US. Department of the Interior
Bureau of Land Management

Management Evaluation Report

Silver King Herd Management Area

May 2025

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Silver King Herd Management Area Plan
Management Evaluation
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INTRODUCTION

The Silver King Herd Management Area (HMA) is located west of Pioche, Nevada, in Lincoln County, and lies within the Ely BLM District, Caliente Field Office. The HMA is approximately 606,000 acres in size.

The HMA is within the Great Basin physiographic region, characterized by a high, rolling plateau underlain by basalt flows covered with a thin loess and alluvial mantle. On many of the low hills and ridges that are scattered throughout the area, the soils are underlain by bedrock. Elevations within the Silver King HMA range from approximately 5,000 feet to 9,500 feet. Annual precipitation ranges from approximately 7 inches on some of the valley bottoms to 20 inches on the mountain peaks. Most of this precipitation comes during the winter and spring months in the form of snow, supplemented by localized thunderstorms during the summer months. Temperatures range from greater than 100 degrees Fahrenheit in the summer months to minus 20 degrees in the winter. The area is also utilized by domestic livestock under terms and conditions outlined in grazing permits and by numerous wildlife species.

WILD HORSES

The 2008 Ely District Record of Decision and Approved Resource Management Plan (Ely RMP) combined three existing HMAs (the Dry Lake HMA, portions of the Rattlesnake HMA, and Highland Peak HMA) into the Silver King HMA. The decision to combine all or portions of the three HMAs was due to the historical interchange of wild horses between the three HMAs and was also based on an in-depth analysis of habitat suitability and monitoring data as set forth in the Ely Proposed Resource Management Plan/Final Environmental Impact Statement (November 2007) (EIS) table 3.8-2 and page 4.8-2. The 2007 EIS evaluated each herd management area for five essential habitat components and herd characteristics: forage, water, cover, space, and reproductive viability. Through this analysis and subsequent Record of Decision (ROD), the boundaries of the Silver King HMA were established to ensure sufficient habitat for wild horses and an Appropriate Management Level (AML) was set that would achieve a thriving natural ecological balance and rangeland health. The AML range for the Silver King HMA is 60-128 wild horses.

The following table indicates the approximate wild horse population and removals within the Silver King HMA since the 2008 Ely RMP. This information was created using formal wild horse population inventory data, as well as ground-based observations and records from gather operations that were completed.

Table 1. Estimated Wild Horse Population and Removals Since 2008 RMP

Silver King HMA AML 60-128 487,800 Acres		
Year	**Population Estimate**	**Removals**
2008	*365	69
2009	438	0
2010	*505	421
2011	160	82
2012	*262	0
2013	314	0
2014	377	0
2015	*789	56
2016	912	106
2017	*850	10
2018	1020	982
2019	*228	0
2020	*343	0
2021	84	285
2022	*101	25
2023	275	22
2024	*330	13
2025	489	

*Notes years that an inventory flight was conducted for the HMA. Due to reporting numbers at the first of the year and flying later, the inventory numbers from the flights are generally represented the following year.

RELATIONSHIP TO STATUTES, REGULATIONS, POLICIES, OR PLANS

The current RMPs, laws, regulations, and policies, as outlined below, set forth management goals and objectives and reaffirm AML for the Silver King HMA.

2008 Ely RMP:

- **Goal:** "Maintain and manage healthy, self-sustaining wild horse herds inside herd management areas within appropriate management levels to ensure a thriving natural ecological balance while preserving a multiple-use relationship with other uses and resources."
- **Objective:** "To maintain wild horse herds at appropriate management levels within herd management areas where sufficient habitat resources exist to sustain healthy populations at those levels."

Federal Land Policy and Management Act of 1976 (FLPMA):
FLPMA generally requires that an action under consideration be in conformance with the applicable BLM land use plan(s), and be consistent with other federal, state, and local laws and policies to the maximum extent possible.

Wild and Free Roaming Horse and Burro Act (WFRHBA):
The statute requires the BLM to protect the range from deterioration associated with overpopulation (16 U.S.C. § 1333(b)(2)) and defines excess animals as wild and free-roaming horses and burros that must be removed from an area in order to preserve and maintain a thriving natural ecological balance and multiple-use relationship in that area (16 U.S.C. § 1332(f)). It also directs the BLM to maintain a current inventory of wild free-roaming horses and burros on public lands. The purpose of the inventory shall be to: make determinations as to whether and where an overpopulation exists and whether action should be taken to remove excess animals; determine appropriate management levels for wild free-roaming horses and burros on these areas of public land; and determine whether appropriate management levels should be achieved by the removal or destruction of excess animals, or other options (such as sterilization, or natural control on population levels) (16 U.S.C. § 1333(b)(1)).

BLM Regulations at 43 C.F.R. Part 4700
- 43 C.F.R. § 4700.0-6 (a): Wild horses shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat.
- 43 C.F.R. § 4710.4: Management of wild horses and burros shall be undertaken with the objective of limiting the animals' distribution to herd areas. Management shall be at the minimum level necessary to attain the objectives identified in approved land use plans and herd management area plans.
- 43 C.F.R. § 4720.1: Upon examination of current information and a determination by the authorized officer that an excess of wild horses or burros exists, the authorized officer shall remove the excess animals immediately…
- 43 C.F.R. § 4720.2: Upon written request from a private landowner……the Authorized Officer shall remove stray wild horses and burros from private lands as soon as practicable.
- 43 C.F.R. § 4740.1(a): Motor vehicles and aircraft may be used by the authorized officer in all phases of the administration of the Act, except that no motor vehicle or aircraft, other than helicopters, shall be used for the purpose of herding or chasing wild horses or burros for capture or destruction. All such use shall be conducted in a humane manner. (b) Before using helicopters or motor vehicles in the management of wild horses or burros, the authorized officer shall conduct a public hearing in the area where such use is to be made.

In *Animal Protection Institute*, 118 IBLA 63, 75 (1991), the Interior Board of Land Appeals found that under the WFRHBA, the BLM is not required to wait until the range has sustained resource damage to reduce the size of the herd. Instead, proper range management dictates removal of "excess animals" before range conditions deteriorate in order to preserve and maintain a thriving natural ecological balance and multiple-use relationship in that area.

GENETIC DIVERSITY

During the 2021 gather, the BLM collected genetic samples for analysis by E. Gus Cothran and Rytis Juras. The BLM received those results on October 18, 2021. In summary, the genetic variability of this herd is mixed. Observed heterozygosity is quite low but allelic diversity measures are high. Ancestry of the herd cannot be confidently determined at this point due to the mixed diversity. The analysis recommended that this herd should be monitored because of the very low variation at Ho. The possibility of recovery of heterozygosity is fairly high due to the high allelic diversity. Re-sampling of the herd should be done by 2025 to check for changes in variation.

As a part of periodic sampling to monitor wild horses' genetic diversity, the BLM would collect hair follicle samples from a minimum of 25 horses captured from the HMA during gather operations. Samples would be analyzed to assess the levels of observed heterozygosity, which is a measure of genetic diversity, within the HMA and may be analyzed to determine relatedness to established breeds and other wild horse herds.

FORAGE UTILIZATION AND USE PATTERN MAPPING

The BLM has collected utilization data throughout the HMA over the last 10 years. The key forage species monitored include: Indian ricegrass (*Achnatherum hymenoides*), winterfat (*Krascheninnikovia lanata*), Bottlebrush Squirreltail (*Elymus elymoides*), Needleandthread grass (*Hesperostipa comata*), Galleta (Pleuraphis Jamesii), and Crested Wheatgrass (Agropyron Cristatum).

Table 2. Year end utilization breakdown.

Year	Slight (1-20%)	Light (21-40%)	Moderate (41-60%)	Heavy (61-80%)	Severe (81-100%)
2014	17%	18%	21%	7%	37%
2016	1%	10%	31%	33%	19%
2018	2%	12%	34%	37%	15%
2020	20%	34%	20%	18%	7%
2022	11%	19%	37%	26%	7%
2024	13%	25%	38%	25%	0

RANGELAND HEALTH STANDARDS

Rangeland resources have been and are currently being impacted within the Silver King HMA due to the overpopulation of wild horses. The BLM has determined that wild horses are a contributing factor to not meeting the Rangeland Health Standards. Based on Rangeland Health Standards, portions of the Silver King HMA are not meeting the uplands standard for vegetation due to lower-than-expected vegetative cover and high amounts of bare ground, the risk of invasive species spread, moderate to heavy utilization by cattle and wild horses, and excessive soil disturbance around and between water sources caused from heavy trailing by wild horses. The BLM has prepared standards determination documents (SDDs) and rangeland health evaluations that identify wild horses as a contributing factor for non-achievement of some standards for rangeland health and management objectives.

VEGETATION RESOURCES

Vegetation varies with elevation, soil type, and precipitation. The vegetation is diverse with desert shrub/sagebrush/grass plant communities dominating the lower elevations while sagebrush/mountain shrub/grass/pinyon-juniper/mountain mahogany plant communities dominate the benches and higher elevation sites.

The plant species dominating the lower elevations include Wyoming big sagebrush, black sagebrush, winterfat, shadscale, budsage, sickle saltbrush, black greasewood, rabbitbrush, Indian ricegrass, Sandburg bluegrass, bottlebrush, squirltail, needlegrass, and assorted forb species.

The plant species dominating the higher elvations include Wyoming big sagebrush, mountain sagebrush, black sagebrush, low sagebrush, antelope bitterbrush, Utah serviceberry, snowberry, golden and squaw current, pinyon pine, Utah juniper, curlleaf mountain-mahogany, limber pine, white fir, bluebunch wheat grass, needlegrass, and assorted forb species.

OTHER RESOURCES

Mining

There are no active mining operations within the Silver King HMA.

Wildlife

The Silver King HMA provides habitat for many species of wildlife including big game species such as Mule deer, Rocky Mountain elk, and Pronghorn. The HMA falls within hunt units 223, 222, and 221 collectively known as 22. The majority of the Silver King HMA falls within mapped mule deer habitat primarily winter habitat. However, summer and year-round habitat can be found in the Highland, Schell, Fairvew, and Egan ranges. The Dry Lake Valley and Mule Shoe valley portions of the HMA are within mapped year-round Pronghorn habitat. The Fairview and Schell Ranges are mapped as year-round elk habitat. Bighorn sheep habitat occurs adjacent to the HMA in the Pahrocs, Hiko Range and a portion of the Egan Range, a mapped movement corridor occurs along the White River Narrows. Big game species and hunt unit population objectives are managed and established by the Nevada Department of Wildlife.

The HMA also provides habitat for a number of BLM NV Special Status Species and general wildlife. Vegetation communities within the HMA include pinyon/juniper woodlands, sagebrush and salt desert scrub. Common special status species include: Golden eagle, Ferruginous hawk, Pinyon jay, bats and Special Status plant species. The Nevada BLM and the state of Nevada maintain lists of sensitive and protected species, respectively. Nevada BLM sensitive species are listed in NV IM-2024-003 (BLM 2023) and managed in accordance with BLM manual 6840-Special Status Species Management. The HMA also contains mapped Greater sage-grouse habitat according to the Nevada and Northern California Greater Sage-Grouse 2015 ARMPA.

Predominant habitat types within the HMA that are likely to support migratory birds include:

mountain riparian, mountain shrub, sagebrush, pinyon/juniper, salt desert scrub, playa and cliffs/talus habitat types. There are small inclusions of coniferous forest and mountain mahogany habitat types included in the upper elevations.

Wildfire/Fuels

Fire history within the HMA is characterized by relatively moderate occurrence with few large fires. This is characteristic of its rural location and sparse vegetation types. There have been 230 reported ignitions for a total of 7725 acres over the last 20 years. The median fire size is 33 acres with the largest being 2780 acres. Over the last 20 years there have been six fires over 300 acres.

The impact of wild horses on fuel loads, vegetation composition, and fire regimes is complex. While their grazing may reduce certain fuel loads, it can also facilitate the spread of invasive annual grasses, leading to increased fire risks and altered ecosystems.

As identified in the 2018 Wilson Creek SDD, Dry Lake Valley, Thorley, and Deadman Use Areas, year-round heavy grazing on upland vegetation from wild horses reduces the overall amount of fuels available for wildfires but heavy grazing does not allow upland sites to recover from past disturbances and those areas are in danger of trending downward in ecological health and increasing in annual invasive grasses (Davies et al., 2024). Additionally, plant communities and sagebrush ecosystems that have been impacted in the past by wildfires and historic livestock grazing are vulnerable to losing more of their native perennial grass component when grazed at higher than moderate utilization levels (less than 60%) (USFS, 2017).

Excess grazing pressure on key perennial grasses especially in years of drought lead to a decrease in perennial grass cover and an increase in invasive annual plants such as Cheatgrass and Russian Thistle. This shift can result in increased fuels in the wet growing season years and that fuel load can persist to cause big fires in subsequent years. In the big growth years, the number of animals needed to control fuels is not sustainable in the normal or especially dry years. In the abundant fine-fuels years, the dispersal of animals causes minimal impact to fuels. To use animals to control fuels and reduce fire size, animals must be controlled to create fuel breaks. This is not possible with free-roaming horses. The BLMs only course of action is to reduce the population of wild horses within the HMA to within the appropriate management level.

EXISTING CONDITIONS

Since the passage of the WFRHBA, management knowledge regarding wild horse population levels has increased. For example, it has been determined that wild horses are capable of increasing their numbers by 15% to 20% annually, resulting in the doubling of wild horse populations about every 4 years (NAS 2013). This has resulted in the BLM shifting program emphasis beyond just establishing AML and conducting wild horse gathers to include a variety of management actions that further facilitate the achievement and maintenance of viable and stable wild horse populations and a thriving natural ecological balance. Management actions include increasing fertility control, adjusting sex ratio, and collecting genetic baseline data to support genetic health assessments.

The AML is defined as the number of wild horses that can be sustained within a designated HMA which achieves and maintains a thriving natural ecological balance in keeping with the multiple-use management mandate for the area. The Silver King HMA has an AML range of 60-128 wild horses which has been established through decisions as outlined in this document.

Range resources

Allowable use levels for perennial grasses, forbs, and shrubs within the HMA range from 35-60% of current years growth based on vegetation type and management objectives in each allotment and use area. Utilization would be measured at established key grazing areas or other sites representative of the dominant vegetation in the allotment.

Over the last decade overall utilization of key forage species has been reflective of the wild horse population within the HMA. In 2014-2018, when wild horse populations were at the highest level in the past 10 years, utilization of key forage species were significantly higher than they have been from 2020-2024 due to large removals of excess wild horses. However, many areas throughout the HMA are still being utilized at a higher level than the allowable use established in the SDD.

Water resources

Wild horses within the Silver King HMA relay on natural spring sources as well as a few wells and pipelines operated by grazing permittees for water. The natural spring sources are primarily located along the Highland, Schell, and North Pahroc Ranges. Water in the valleys is limited to wells and pipelines that are installed and maintained by grazing permittees, and a few catch ponds that generally only have water in them during winter and spring months. Water availability at many of the water sources throughout the HMA fluctuates significantly based on climate variability.

The BLM has developed and installed tire troughs at Deadman and Bailey springs within the HMA to help distribute horse use and provide year-round water for wild horses.

Small riparian areas and their associated plant species occur near seeps, springs, and along sections of perennial drainages. Many of these areas support limited riparian habitat and water flows. Available monitoring data shows that wild horse use at riparian areas range between heavy and severe. Springs sources and stream banks are being damaged by trampling and hoof action from excess wild horses, along with severe utilization vicinal to the springs. Soil impacts include exposed soil surface, compaction, hummocking, and down-cutting that can further limit water availability and wildlife habitat. The current overpopulation of wild horses is increasing resource damage and preventing recovery of key sites and wildlife habitat.

The Silver King HMA is currently experiencing drought conditions for 2025 following a drier than normal winter, windy springtime conditions, and limited spring precipitation.

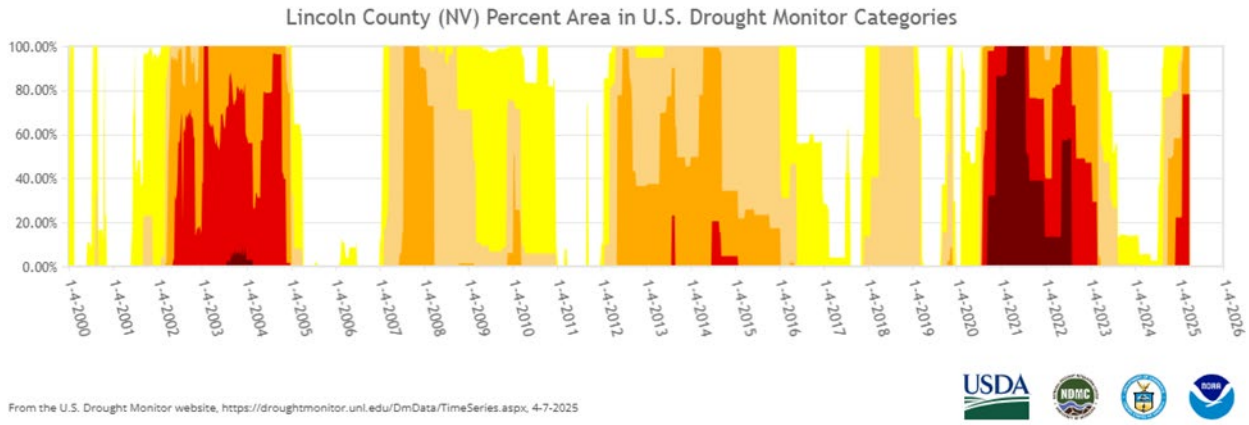


Figure 1: US Drought Monitor. Precent area of Lincoln County (NV) experiencing drought. Accessed on U.S. Drought Monitor. D4: Exceptional Drought, D3: Extreme Drought, D2: Severe Drought, D1: Moderate Drought, D0: Abnormally Dry. https://droughtmonitor.unl.edu/

Livestock grazing

The Silver King HMA includes portions of eight livestock grazing allotments (see Map 1). Permitted livestock grazing use in the HMA includes both cattle and sheep grazing during all seasons (Table 3). Permitted livestock grazing use has generally been reduced from historical grazing levels over the past decades in a majority of the allotments. This has been in part due to persistent drought, competition with wild horses for forage, and the needs of livestock operations. The BLM continues to evaluate allotments for achievement of rangeland health standards, and adjustments to livestock grazing are implemented as appropriate, as grazing term permits are renewed or through annual coordination between the BLM and grazing permit holders. Livestock grazing is administered through the regulations at 43 C.F.R. Part 4100 and must be consistent with multiple use allocations set forth in RMPs. Changes to livestock grazing cannot be made with a wild horse management decision.

Livestock grazing in the HMA has averaged approximately 26.5% of permitted use over the last ten years. In the charts below, Animal Unit Month (AUM) means the amount of forage necessary for the sustenance of one cow or its equivalent for a period of 1 month. 43 C.F.R. § 4100.0-5.

Table 3. Silver King HMA Grazing Allotments

Allotment	Season of Use	% of Allotment in HMA	Permitted Use (AUMs)	Ten Year Average AUM Use	Percent Actual Use of Permit
Wilson Creek	Cattle and Sheep: 3/1 to 2/28	36%	20,055	5126.9	25.56%
Geyser Ranch	3/1 to 2/28	8%	1,129	57	5%

Pioche	3/1 to 2/28	80%	402	61	15%
Rattlesnake	10/1 to 4/30	98%	1180	713	60%
Ely Springs Sheep	3/1 to 2/28	100%	6050	2918	48%
Highland Peak	Sheep 10/16 to 5/15	70%	3704	1239	33%
Fox Mountain	11/1 to 4/10	4%	6319	787	12%
Sunnyside	6/1 to 10/31; 12/1 to 3/31	24%	5402	2185	40%
Narrows	Sheep 12/1-2/28	100%	535	0	0%

Wild horses

The current wild horse population within the Silver King HMA is approximately four times greater than the high AML. This overpopulation is contributing to degradation of forage and water resources throughout the HMA. Competition for resources including water, forage, and space is causing groups of wild horses to leave the HMA boundaries and enter private property as well as public roadways. This creates public safety hazards as well as private land nuisance concerns. The BLM receives multiple requests to remove wild horses from highways and private land annually.

In order to achieve the management objective set forth in the 2008 RMP, "maintain wild horse herds at appropriate management levels within herd management areas", the BLM would conduct gathers and administer population growth suppression.

Primary gather methods include helicopter drive and/or bait and water trapping. While it is the BLM's goal to immediately gather excess wild horses and/or gather wild horses for fertility treatment in a single gather, it is expected that not all horses can be captured because gather efficiencies rarely exceed 80-85%. As a result, a proportion of wild horses (15-20%+) in the HMA may not be captured or treated over the 10-year period of the Proposed Action. During a gather, horses are identified for removal or release based on age, gender, and/or other characteristics. Mares identified for release would be aged, microchipped and freeze-marked for identification prior to being released to help identify the animals for future treatments/boosters and assess the efficacy of fertility control treatments.

Population growth suppression measures include the administration of fertility control measures (i.e. PZP vaccines, GonaCon or newly developed vaccine formulations, IUDs) to released mares and adjustment of sex ratios to achieve a 60% male to 40% female ratio.

Fertility control was applied within the HMA in 2021, 25 mares were treated with GonaCon and released back into the HMA. Management objectives are to achieve and maintain AML within the HMA. Once AML is achieved, the BLM's goal is to implement population growth suppression fertility control vaccines and maintain a sex ratio of 60% males to 40% females. Gather operations would utilize the helicopter drive trap and/or water and bait trapping when feasible.

MANAGEMENT ISSUES

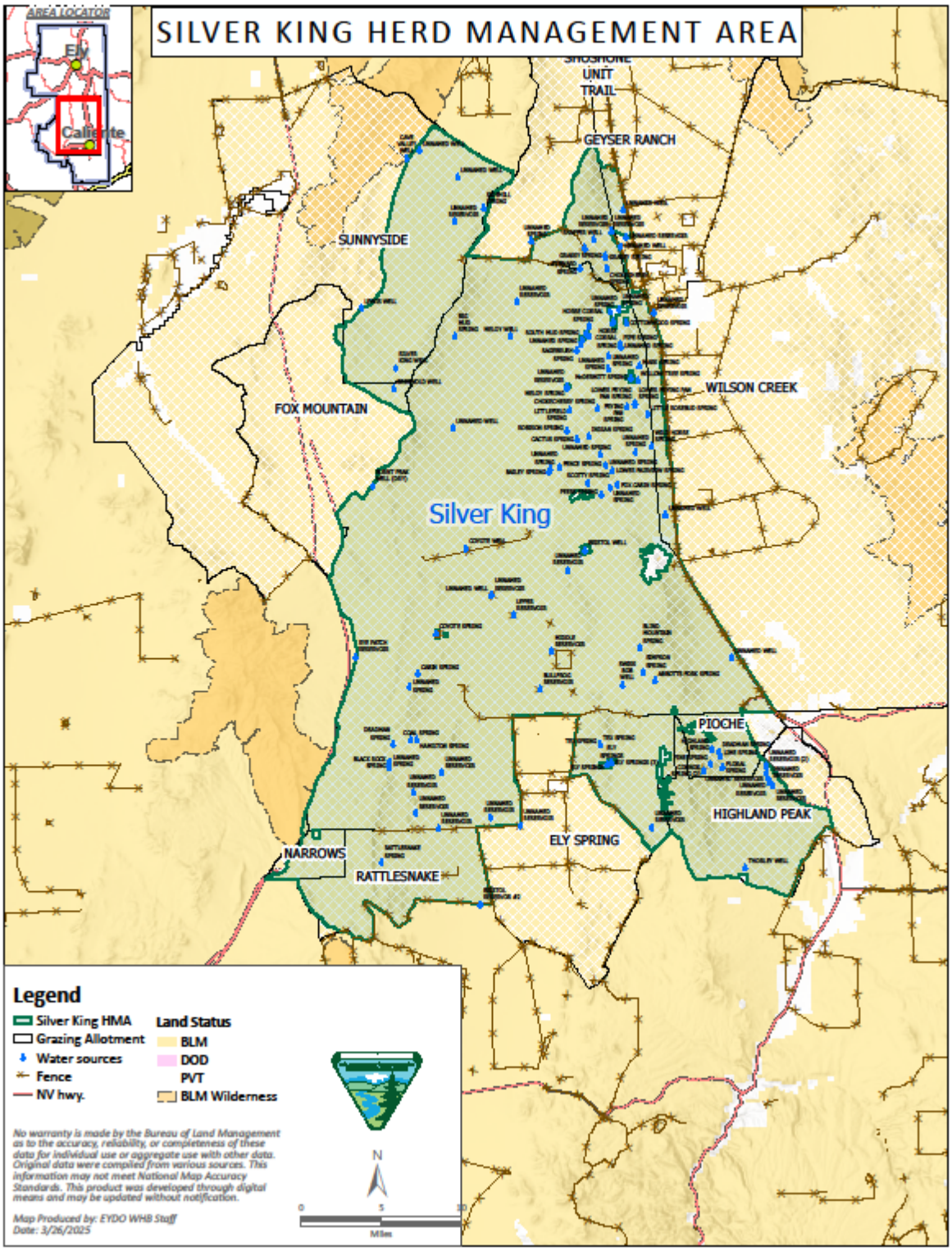
The key components for maintaining a healthy wild horse population are forage, water, cover, and space. Cover and space are plentiful for wild horses in the HMA. Forage and water availability is generally a limiting factor and is particularly limited in preferred wild horse use areas and during extended periods of severe drought coinciding with high wild horse numbers.

FUTURE MANAGEMENT

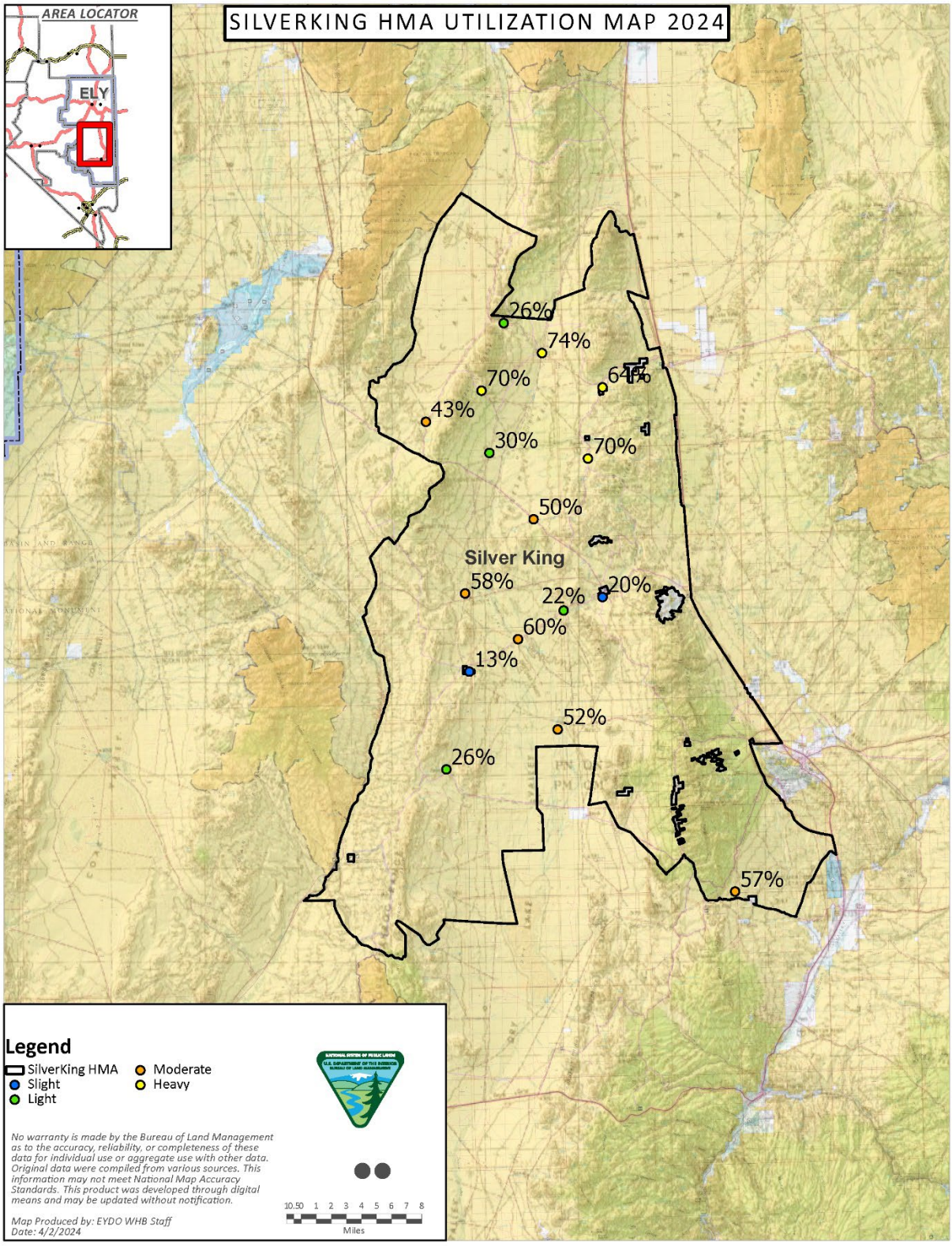
The BLM intends to prepare the Silver King Herd Management Area Plan (HMAP) to guide management of the wild horses and their habitat into the future. The HMAP will address the following management objectives:

- Manage wild horses within the HMA at AML.
- Assure rangeland and riparian health.
- Utilize all population growth suppression methods.
- Maintain and ensure genetic diversity.
- Other issues as identified.

Map 1 – Silver King HMA



Map 2 – Key Forage Species Utilization



Map 3 – Silver King HMA Census