and protection of the public lands.

9.0 List of Preparers

BLM Staff

Amelia Taylor, Assistant Field Manager - Renewable Resources
Tommy Schnell, Rangeland Management Specialist
Clara Gauna, Technical Writer-Editor
Shelby Leachet, GIS Specialist
Amanda Eavenson, Hydrologist
Emily Burke, Natural Resource Specialist
Brandon Schurch, Rangeland Management Specialist
Sarah Pritchett, Planning and Environmental Specialist

10.0 Consultation

Arizona Game and Fish Department
USFWS, Arizona Ecological Services
Ellis Bloomfield, Straddling Lake Allotment lessee
Walter and Jeanette Wiltbank, Wiregrass Lake Allotment lessee

11.0 Authorized Officer Concurrence

I have reviewed the determinations presented in *Section 7.0 Determinations of Land Health Standards* and the grazing and other management actions identified in *Section 8.0 Recommended Management Actions*.

- ✓ I concur with the conclusions and recommendations as written.
- ___ I do not concur.
- ___ I concur, but with the following modifications.

SCOTT COOKE Digitally signed by SCOTT COOKE
Date: 2021.05.25 11:04:35 -07'00'

Scott C. Cooke
Field Office Manager

Date

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. Produced 08/03/2020. Retrieved from http://azhgis2.esri.com/content/map.

Arizona Game and Fish Department (AZGFD). (2021). *Falco femoralis septentrionalis*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ.

"EDIT." (2012). *EDIT, NRCS*, https://edit.jornada.nmsu.edu//.

J.E. Herrick, J.W. Van Zee, S.E. McCord, E.M. Courtright, J.W. Karl, L.M. Burkett. (2018). Monitoring Manual for Grassland Shrubland and Savanna Ecosystems, Second Edition. USDA – ARS Hornada Experimental Range, Las Cruces, New Mexico

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

Pellant, M., P. Shaver, D.A. Pyke, and J.E. Herrick. (2005). Interpreting indicators of rangeland health, version 4. Technical Reference 1734-6. U.S. Department of the Interior, Bureau of Land Management, National Science and Technology Center, Denver, CO. BLM/WO/ST-00/001+1734/REV05. 122 pp. USDA-NRCS. 2003. National range and pasture handbook. Washington, D.C.

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

PRISM. (2020). PRISM Climate Group, Oregon State University, http://prism.oregonstate.edu.

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, Natural Resources Conservation Service (USDA NRCS). (2015). Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at https://websoilsurvey.sc.egov.usda.gov/. Accessed 2020.

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). (2020). Rangeland Administration System. Available at https://www.blm.gov/ras/. Accessed 2020.

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 05/21/2021. 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). 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

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: Monitoring Data

KEY AREA INFORMATION		SPECIES	LINE POINT INTERCEPT COVER AT WL-1	
			CANOPY	BASAL
Wiregrass Lake Allotment		Blue Grama (*Bouteloua gracilis*)	83%	12%
Ecological Site ID: Shallow Loamy 10-14" p.z. (R035XA119AZ)		Prickly pear (*Opuntia spp.)*	8%	0%
		Tobosa (*Pleuraphis mutica*)	4%	0%
		Unknown Annual Forb	4%	0%
COVER/LITTER/BARE GROUND				
BARE GROUND	12%			
BASAL COVER	12%			
CANOPY COVER	44%			
LITTER	32%			

KEY AREA INFORMATION		SPECIES	LINE POINT INTERCEPT COVER AT SL-1	
			CANOPY	BASAL
Straddling Lake Allotment		Threeawn (*Aristida spp.)*	14%	0%
Ecological Site ID: Shallow Loamy 10-14" p.z. (R035XA119AZ)		Winterfat (*Krascheninnikovia lanata)*	28%	0%
		Unknown Perennial Grass	50%	2%
		Unknown Annual Grass	7%	0%
COVER/LITTER/BARE GROUND				
BARE GROUND	32%			
BASAL COVER	2%			
CANOPY COVER	24%			
LITTER	44%			

Appendix B: Wildlife

Federally Listed Species			
Species	**Federal Status**	**Critical Habitat**	**Comments**
Chiricahua leopard frog *(Rana chiricahuansis)*	Threatened	Designated	The Chiricahua leopard frog is a riparian obligate species; there is no suitable habitat on the Wiregrass Lake and Straddling Lake allotments.
Mexican spotted owl *(Strix occidentalis lucida)*	Threatened	Designated	This species occurs in the oak woodland and mixed conifer forests of mountainous areas of Arizona. There is no suitable habitat on the Wiregrass Lake and Straddling Lake allotments to support Mexican spotted owl and there is no critical habitat within the allotments.
Yellow-billed cuckoo - distinct population segment *(Coccyzus americanus)*	Threatened	Proposed	Yellow-billed cuckoos primarily occur in cottonwood-willow gallery forests of riparian zones of Arizona. The Wiregrass Lake and Straddling Lake allotments does not have habitat considered suitable for this species, however 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). There is no suitable breeding habitat within 40 miles of the allotment. Due to the short duration of potential occurrence and the lack of nearby habitat, we expect no effect to the species.
Northern Aplomado falcon (*Falco femoralis septentrionalis*)	10(j) Nonessential Experimental Population	None 10(j) management area	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."
Mexican wolf *(Canis lupus baileyi)*	Endangered, non-essential experimental population	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.
Northern Mexican gartersnake *(Thamnophis eques megalops)*	Threatened	Proposed	The northern Mexican garter snake is a riparian obligate species; there is no suitable habitat on Wiregrass Lake and Straddling Lake allotments.

Little Colorado spinedace (*Lepidomeda vittata*)	Threatened	Designated	No perennial water or suitable aquatic habitat exist on the Wiregrass Lake and Straddling Lake allotments.
Zuni bluehead sucker (*Catastomus discobolus yarrow*)	Endangered	Designated	No perennial water or suitable aquatic habitat exist on the Wiregrass Lake and Straddling Lake allotments.

Source: USFWS Report, retrieved May 21, 2021 (USDI USFWS N.d.)

BLM Sensitive Species	
Species	**Comments**
Amphibians	
Northern leopard frog *(Lithobates pipiens)*	No perennial water or suitable aquatic habitat exist on the Wiregrass Lake or Straddling Lake Allotments. Low potential of occurrence.
Birds	
American peregrine falcon *(Falco peregrinus anatum)*	Found near cliffs for nesting and in any open habitat that is near large open bodies of water. 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 allotments could be used for foraging but would not support breeding or wintering individuals. Low potential for this species to occur.
Bald eagle *(Haliaeetus leucocephalus)*	Wintering bald eagles occur along the Little Colorado river and may use the allotments as foraging habitat. Typically nest in forested areas adjacent to large bodies of water. They prefer to perch on tall, mature coniferous or deciduous trees that provide a wide view of their surroundings. There are no known impacts of livestock on bald eagles.
Ferruginous hawk *(Buteo regalis)*	Ferruginous hawk nest in grasslands, shrublands and forest lands. They breed in grasslands, sagebrush country, saltbush-greasewood shrublands, and edges of pinyon-juniper forests at low to moderate elevations. They winter in grasslands or deserts with abundant rabbits, gophers, or prairie dogs. Suitable nesting habitat occurs on the Wiregrass Lake or Straddling Lake Allotments. There are no known impacts of livestock on ferruginous hawks.
Golden eagle *(Aquila chrysaetos)*	They live in open and semi open country with native vegetation. They're found mainly in mountainous areas, canyonlands, rimrock terrain, and riverside cliffs and bluffs. They nest on cliffs and steep escarpments in grassland, chapparal, shrubland, forest, and other vegetated areas. The allotments are within their year-round habitat range. There is no suitable nesting habitat for golden eagles on the Wiregrass Lake or Straddling Lake Allotments. Golden eagles may fly and hunt over the area of the allotments. 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 allotments 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. The objectives set in this document will not alter the production of forage for this species, resulting in impacts that are less than significant.

BLM Sensitive Species	
Species	**Comments**
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. The allotments provide suitable wintering habitat but lack the presence of burrowing animals.
Fish	
Bluehead sucker (*Catostomus discobolus*)	No perennial water or suitable aquatic habitat exist on the BLM-administered portions of the Wiregrass Lake and Straddling Lake allotments.
Little Colorado sucker *(Catostomus sp. 3*	No perennial water or suitable aquatic habitat exist on the BLM-administered portions of the Wiregrass Lake and Straddling Lake allotments.
Speckled dace *(Rhinichthys osculus*)	No perennial water or suitable aquatic habitat exist on the BLM-administered portions of the Wiregrass Lake and Straddling Lake allotments.
Invertebrates	
There are no BLM sensitive invertebrates known to occur in the BLM-administered portions of the Wiregrass Lake and Straddling Lake allotments.	
Mammals	
Arizona myotis *(Myotis occultus)*	Arizona myotis occurs in ponderosa pine and oak-pine woodlands near water. Little of this habitat exists on these allotments. The species will not be impacted.
Gunnison's prairie dog *(Cynomys gunnisoni)*	Gunnison's prairie dog is not known to be present on the allotments; however. suitable habitat does exist and may be colonized if the species becomes more abundant in the surrounding area.
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 allotments. This species will not be impacted.
Spotted bat *(Euderma maculatum)*	Spotted bats inhabit desert scrub and open forests and are always associated with a water source such as a spring, river, creek, or lake. Little of this habitat occurs on the allotments. This species will not be impacted.
Reptiles	
There are no BLM sensitive reptiles known to occur in the BLM-administered portions of the Wiregrass Lake and Straddling Lake allotments.	
Plants	
There are no BLM sensitive plants known to occur in the BLM-administered portions of the Wiregrass Lake and Straddling Lake allotments.	

Source: AZGFD Report, retrieved August 3, 2020 (AZGFD N.d.)

Migratory Birds, Birds of Conservation Concern [2, 3]	
Species	**Comments**
American peregrine falcon *(Falco peregrinus anatum)*	Addressed as BLM Sensitive Species in table above.
Bald eagle *(Haliaeetus leucocephalus)*	Addressed as BLM Sensitive Species in table above.
Bendire's thrasher *(Toxostoma bendirei)*	Found in desert habitats including arid grasslands, shrublands, and agricultural habitats. Prefers more open areas with shorter vegetation. The allotments provide adequate habitat to support this species if present. Low-to-moderate potential for this species to occur.
Chestnut-collared longspur *(Calcarius ornatus)*	Found in shortgrass prairies, rangelands, and desert grasslands. Eastern Arizona contains wintering habitat for this species. The allotments provide 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.
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 allotments.
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. The allotments provide a minimal amount of low-quality pinyon-pine/juniper habitat to support this species. 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 allotments lack most of their required habitat for nesting and breeding but may be used for opportunistic foraging. Low potential for this species to occur.
Western burrowing owl *(Athene cunicularia hypugaea)*	Addressed as BLM Sensitive Species in table above.

Source: AZGFD Report, retrieved August 3, 2020 (AZGFD N.d.)

Species of Economic and Recreational Importance	
Common Name	**Scientific Name**
America pronghorn	*Antilocapra americana*
Mourning dove	*Zenaida macroura*

Source: AZGFD Report, retrieved August 3, 2020 (AZGFD N.d.)

[2]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.

[3] Habitat information and determinations compiled from species profiles found on USFWS website. https://ecos.fws.gov

Appendix C: DPC Composition Methodology

Desired Plant Community Composition Methodology

ESD = Ecological Site Description for Shallow Loamy 10-14" p.z. (R035XA119AZ)

Step 1: DPC Composition Averages based on Canopy Cover from Indicator 10

Methodology: Composition % by vegetation type = vegetation type divided by total Average of all vegetation for both low and high values (Note all values rounded to the nearest percent)

Average Canopy Cover for All Vegetation

(Note this is the sum of all values as provided from Indicator 10)*

35%

Vegetation Type	Average Cover Value
Grasses	20/35*100 = 57%
Shrubs	10/35*100 = 28%
Forbs	3/35*100 = 9%
Trees	2/35*100 = 6%

Step 2: DPC Composition based on Annual Production by Plant Type Provided by ESD Reference Sheet, Table 5

Methodology: Species Composition = Vegetation type production / Total production for both low and high values

Total Annual Production for All Vegetation

500 – 800 pounds per acre

(Note, the above range of pounds per acre is the total of annual production by plant type for both low and high production values which are provided in Table 5 of the ESD Reference Sheet)*

Vegetation Type	Low Production Values	High Production Values
Grasses	390/500 * 100 = 78%	570/800 * 100 = 71%
Shrubs	65/500 * 100 = 13%	130/800 * 100= 16%
Forbs	35/500 * 100 = 7%	65/800 * 100 = 8%
Trees	10/500 * 100 = 2%	35/800 * 100 = 4%

Step 3: Desired Plant Community Composition Objectives for Sandy Loam Upland 10-14" p.z. (R035XA119A)

Methodology: The DPC objectives were established using the percentages calculated from both canopy cover (Step 1) and annual production (Step 2). The two were compared and the low and high percentages were used to establish a range of acceptable plant composition by vegetation type, the DPC objectives are presented below.

Vegetation Type	Range of Acceptable Composition
Grasses	57-78%
Shrubs	13-28%
Forbs	7-9%
Trees	2-6%