

# 2024 Nevada State Action Plan

## Implementation of Department of Interior Secretarial Order 3362: Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors

### Introduction

The purpose of this action plan is to provide an update and further guide the implementation of the Department of Interior Secretarial Order 3362 (SO 3362) in Nevada. The Nevada Department of Wildlife (NDOW) has identified several migratory big game herds in the state where management actions will be focused in the coming years. The rationale for prioritization and identification of threats to the corridors are briefly described in the following sections for each location. These priority areas were selected, in part, due to the abundance of migratory animals in each respective area, as well as their importance as a statewide resource for recreationists, hunting opportunity, and general interest from the public.

Nevada has approximately 70,761,600 total acres, with 84.9% under the management authority of the federal government. The Bureau of Land Management (BLM) manages 48,085,429 acres, the U.S. Forest Service (USFS) manages 5,761,245 acres, and the National Park Service (NPS) manages 771,484

acres. The U.S. Fish and Wildlife Service (USFWS) manages 2,066,379 acres. Additionally, the Nevada Division of State Lands manages approximately 300,000 acres. Private lands, particularly highly productive agricultural lands, are interspersed throughout big game habitat and are crucial to wildlife. This ownership structure requires cooperative partnerships and collaborations to work across a variety of habitat types for big game species, especially those that migrate across multiple jurisdictions in Nevada.

The top five priority migration corridors and winter ranges in Nevada focus on key ungulate populations. These include the Ruby Mountains and Pequop mule deer herds, the Izzenood, South Tuscarora, and Sheep Creek sub-herds of mule deer in Area 6, the Northern Washoe pronghorn sub-herds, and the Management Area 6 pronghorn sub-herds. Protecting these critical areas is essential for maintaining healthy wildlife populations and migration corridors in the state.



## Ruby Mountains Mule Deer Herd

The Ruby Mountains mule deer herd (Management Area 10), is one of Nevada's largest, constitutes nearly 20% of the state's total mule deer population. This herd, consisting of several subpopulations, migrates 40 to 100 miles between summer and winter ranges, with key stopover areas such as Harrison Pass Road, Pearl Peak, Sherman Mountain, Bald Mountain area of Unit 108, and Orchard Canyons. The winter range covers about 120 miles along the lower elevations of the Ruby Mountains, extending further south in extreme winters, with some animals migrating an additional 30-40 miles to the White Pine Range, south of highway 50. Migration routes face permeability challenges due to livestock fences, mineral extraction, competition from wild horses, and increased highway traffic and improved road surface.

### Why the area was selected as a priority:

The Ruby Mountains mule deer migration corridor represents high-priority seasonal habitats that were documented through the use of GPS collar technology and delineated using a Brownian Bridge Movement Model (BBMM). This corridor documents important habitats used by approximately 7,000-10,000 mule deer migrating from summer ranges in the Ruby Mountains to winter ranges in the adjacent valleys.

### Spatial Location:

The Ruby Mountains migration corridor is primarily located in Elko County in northeastern Nevada (Figure 1).

### Land ownership:

Land ownership is mixed within the migration corridor and encompasses approximately 250 square miles consisting of: Private (19%), BLM (41%), USFS (38%), Tribal (1%) and Other (<1%).

### Land Uses:

Federal lands not designated as Wilderness are managed for multiple use. Common uses include livestock grazing, motorized and non-motorized recreation, and mineral extraction in the South Rubies/Bald Mountain area. Some USFS lands are currently designated as Wilderness in the Ruby Mountain Wilderness and East Humboldt Range. Mule deer also migrate through parcels that have been leased for mining or areas with ongoing energy development. Lands managed by the Bureau of Land Management are primarily used for livestock grazing. Private lands along the corridor network are primarily used for agricultural purposes and rural residential development.

### Risk/Threats:

The most significant current and future threats in this corridor are invasive grasses and fire intervals, increased mineral exploration and expansion on public lands, increased feral horse abundance and degradation of winter range in the Spruce Mountain area and southern portions of units 104,

108, increased traffic on Highway 93 and Highway 50 in traditional deer collision hotspots, habitat fragmentation from rural residential development, and from other recreation and human activities on winter ranges.

## Ruby Mountains Habitat Projects Summary

These projects aim to enhance seasonal habitats for a significant portion of the Area 10 deer herd and other game species. Additionally, NDOW is active in mapping and treating invasive grasses, specifically medusahead, using advanced remote sensing techniques.

### Overland-Big Wash Project

Duration: On-going since approximately 2017 - 2024

- Collaborators: BLM, NDOW, U.S. Forest Service
- Scope: Treating 18,500 acres within a 45,200-acre project area in Units 103 and 108
- In 2024, completion of 2,698 acres on Forest Service using lop and scatter in Big Wash
- Recent completion of 1,625 on BLM land using Ely Chain treatment in Big Wash
- Overland Pass, Forest Service, completed 1,410 acres of lop and scatter thinning
- Overland Pass, BLM Ely Chain treatment of 4,112 acres
- Long Valley and Ruby Valley Watershed Restoration Projects
- Blue Jay Hand Thinning
- Hunt Units: 104 and 108
- 4,688 acres completed in 3 separate units.
- Second phase of two completed August 2024
- Other Completed Treatments
- Pinyon-Juniper Removal: 4,688 acres completed in Units 104 and 108 in 2023 using sawyer crews.
- Mastication and Chaining: Approximately 12,000 acres treated from 2022-2032 in Units 103, 104, and 108

### Actions necessary to reduce or eliminate risks/threats:

Risks/threats could be reduced with the development of wildlife underpasses/overpasses on US Highway 93 and US Highway 50 near Antelope summit. Threats to the corridor network could be reduced by maintaining healthy habitat on public and private lands using conservation easements, fence improvement projects, habitat improvement projects, reducing the density of feral horses on the landscape that overlap with mule deer winter range, and maintain adequate corridor space within the Bald Mountain Mine Complex to ensure passage of mule deer through this area. Invasive species control and vegetation management have been implemented; however, additional treatments are needed to improve foraging conditions throughout the herd unit. Fence modification efforts have begun in the East Humboldt to Spruce Mtn corridor, but have great opportunity to be expanded upon, particularly with the collaborative efforts in place with other partners and private landowners.

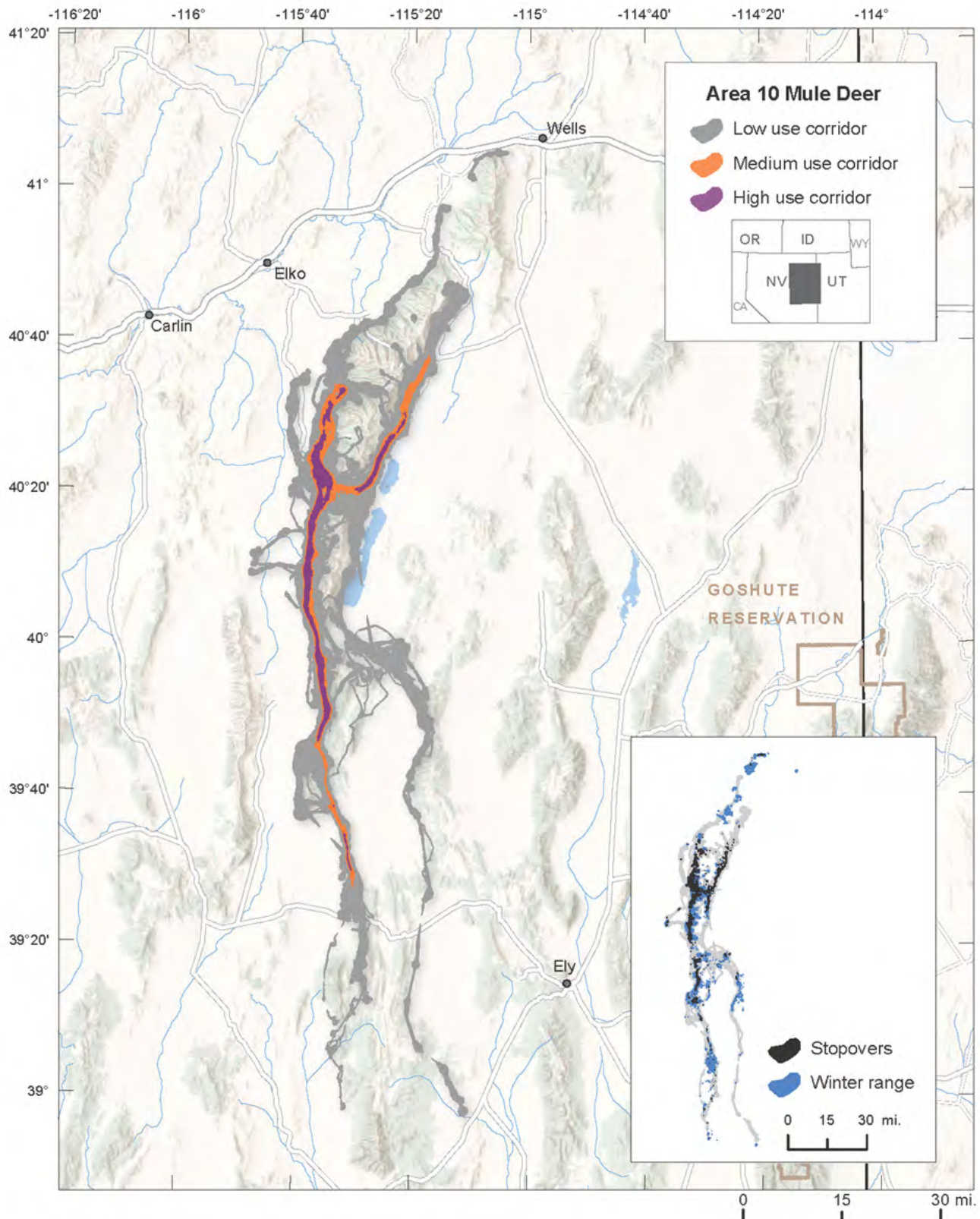


Figure 1. Migration corridor and winter range of the Ruby Mountain mule deer herd in Elko County, NV, USA.



Figure 2. Blue Jay hand-thinning treatment in Hunt Units 104 and 108 showing before (top) and after treatment (lower photo) completed in August 2024.

## Ruby Mountain Vegetation Monitoring

This implementation report provides an overview of the vegetation monitoring accomplished by the Department’s Vegetation Health Assessment (VHA) crews on Area 10 Mule Deer stopover habitat in the Ruby Mountains. From late June to early September, two VHA crews monitored new and existing plots using a suite of modified Bureau of Land Management (BLM) Assessment, Inventory, and Monitoring (AIM) protocols. In total, the VHA crews surveyed 31 plots, totaling 190.35 acres of private and public land across the Ruby Mountains.

In 2019 and 2020 in partnership with the U.S. Forest Service (USFS) and Great Basin Institute (GBI) crews collected vegetation data for the Sage-grouse Habitat Assessment Framework (HAF) in the Ruby Mountains. The HAF evaluates sage-grouse habitat seasonally at different scales using a set of indicators for habitat suitability, including sagebrush cover, sagebrush height, predominant sagebrush shape, perennial grass and forb height, perennial grass and forb cover, and preferred forb availability.

In 2019, VHA crews monitored 110 plots generated by the USFS using allotment boundaries and sage-grouse habitat (Table 1). In 2020, crews monitored 38 plots on the Cherry and Corta fires, which burned in late summer and were aerially seeded in fall 2019 (Table 1). Data is in the process of being analyzed for further incorporation into on-going monitoring projects and future research.

Table 1. Area 10 Mule Deer Stopover Implementation Details	
GBI Program Manager	Allison Peterson-Park
NDOW Project Partner	Lee Davis
Location	NDOW Valley Road Field Office, Reno, NV
Number of field crews	2

Plots and Acres Surveyed			
Site	Dates Sampled	Number of	Acres
Ruby Mountains	June-Sept 2019	110	258.5
Ruby Mountains Corta Fire	August-Sept 2020	31	72.85
Ruby Mountains Cherry Fire	8/22/2020 - 8/22/2020	7	16.45
Total	June 2019 - Sept. 2020	148	347.6

## Pequop Mountains Mule Deer

The Area 7 mule deer population is one of the state’s largest deer herds with an estimated population of about 9,300 in 2024. This deer herd is highly important to Nevada from an economic and ecological perspective. It’s one of the longest distance deer migrations in the state of Nevada with some animals known to migrate over 120 miles during a single migration. A subset of this population, known as the “Pequop” herd, crosses a major highway (US highway 93) and an interstate (Interstate-80) twice annually during their seasonal migration. Several million dollars in wildlife crossing structures have been constructed to help these deer during their migration, yet they still face challenges to connectivity between winter and summer ranges including miles of livestock fencing and a large-scale gold mine operation in proximity a large stop-over site near Long Canyon in the Pequop Mountains south of Interstate 80. Winter range for this deer herd occurs primarily along the east side of the Pequop Mountains from Sixmile Creek to Ninemile Canyon. The largest stopovers occur along the west side of Snake Mountains near Tabor Creek, Antelope Peak and Bishop Creek areas, north and south of Interstate 80 near Pequop Summit, and the Sixmile Creek to Long Canyon area in the Pequop Mountains.

### Why the area was selected as a priority:

NDOW selected this mule deer herd due to its relatively large population size (~12% of the state’s deer population), large-scale spatial distribution and migration distance between summer and winter ranges, increasing threats to habitat integrity and connectivity and direct habitat losses from wildfire.

The Pequop mule deer migration corridor represents a high-priority seasonal habitats that were documented through the use of GPS collar technology and delineated using a Brownian Bridge Movement Model (BBMM). This corridor documents important habitats used by approximately 3,000 – 4,000 mule deer annually, that migrate from summer ranges in the Jarbridge Mountains to winter ranges in the Snake Range, and southern Pequop Mountains.

### Spatial Location:

The Pequop migration corridor is in Elko County in northeastern Nevada (Figure 2). A majority of the herd migrates across Highway 93 north of Wells, Nevada and crosses Interstate 80 near Pequop Summit.

### Land ownership:

Land ownership is mixed within the migration corridor and encompasses approximately 1,228 square miles consisting of: Private (31%), BLM (66%), USFS (3%), and Tribal lands (<1%).

### Land Uses:

Federal lands not designated as Wilderness are managed for multiple use. Common uses include livestock grazing,

motorized and non-motorized recreation, and mineral extraction in the South Pequop area south of Interstate 80. Mule deer also migrate through parcels that have been leased for mining or areas with ongoing energy development potential with solar development. Lands managed by the Bureau of Land Management are primarily used for livestock grazing.

**Risk/Threats:**

The most significant current and future threats in this corridor are invasive grasses and fire return intervals on comprised winter range, feral horse use on winter ranges in the north Spruce Mountain area and southern Pequop mtns, and on-going mineral exploration and mining development in the Murdock Mountain and Long Canyon mine areas.

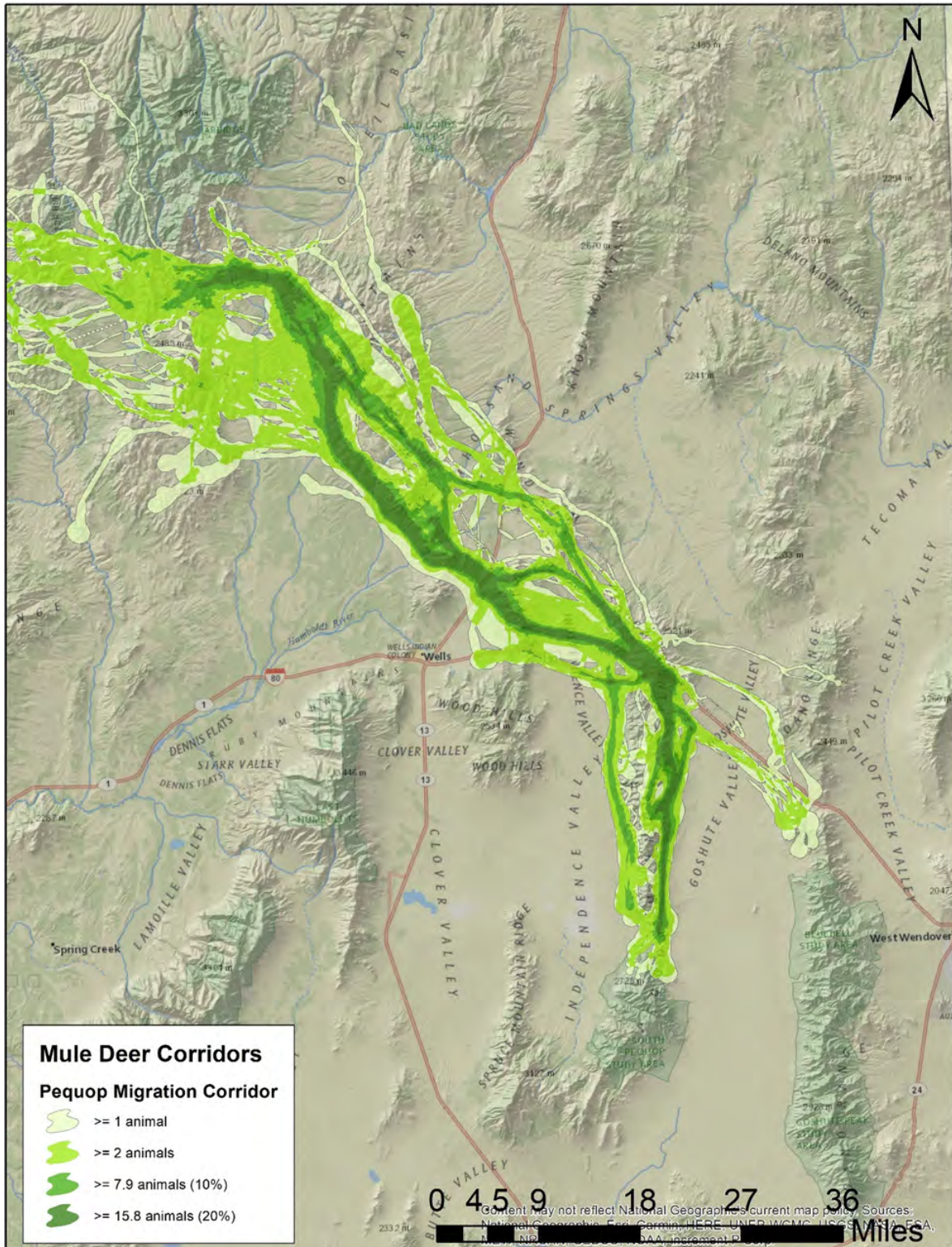


Figure 3. Map of Pequop migration corridor in Management Area 7, Elko County, NV, USA.

## Pequop Mule Deer Habitat Summary

### Completed Projects:

Toano Mountains PJ Thinning (2021): 3,258 acres of PJ were hand-thinned in Area 7 mule deer winter range in the Toano Mountains using Long Canyon Mine mitigation, Mule Deer Foundation, and the Departments Habitat Conservation Fee funding.

Wally Fire Rehabilitation & Restoration (2021): The entire 1,761-acre Wally Fire burn from 2016 was treated with pre-emergent herbicide in 2021 to reduce cheatgrass in the understory of the recovering burned area. Additionally, 1,300 Wyoming sagebrush seedlings grown by the Wells High School FFA program were planted by the students who grew them in 2021 in an area where sagebrush recovery was lacking.

Shafter/Lost Complex Fire Rehabilitation & Restoration (2020): The 2020 Shafter/Lost Complex Fire burned 10,267 acres in mule deer winter range in the foothills of the Toano Mountains in 2020. Elko BLM and the Department collectively seeded 3,290 acres with a native/non-native mix of grasses, forbs, and antelope bitterbrush. 937 acres of aerially seeded area was followed by a one-way smooth chaining contracted by the Department in a priority area of mule deer winter range within the burned area to increase seed-to-soil contact to especially benefit antelope bitterbrush establishment.

Shafter Fire Rehabilitation (2019): The 2019 Shafter Fire burned 6,618 acres in mule deer migration corridor and winter range in the Pequop Mountains in 2019. Elko BLM and have collectively applied pre-emergent herbicide on 5,250 acres between 2019 and 2021 and have collectively seeded 4,884 acres between 2019 and 2021. Seed mixes included native and non-native grasses, forbs, sagebrush, and forage kochia.

Spud Patch PJ Removal (2018): 900 acres of pinyon-juniper were removed in mule deer migration corridor and winter range in the Pequop Mountains in 2018 using Long Canyon Mine mitigation funds.

2022 Wildcat Fire Rehabilitation & Restoration: The 2022 Wildcat Fire burned 21,423 acres almost entirely in the area 7 migration corridor. Elko BLM and the Department collectively seeded 19,130 acres of the burn between November 2022 and February 2023 with various mixes of native grasses, forbs, and sagebrush. In September 2023, the Department contracted the application of pre-emergent herbicide on 3,561 acres of the burn along roadways in response to annual invasive grass presence and to prevent spread of those grasses. The Area 7 Mule Deer Enhancement Program subcommittee identified antelope bitterbrush seedling planting in islands across 1,000 acres of the heavy use migration areas of the burn as a priority project and, in partnership with USFS, we contracted the planting of 62,000 antelope bitterbrush seedlings in November 2023 with Nevada Wildlife Heritage funds, Dream Tag funds, and RMEF Restoration Grant funds. Department volunteers planted an additional 2,000 antelope bitterbrush seedlings in November 2023. BLM contracted the planting of around 400,000 sagebrush seedlings in November 2023 and around 400,000 antelope bitterbrush seedlings are contracted for planting by the BLM in spring 2024.



Murdock Mountain Mule Deer Habitat Enhancement: 453 acres of phase 1 and 2 pinyon and juniper on private land in mule deer migration corridor and winter range were hand-thinned using S.O. 3362 funds in November 2023. An additional 562 acres of pinyon and juniper on private land in neighboring parcels to those hand-thinned will be masticated beginning in December 2023 using a combination of S.O. 3362 funds, NGO donations, and Nevada Wildlife Heritage funds in partnership with Mule Deer Foundation, USFWS, and Winecup-Gamble Ranch.

## Pequop Mule Deer Habitat Projects (Future Needs)

### Fence Modifications

- Railroad ROW – between Holborn and Fenelon – 3 miles 1.3 miles private (Monty Pearce and Winecup Gamble Ranch)
- Railroad ROW – between Moor Exit and Ralph’s Well – 4 miles 1.5 miles private (Monty Pearce, Winecup Gamble Ranch, and Weinger Family)
- 22 Miles of private (Independence Valley Ranch – Winecup Gamble Ranch) Meadow Creek 1.5 miles removal in migration corridor

### Conservation Easements

- Antelope Peak Ranch
- Independence Valley Ranch
- Mary’s River Ranch
- Memory Ranches

### Stop-over and Winter Habitat Restoration

- Deer Fire – O’Neil PPA EA Restoration Treatment – 15,776 acres BLM
- South Cricket Fire – O’Neil PPA EA Restoration Treatment – 5349 acres BLM, 6140 private
- Charleston Fire Shrub Rehabilitation – Plant bitterbrush seedlings in important stop-over areas
- Payne Basin – 2,200 acres, juniper removal and possible seeding in transition and migration corridor.

## Area 6 Mule Deer Corridors

The Area 6 mule deer population is one of the most productive deer herds in the state with an estimated population of about 7,000-10,000 deer. This herd is highly migratory and has been impacted by major changes in habitat quality to winter range. It was once one of the largest and most productive deer herds in Nevada, but due to major large-scale wildfires over the course of several decades the winter range now only supports a fraction of the historic population. The summer ranges span from the Independence and Tuscarora mountain ranges northwest of Elko, Nevada while stopover and winter ranges extend north about 30 miles into Idaho and south in the Sheep Creek Range and Dunphy Hills near Interstate -80.

### Why the area was selected as a priority:

The Area 6 mule deer migration corridor represents a high-priority seasonal habitats that were documented through the use of GPS collar technology and delineated using a Brownian Bridge Movement Model (BBMM). This corridor documents important habitats used by approximately 7,000 mule deer annually, that migrate from multiple summer ranges in the Bull Run, Independence, and Tuscarora Mountains to lower elevations, in the Sheep Creek Range, Izzenhoods, and Owyhee and Bruneau rivers.

### Spatial Location:

The Area 6 migration corridor is located in Elko County and portions of Eureka and Lander Counties in northeastern



Figure 6. Habitat treatment (Pinyon-Juniper thinning) project in the Toano sub-unit, in the southern extent of the Pequop mule deer migration corridor. P/J “islands” were left intact to provide thermal cover for mule deer.



Nevada. The Area 6 mule deer summer ranges split into approximately 3 major sub-herds in winter, that have been mapped. Several more sub-herds exist that are currently being mapped with new data.

**Land ownership:**

Land ownership for the 3 sub-herds combined is mixed within the migration corridor and encompasses approximately 1,441 square miles consisting of: Private (42%), BLM (53%), USFS (5%), State (<1%), Tribal lands (<1%), and Other (<1%).

**Land Uses:**

Federal lands not designated as Wilderness are managed for multiple use. Common uses include livestock grazing, motorized and non-motorized recreation, and mineral extraction in the South Independence, Tuscarora, and Sheep Creek Ranges. Mule deer also migrate through parcels that have been leased for mining or areas with ongoing energy development potential

with solar development. Lands managed by the Bureau of Land Management are primarily used for livestock grazing, recreation, and mineral extraction.

**Risk/Threats:**

Major wildfires continue to burn important stopover habitats and winter range for this mule deer herd. Fires from the summer of 2018, particularly the South Sugarloaf fire have greatly impacted this deer herd by eliminating high value summer range in the short to mid-term (5 to 10-year period). Aggressive fire rehabilitation and re-seeding efforts will be required to restore these important stopover and winter range habitats. Several potential barriers to movements were noted in the updated analysis including expanding mining activities in the Carlin Trend region as well as existing barriers along I-80 including fencing and road traffic that may increase energy expenditure and result increased mortality for migrating mule deer.

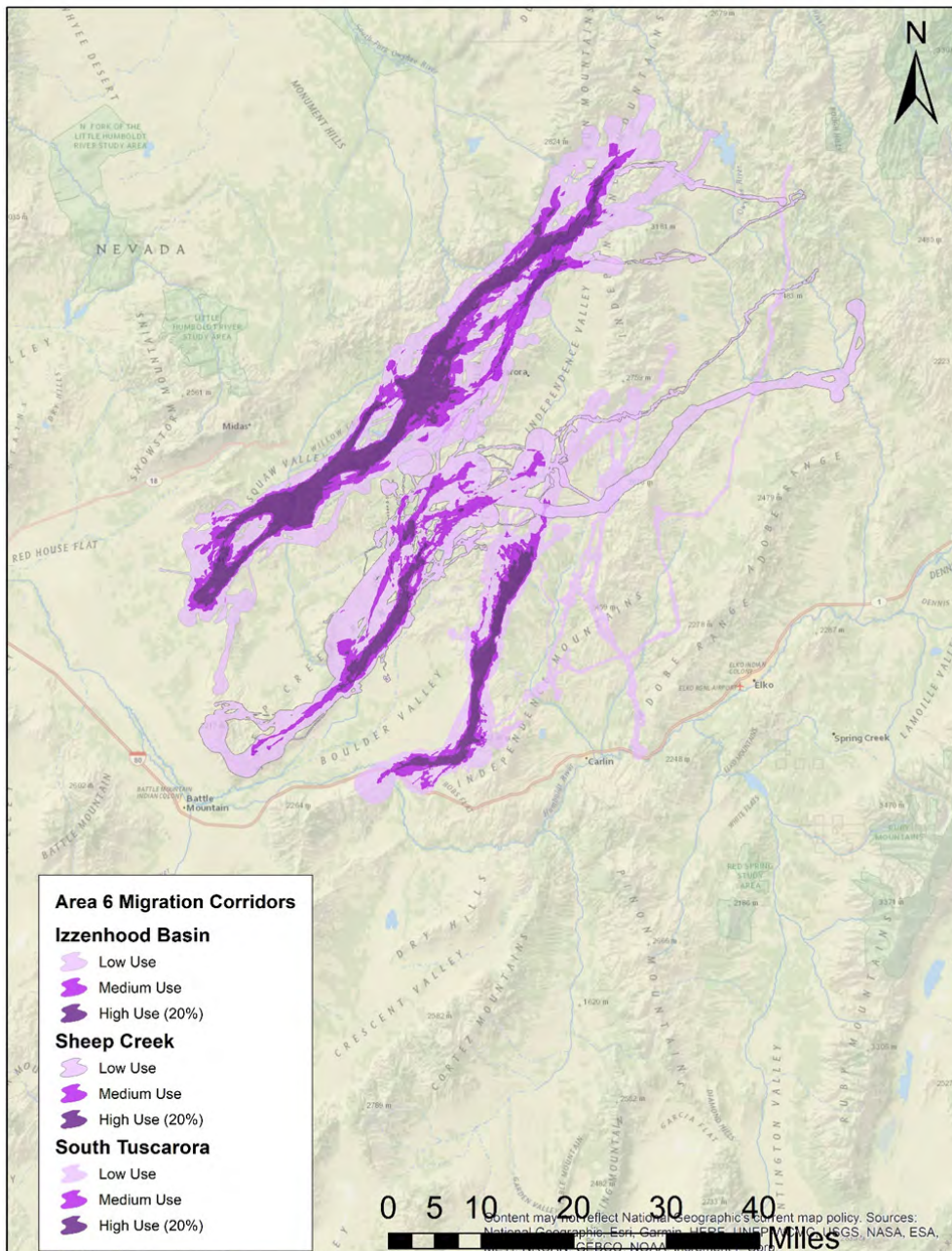


Figure 7. Map of migration corridors for 3 sub-herds within the Area 6 mule deer migration corridor complex in Management Area 6, Elko County, NV, USA.

## Management Area 6 Mule Deer Habitat Projects

For decades, the geographic region of Nevada known as "Area 6" and more specifically, its mule deer winter range, has been devastated by wildfire and invasion by winter annuals.

The Department and their federal partners have been working diligently to restore sites that have been impacted by fire. Most wildfires will see the full complement of known and applicable restoration treatments because of the region's importance and in many cases retreated if the initial response is not favorable. Because of the area's long history of habitat restoration and the amount of work that has been completed, the following projects will focus on just the past five years. The primary focus of this deer herd has been restoring winter ranges burned by wildfires using re-seeding, herbicide, and other methods.

We are currently using a combination of herbicide treatments and reseeding efforts to help restore and improve transitional and winter range habitats that were burned in several large-scale wildfires that occurred beginning in 2001 and have continued to experience wildfires across summer range (South Sugarloaf Fire – 2018), crucial winter range and stopover habitats, most recently with the Izzenhood Fire (2011), Hot Pot Fire (2016), Rooster Comb Fire (2017), Sheep Creek Fire (2018).

The Middle Rock Creek Habitat Improvement Project began in fall of 2019 treating a 2,000-acre polygon in the Santa Renia Mountains with a preemergent herbicide. The same 2,000-acre treatment area was aerially seeded in January of 2021. The site was mostly free of cheatgrass after the preemergent treatment and allowed for a window for seeding; however, the site now has moderate densities of cheatgrass and only a limited number of seeded species present. The seeding fell on the heels of a two-year drought period for the region and did not receive the necessary precipitation to respond favorably.

Nelson Creek Habitat Improvement Project began in 2021 with application of preemergent herbicide to a project area approximately 700-acres in the North Tuscarora Mountains. After monitoring the site for winter annual grass control, the Department contracted the planting of 68,000 antelope bitterbrush seedlings in May of 2023. The same site will be seeded this winter with sagebrush to hopefully restore the sagebrush community.

Toe Jam Mountain Habitat Improvement Project was initiated with a preemergent herbicide application of approximately 600-acres in the late summer of 2022 adjacent to the Nelson Creek Habitat Improvement Project. Because a different preemergent was used to control the winter annuals, the Department is delaying the seedling planting until the fall of 2025 when the site should be stable and largely free of cheatgrass. The Izzenhood Mountains State Land Habitat Improvement

Project (2023, Hunt Unit 068) began in fall of 2023 with the preemergent herbicide application on 1,200 acres within the Izzenhood Mountains. Seed will be delivered to Lucky Peak Nursery to be grown out and planted as seedlings in the fall of 2024 with the primary objective of restoring the brush community on crucial winter range. In addition to the project started in 2023, another 1,200-acres of state land were treated with pre-emergent in 2019, drill seeded in 2021, and is scheduled of seedling planting in the fall of 2024.

Dunphy Hills- TS Ranch Fence Removal (2024, Hunt Unit 068): NDOW, in cooperation with Nevada Gold Mines and several volunteer groups, permanently removed 2.56 miles of poor-quality range fence, replaced an additional 0.36 miles with pipe rail and 1.48 miles with wildlife friendly range fence. Many of the fences that were removed or replaced were over 46 inches tall, between 5 and 6 strands with no smooth wire, and were often combined with woven-wire bottoms. This project improved a congested area within a crucial migratory corridor for the South Tuscarora mule deer herd.

## Northern Washoe Pronghorn Corridors

The Northern Washoe pronghorn herd is one of the largest and most migratory herds in the state with a population estimate of 4,000 – 5,000 inhabiting 5 game management units. The Northern Washoe pronghorn herd was selected as a priority due to their high propensity for migration and potential for habitat loss. The habitat for this herd is largely intact and the large Sheldon National Wildlife Refuge (Sheldon NWR) protects habitat for a large portion of the population. However, large-scale wildfires, invasion of exotic grasses and habitat destruction from free ranging feral horses has occurred on major winter ranges surrounding the Sheldon NWR.

### Why the area was selected as a priority:

The Northern Washoe pronghorn corridor and surrounding seasonal winter range represent some of the best remnant pronghorn habitat in Nevada. The Sheldon Wildlife refuge was set aside originally for the protection of one of the last remaining pronghorn populations in the western United States. It continues to serve as a high value habitat and connects populations to the north in Oregon including the Hart Mountain Wildlife Refuge, and the surrounding Hunt Units in Nevada including 012, 013, 014 in the Granite Range, Black Rock Range, Hays Canyon, and Buffalo Hills region.

### Spatial Location:

The Northern Washoe pronghorn herd occurs in northwest Nevada (Figure 8) encompassing a large portion of Washoe County and the western edge of Humboldt County, Nevada. The current distribution of these pronghorn extend as far north as Hart Mountain in Oregon to the southern extension of the Black Rock Desert near Gerlach, Nevada.

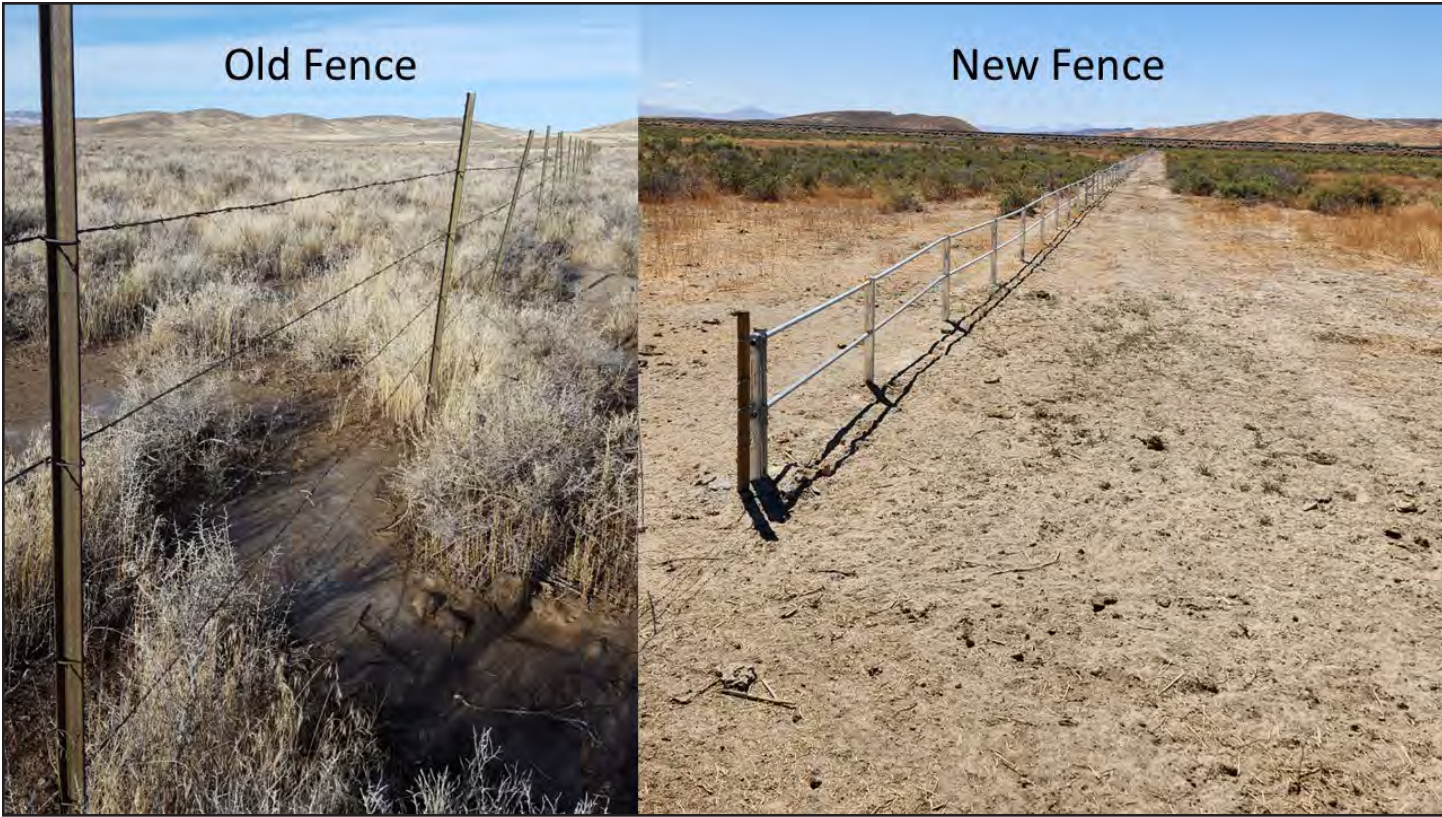


Figure 8. Installation of new fencing using wildlife friendly designs and materials including pipe rail steel fencing which is durable and facilitates ease of movements.

**Land ownership:**

Landownership occupied by this pronghorn herd is almost entirely owned by the federal government. Collins (2016) estimated the percentage of public land to be about 90% for pronghorn with substantial occupancy on Sheldon and Hart Mountain NWRs and surrounding lands managed by the BLM. A small percentage (<1%) of the herd occupies tribal lands, while the remainder of land is privately owned.

**Land Uses:**

Land uses include grazing by sheep and cattle on public allotments owned by BLM, hunting, wildlife watching, and other recreational activities. Several wilderness and wilderness

study areas occur in Northern Washoe and Humboldt counties totaling over 200,000 acres. The Sheldon is 560,000 acres.

**Risks/Threats:**

Risks to this pronghorn herd include habitat type conversion from native shrub/forb communities to exotic grasslands in some portions of the corridor (such as the 2012 Lost Fire and the 2020 Poodle Fire), long term impacts from drought, overuse and competition for forage and water from feral horses, and overutilization from livestock which has converted the understory from native perennial bunchgrasses to a mix of cheatgrass, Sandberg’s bluegrass, and even medusahead in some cases particularly in Hunt Unit 015.

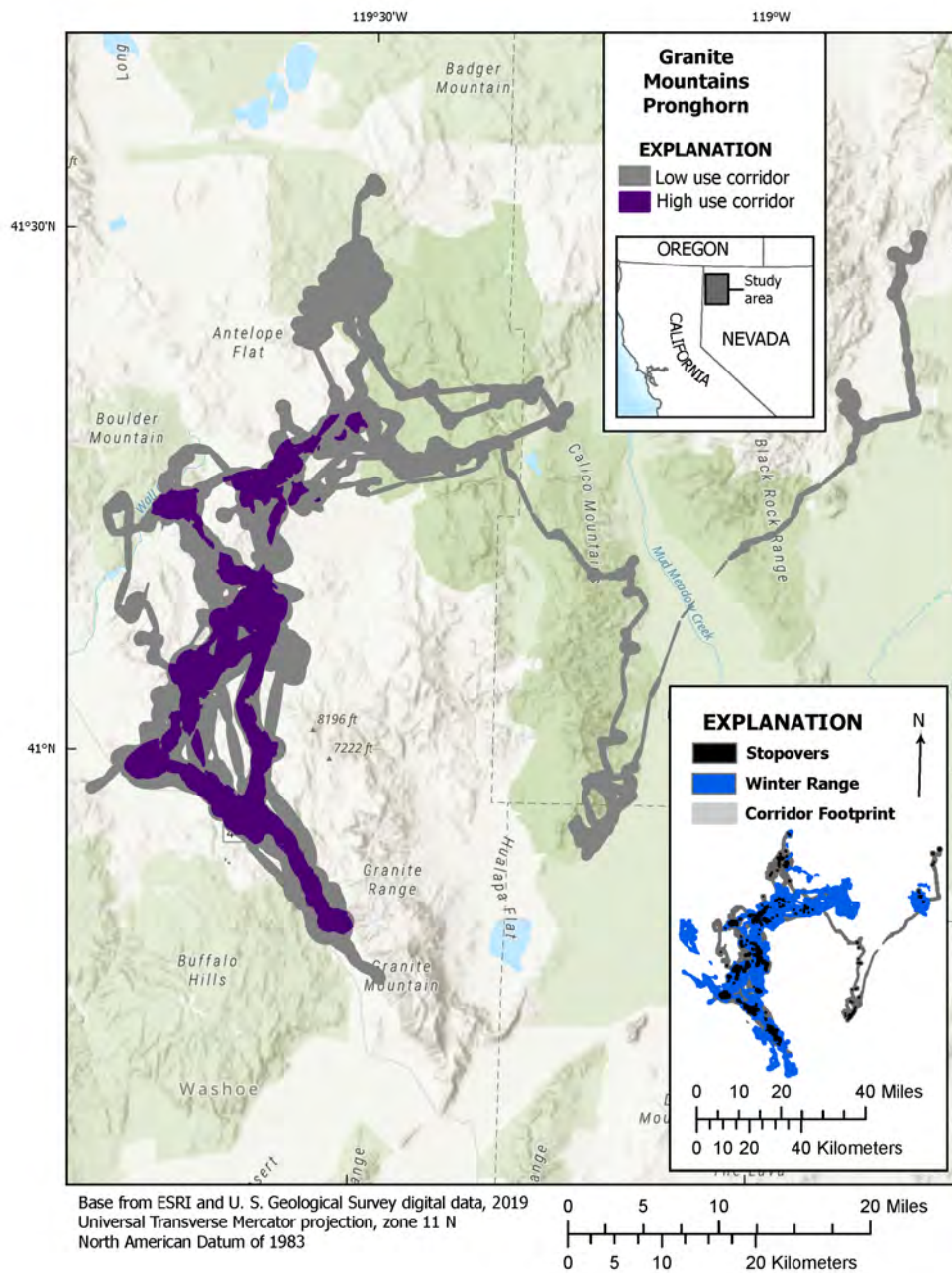


Figure 9. Migration corridors and winter range of the Granite Mountains pronghorn herd in northern Washoe County, Hunt Units 012,013-014, sub-herd. Preliminary maps from University of Nevada - Reno. Dr. Kelley Stewart.

## **Northwest Nevada Mule Deer and Pronghorn Habitat Projects**

Lawson Soil Aerator Rangeland Restoration (2023, Hunt Unit 011): This project consisted of 80 acres of experimental rangeland restoration using brush-crushing and seeding methods. Taking place on private land, this project will play a role in demonstrating the efficacy of this type of rangeland restoration to improve habitat and reduce the risk of wildland fire and northwestern Nevada.

Upper Indian (14 acres) and Cottonwood (9 acres) Spring Protections (2023, Hunt Unit 013): Taking place on private land, we contracted for spring protection fencing at Upper Indian and Cottonwood springs in the summer of 2023. Together these sites compose 23 acres of valuable riparian habitat in the Hays Canyon Range.

Horse Canyon Seeps Protection (2023, Hunt Unit 013): This project consists of protection of two spring sites with pipe rail fencing. The fence at Horse Canyon Seeps North was completed by Department volunteers during the summer of 2023. Horse Canyon Seeps South was contracted by the Department and was completed in early summer of 2024. This project will protect 8.75 acres of riparian habitat in the Hays Canyon Range.

Poodle Fire Rehabilitation (2020 – 2022; 014, Hunt Unit 015): The Poodle Fire burned 13,600 acres from Poodle Mountain, across highway 447 and up the western slope of the Granite Range in August 2020. Winnemucca BLM and the Department collaborated on treatment planning and chose to treat some of the 2006 Squaw Valley Fire as well. In the fall of 2020, NDOW contracted herbicide application on 7,755 acres. The following fall/winter ('21 to '22), the BLM drill seeded 769 acres and aerially broadcast seeded 5,218 acres. The Department provided Snowstorm kochia and Wyoming sagebrush seed to the mix.

Rowland Spring Protection (2023, Hunt Unit 015): This project consisted of protection of 18 acres of riparian habitat using pipe rail fencing. We contracted this project in the summer of 2023.

Spur Spring Protection (2023, Hunt Unit 015): In the summer of 2023, the Department contracted for spring protection fencing around two acres of riparian habitat near Painter's Flat. This project took place alongside fencing updates and improvements to two additional sites, Byers and Horse Corral springs.

Findman Spring Protection (2023, Hunt Unit 013, 10 acres). This project was completed in spring 2024, constructed with barbed wire and protects a valuable water source for game

species, including mule deer and antelope.

Cherry Spring Protection (2024, Hunt Unit 012, 20 acres). This project lies along a pronghorn migratory route and is also near several pika sites. The goal of this project was to protect mesic resources for wildlife, which dovetailed with the private landowner's desire to protect the site in honor of recently deceased family members, John and Linda Husa.

Upcoming Habitat Projects in Management Area 1: The Department has multiple spring protection projects upcoming for Management Area 1. Projects currently contracted and awaiting implementation are Erickson Spring (Hunt Unit 013, 7.5 ac). The Northwestern Nevada Overspray Project will consist of aerial herbicide application and seeding as needed across approximately 7,000 acres in Hunt Units 012 and 033.

## **Management Areas 6 Pronghorn Corridors**

The Area 6 pronghorn herd is one of the largest and most migratory herds in the state with a population estimate of 4,000 – 5,000 pronghorn distributed across 5 game management units. This pronghorn herd was selected as a priority due to the highly migratory nature as well as several challenges to habitat this herd faces. The winter range habitat for this herd has been severely impacted by large-scale wildfires over the past several decades. Alternatively, some of the recovery and restoration of these fires has favored antelope by increasing their distribution through improved habitat suitability. NDOW in partnership with BLM has aggressively treated some of these large fires with a mix of native and non-native seed mixtures. Nonetheless, several factors threaten the long-term persistence of this migration corridor.

### **Why the area was selected as a priority:**

The Area 6 pronghorn corridor represents several high-priority seasonal habitats that were documented through the use of GPS collar technology and delineated using a Brownian Bridge Movement Model (BBMM). This corridor documents important habitats used by approximately 3,000 – 4,000 pronghorn annually, that migrate from multiple summer ranges in the Bull Run, Independence, and Tuscarora Mountains to lower elevations, in the Sheep Creek Range, Izzenhoods, and Owyhee Bruneau river, and Adobe Range outside of Elko, Nevada.

### **Spatial Location:**

The location of the herd occurs across a vast expanse of land and primary summer ranges are near Wild Horse Reservoir in northern Elko, County. The migration path is largely unknown at this time and has never been mapped using modern GPS telemetry data. The winter range occurs along the southern edge of Elko County near Interstate -80 between Battle Mountain and Elko, Nevada.

Habitats are comprised of sagebrush-steppe vegetation communities with mixed native/exotic grasslands occurring on portions of the winter range. Specific stopover locations are unknown at this time but warrants further investigation. Land ownership comprises a variety of public and private lands with large portions of federal lands administered by the BLM on winter ranges and USFS on higher elevation summer ranges.

**Land Use:**

Land uses include agricultural and livestock grazing on private and public owned lands, recreation activities including hunting and hiking activities on National Forest and BLM lands. Several

permitted mining operations occur between the high elevation summer ranges and lower elevation winter ranges.

**Risks/Threats:**

Risks or threats to this pronghorn include: conversion of native shrubland habitat to exotic grasslands where large-scale wildfires have occurred on lower elevation winter ranges and impediments to the migration pathways where several large-scale gold mines and other minerals have occurred over the past several decades. Other types of emerging threats and risks are development of alternative energy as well as suburban and industrial type developments near Elko that occur on typical

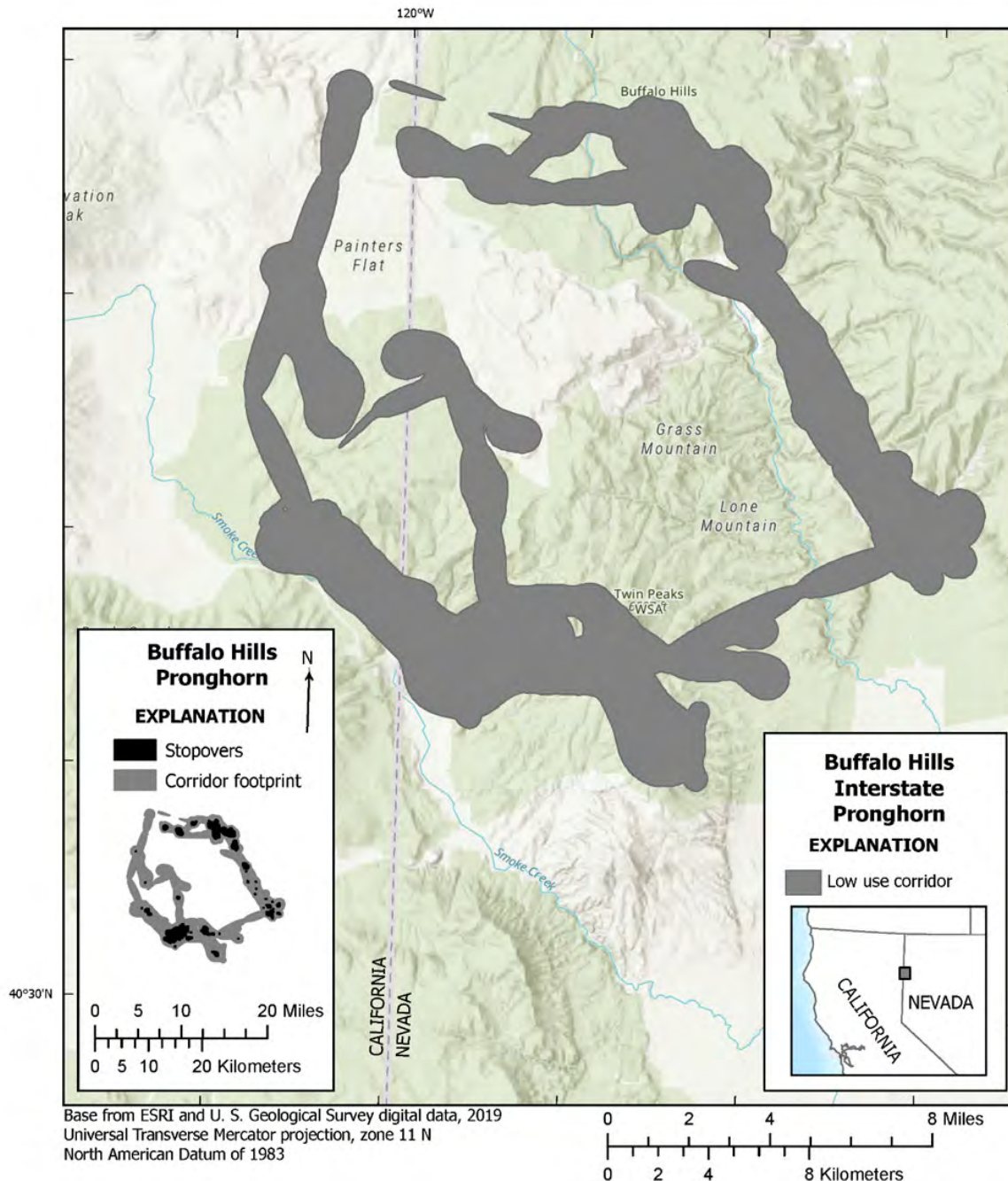


Figure 10. Migration corridors and winter range of the Buffalo Hills Interstate pronghorn herd in northern Washoe County, Hunt Units 015 sub-herd. Preliminary maps from University of Nevada - Reno. Dr. Kelley Stewart.

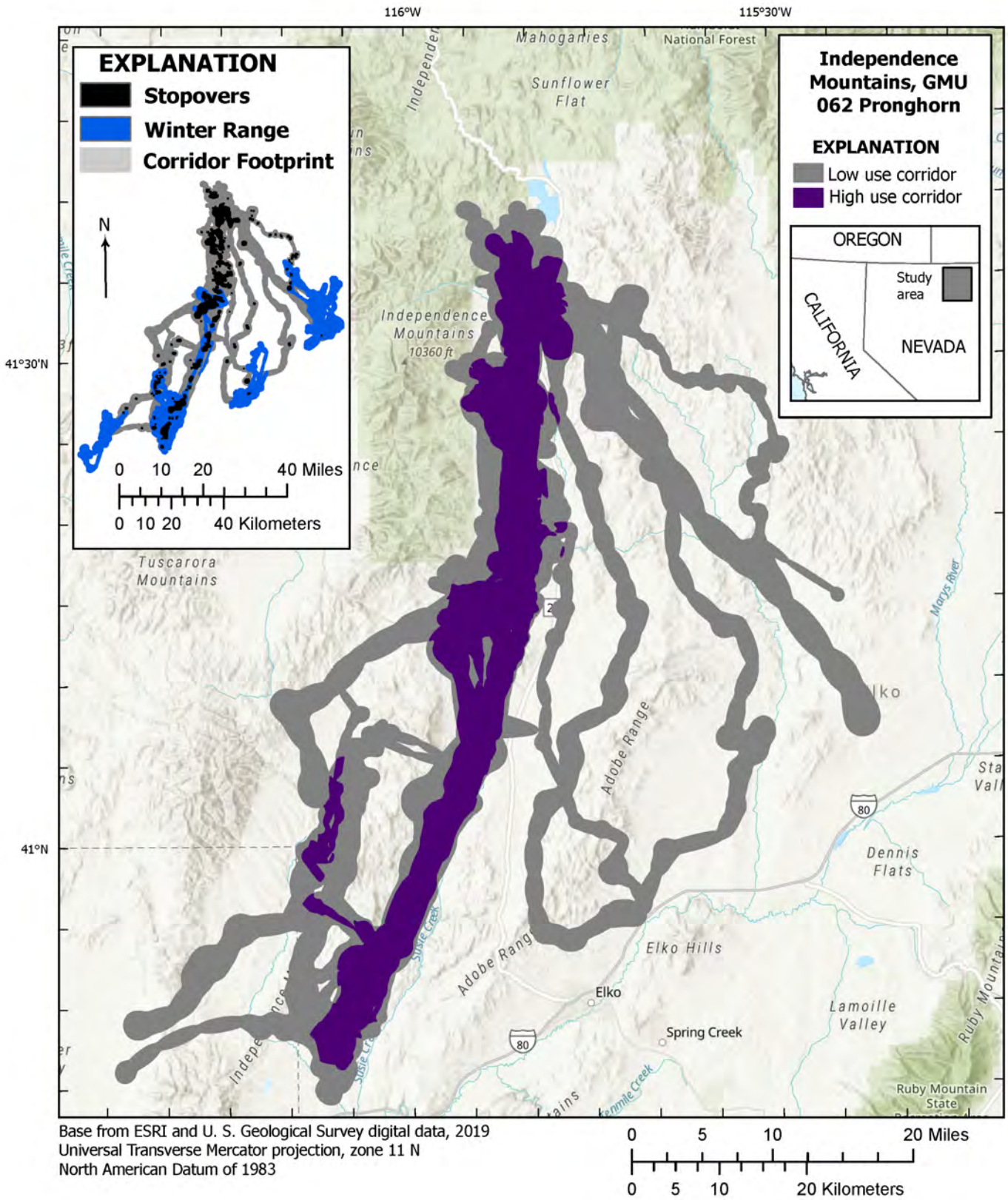


Figure 12. Migration corridors and winter range of the Independence Mountains pronghorn herd in Elko County, Hunt Units 062/064 sub-herd. Preliminary maps from University of Nevada - Reno. Dr. Kelley Stewart.

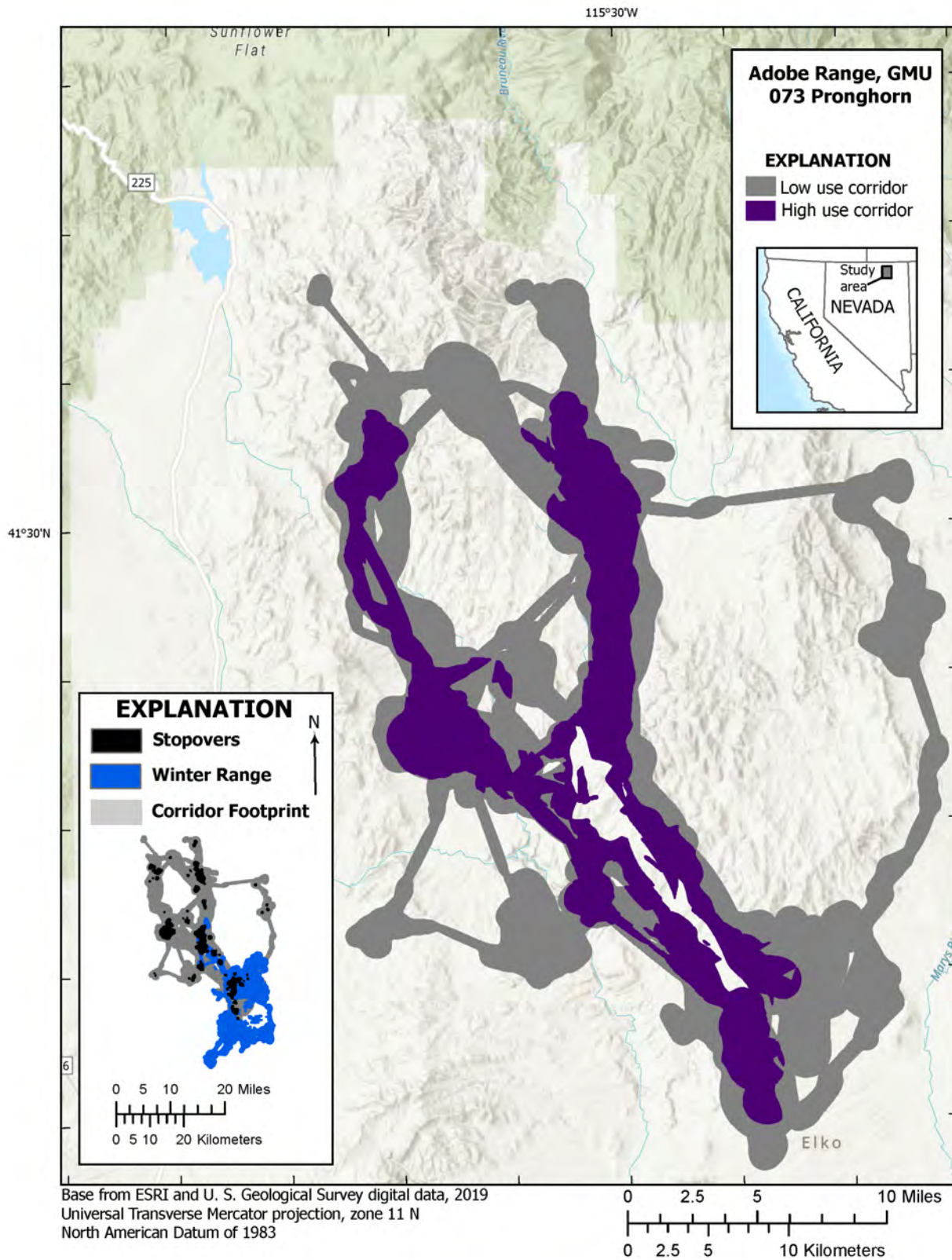


Figure 13. Migration corridors and winter range of the Adobe Range pronghorn herd in Elko County, Hunt Units 073 sub-herd. Preliminary maps from University of Nevada - Reno. Dr. Kelley Stewart.



## Stateline Fence Project

### Project Summary

<b>Project</b>	Stateline Fence Project 2023	<b>Total Linear Feet of Fence</b>	30,100
<b>Dates Implemented</b>	11/2023		

### Treatment Summary

This project consisted of the replacement of 30,100 feet of poor condition range fence on the California-Nevada border. The updated fence is of a wildlife-friendly design. The original fence was in poor condition and was permeable to livestock and feral horse, while posing a dangerous barrier to big game species. The purpose of this project was to improve ease of passage by big game, especially pronghorn antelope, that migrate through the area. Added benefits to the project include proper management of the federal grazing permittee's livestock as well as feral horses.

The Department coordinated on planning with the Applegate Field Office of the BLM. The Department also contracted the project for timely completion.

### Work Completed

Site	Work	Amount	Dates
Stateline Fence	Wild-life-friendly barbed wire fence	30,100	11/2023

### Funding Summary

Project Deal	Linear Ft	Cost/Ft	Total Cost
Fence Materials	30,100	\$1.90	\$57,190
Labor	30,100	\$4.60	\$138,460

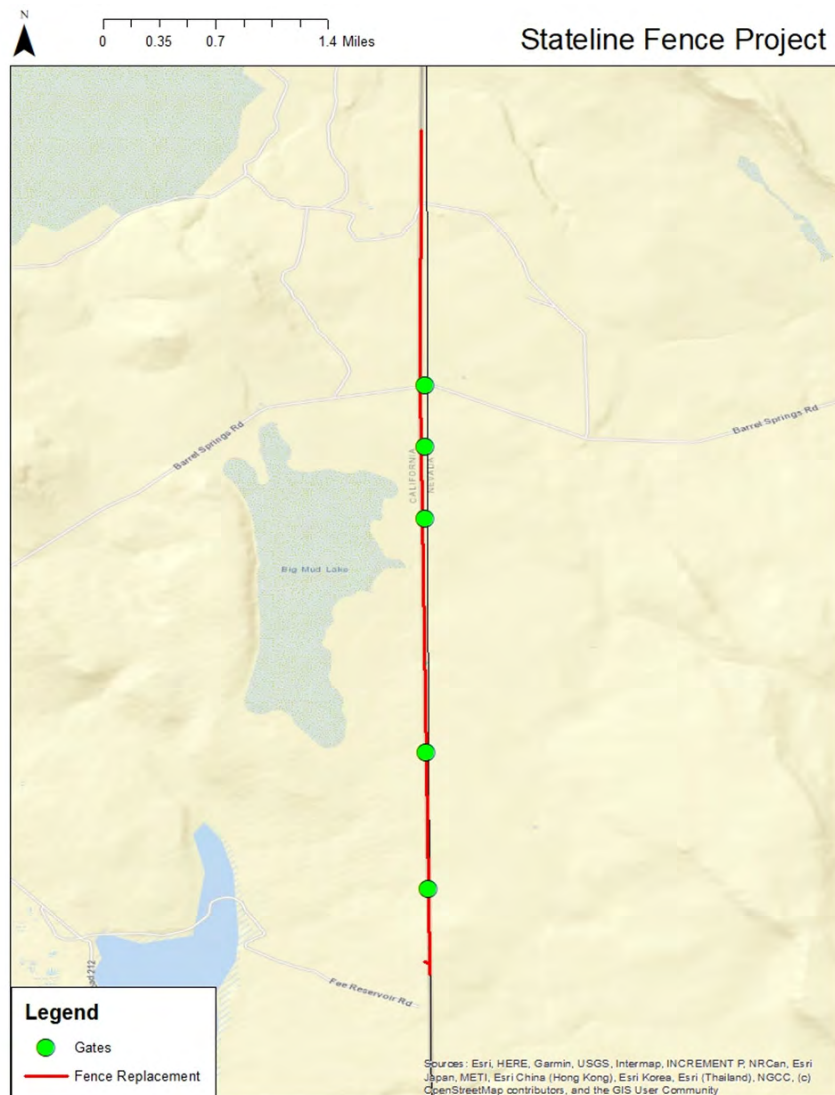


Figure 14. Map of Stateline Fence project.



Figure 15. Stateline Fence during final project inspection.



Figure 16. Lop and scatter treatments in the Overland Pass area within the Ruby Mountain mule deer corridor.



Figure 17. Pronghorn using traditional winter reange on the south end of Granite Mountain, Hunt Unit 014.



THE SECRETARY OF THE INTERIOR  
WASHINGTON

ORDER NO. 3362

Subject: Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors

**Sec. 1 Purpose.** This Order directs appropriate bureaus within the Department of the Interior (Department) to work in close partnership with the states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming to enhance and improve the quality of big-game winter range and migration corridor habitat on Federal lands under the management jurisdiction of this Department in a way that recognizes state authority to conserve and manage big-game species and respects private property rights. Through scientific endeavors and land management actions, wildlife such as Rocky Mountain Elk (elk), Mule Deer (deer), Pronghorn Antelope (pronghorn), and a host of other species will benefit. Additionally, this Order seeks to expand opportunities for big-game hunting by improving priority habitats to assist states in their efforts to increase and maintain sustainable big game populations across western states.

**Sec. 2 Authorities.** This Order is issued under the authority of section 2 of Reorganization Plan No. 3 of 1950 (64 Stat. 1262), as amended, as well as the Department's land and resource management authorities, including the following:

- a. Federal Land Policy and Management Act of 1976, as amended, 43 U.S.C. 1701, *et seq.*;
- b. U.S. Geological Survey Organic Act, as amended, 43 U.S.C. 31, *et seq.*;
- c. National Wildlife Refuge System Improvement Act of 1997, as amended, 16 U.S.C. 668dd *et seq.*; and
- d. National Park Service Organic Act of 1916, as amended, 54 U.S.C. 100101, *et seq.*

**Sec. 3 Background.** The West was officially "settled" long ago, but land use changes continue to occur throughout the western landscape today. Human populations grow at increasing rates with population movements from east and west coast states into the interior West. In many areas, development to accommodate the expanding population has occurred in important winter habitat and migration corridors for elk, deer, and pronghorn. Additionally, changes have occurred across large swaths of land not impacted by residential development. The habitat quality and value of these areas crucial to western big-game populations are often degraded or declining.

The Bureau of Land Management (BLM) is the largest land manager in the United States (U.S.) with more than 245 million acres of public land under its purview, much of which is found in Western States. The U.S. Fish and Wildlife Service (FWS) and National Park Service (NPS) also manage a considerable amount of public land on behalf of the American people in the West. Beyond land management responsibilities, the Department has strong scientific capabilities in the U.S. Geological Survey (USGS) that can be deployed to assist State wildlife agencies and Federal land managers. Collectively, the appropriate bureaus within the Department have an opportunity to serve in a leadership role and take the initiative to work closely with Western States on their priorities and objectives as they relate to big-game winter range and migration corridors on lands managed by the Department.

Consistent with the American conservation ethic, ultimately it is crucial that the Department take action to harmonize State fish and game management and Federal land management of big-game winter range and corridors. On lands within these important areas, if landowners are interested and willing, conservation may occur through voluntary agreements.

Robust and sustainable elk, deer, and pronghorn populations contribute greatly to the economy and well-being of communities across the West. In fact, hunters and tourists travel to Western States from across our Nation and beyond to pursue and enjoy this wildlife. In doing so, they spend billions of dollars at large and small businesses that are crucial to State and local economies. We have a responsibility as a Department with large landholdings to be a collaborative neighbor and steward of the resources held in trust.

Accordingly, the Department will work with our State partners and others to conserve and/or improve priority western big-game winter range and migration corridors in sagebrush ecosystems and in other ecotypes as necessary. This Order focuses on the Western States of: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. These States generally have expansive public lands with established sagebrush landscapes along with robust big-game herds that are highly valued by hunters and tourists throughout the Nation.

The Department has broad responsibilities to manage Federal lands, waters, and resources for public benefit, including managing habitat to support fish, wildlife, and other resources. Secretary's Order 3356, "Hunting, Fishing, Recreational Shooting, and Wildlife Conservation Opportunities and Coordination with States, Tribes, and Territories," (SO 3356) was issued on September 15, 2017. SO 3356 primarily focused on physical access to lands for recreational activities, particularly hunting and fishing. This Order is focused on providing access to big game animals by providing direction regarding land management actions to improve habitat quality for big-game populations that could help ensure robust big-game populations continue to exist. Further, SO 3356 includes a number of directives related to working with States and using the best available science to inform development of guidelines, including directing relevant bureaus to:

- a. Collaborate with State, tribal, and territorial fish and wildlife agencies to attain or sustain State, tribal, and territorial wildlife population goals during the Department's land management planning and implementation, including prioritizing active habitat management

projects and funding that contributes to achieving wildlife population objectives, particularly for wildlife that is hunted or fished, and identifying additional ways to include or delegate to States habitat management work on Federal lands;

b. Work cooperatively with State, tribal, and territorial wildlife agencies to enhance State, tribe, and territorial access to the Department's lands for wildlife management actions;

c. Within 180 days, develop a proposed categorical exclusion for proposed projects that utilize common practices solely intended to enhance or restore habitat for species such as sage grouse and/or mule deer; and

d. Review and use the best available science to inform development of specific guidelines for the Department's lands and waters related to planning and developing energy, transmission, or other relevant projects to avoid or minimize potential negative impacts on wildlife.

This Order follows the intent and purpose of SO 3356 and expands and enhances the specific directives therein.

**Sec. 4 Implementation.** Consistent with governing laws, regulations, and principles of responsible public stewardship, I direct the following actions:

a. With respect to activities at the national level, I hereby direct the BLM, FWS, and NPS to:

(1) Within 30 days, identify an individual to serve as the "Coordinator" for the Department. The Coordinator will work closely with appropriate States, Federal agencies, nongovernmental organizations, and/or associations to identify active programs focused on big-game winter range and/or migration corridors. The programs are to be organized and cataloged by region and other geographic features (such as watersheds and principles of wildlife management) as determined by the Deputy Secretary, including those principles identified in the Department's reorganization plan.

(2) Within 45 days, provide the Coordinator information regarding:

(i) Past and current bureau conservation/restoration efforts on winter range and migration corridors;

(ii) Whether consideration of winter range and corridors is included in appropriate bureau land (or site) management plans;

(iii) Bureau management actions used to accomplish habitat objectives in these areas;

(iv) The location of areas that have been identified as a priority for conservation and habitat treatments; and

(v) Funding sources previously used and/or currently available to the bureau for winter range and migration corridor conservation/restoration efforts.

(3) Within 60 days, if sufficient land use plans are already established that are consistent with this Order, work with the Coordinator and each regional Liaison (see section 4b) to discuss implementation of the plans. If land use plans are not already established, work with the Coordinator and each regional Liaison to develop an Action Plan that summarizes information collected in section 4 (a)(1) and (2), establishes a clear direction forward with each State, and includes:

(i) Habitat management goals and associated actions as they are associated with big game winter range and migration corridors;

(ii) Measurable outcomes; and

(iii) Budgets necessary to complete respective action(s).

b. With respect to activities at the State level, I hereby direct the BLM, FWS, and NPS to:

(1) Within 60 days, identify one person in each appropriate unified region (see section 4a) to serve as the Liaison for the Department for that unified region. The Liaison will coordinate at the State level with each State in their region, as well as with the Liaison for any other regions within the State. The Liaison will schedule a meeting with the respective State fish and wildlife agency to assess where and how the Department can work in close partnership with the State on priority winter range and migration corridor conservation.

(2) Within 60 days, if this focus is not already included in respective land management plans, evaluate how land under each bureau's management responsibility can contribute to State or other efforts to improve the quality and condition of priority big-game winter and migration corridor habitat.

(3) Provide a report on October 1, 2018, and at the end of each fiscal year thereafter, that details how respective bureau field offices, refuges, or parks cooperated and collaborated with the appropriate State wildlife agencies to further winter range and migration corridor habitat conservation.

(4) Assess State wildlife agency data regarding wildlife migrations early in the planning process for land use plans and significant project-level actions that bureaus develop; and

(5) Evaluate and appropriately apply site-specific management activities, as identified in State land use plans, site-specific plans, or the Action Plan (described above), that conserve or restore habitat necessary to sustain local and regional big-game populations through measures that may include one or more of the following:



(i) restoring degraded winter range and migration corridors by removing encroaching trees from sagebrush ecosystems, rehabilitating areas damaged by fire, or treating exotic/invasive vegetation to improve the quality and value of these areas to big game and other wildlife;

(ii) revising wild horse and burro-appropriate management levels (AML) or removing horses and burros exceeding established AML from winter range or migration corridors if habitat is degraded as a result of their presence;

(iii) working cooperatively with private landowners and State highway departments to achieve permissive fencing measures, including potentially modifying (via smooth wire), removing (if no longer necessary), or seasonally adapting (seasonal lay down) fencing if proven to impede movement of big game through migration corridors;

(iv) avoiding development in the most crucial winter range or migration corridors during sensitive seasons;

(v) minimizing development that would fragment winter range and primary migration corridors;

(vi) limiting disturbance of big game on winter range; and

(vii) utilizing other proven actions necessary to conserve and/or restore the vital big-game winter range and migration corridors across the West.

c. With respect to science, I hereby direct the USGS to:

(1) Proceed in close cooperation with the States, in particular the Western Association of Fish and Wildlife Agencies and its program manager for the Crucial Habitat Assessment Tool, prior to developing maps or mapping tools related to elk, deer, or pronghorn movement or land use; and

(2) Prioritize evaluations of the effectiveness of habitat treatments in sagebrush communities, as requested by States or land management bureaus, and identified needs related to developing a greater understanding of locations used as winter range or migration corridors.

d. I further hereby direct the responsible bureaus and offices within the Department to:

(1) Within 180 days, to update all existing regulations, orders, guidance documents, policies, instructions, manuals, directives, notices, implementing actions, and any other similar actions to be consistent with the requirements in this Order;

(2) Within 30 days, provide direction at the state or other appropriate level to revise existing Federal-State memorandums of agreement to incorporate consultation with State agencies on the location and conservation needs of winter range and migration routes; and

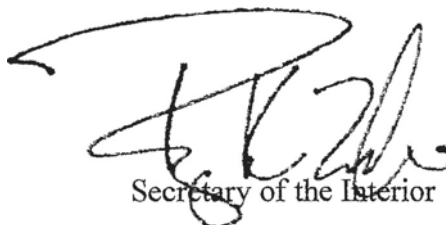
(3) Consult with State wildlife agencies and bureaus to ensure land use plans are consistent and complementary to one another along the entire wildlife corridor in common instances where winter range or migration corridors span jurisdictional boundaries.

e. Heads of relevant bureaus will ensure that appropriate members of the Senior Executive Service under their purview include a performance standard in their respective current or future performance plan that specifically implements the applicable actions identified in this Order.

**Sec. 5 Management.** I hereby direct the Deputy Secretary to take is responsible for taking all reasonably necessary steps to implement this Order.

**Sec. 6 Effect of Order.** This Order is intended to improve the internal management of the Department. This Order and any resulting reports or recommendations are not intended to, and do not create any right or benefit, substantive or procedural, enforceable at law or equity by a party against the United States, its departments, agencies, instrumentalities or entities, its officers or employees, or any other person. To the extent there is any inconsistency between the provision of this Order and any Federal laws or regulations, the laws or regulations will control.

**Sec. 7 Expiration Date.** This Order is effective immediately. It will remain in effect until its provisions are implemented and completed, or until it is amended, superseded, or revoked.



Secretary of the Interior

Date: FEB 09 2018