

## NEVADA ACTION PLAN

### For

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

**Introduction** - Secretarial Order 3362 (Appendix A) was signed on February 9, 2018 (SO 3362) and it directs appropriate agencies within the Department of the Interior [U.S. Fish and Wildlife Service (USFWS), National Park Service (NPS), and Bureau of Land Management (BLM)] to work in close partnership with the State of Nevada to identify, enhance, and improve the quality of big-game winter range habitats and migration corridors in a way that recognizes state authority for conserving and managing big-game species and respects private property rights. Through research and land management actions, wildlife such as mule deer (*Odocoileus hemionus*; hereafter deer), pronghorn antelope (*Antilocapra americana*; hereafter pronghorn), Rocky Mountain elk (*Cervus canadensis*; hereafter elk) and other wildlife and their habitats may benefit.

Conditions in the broader landscape may influence the function of migration corridors and sustainability of big game populations. Such conditions may include habitat fragmentation, land use patterns, resource management, or urbanization. The United States Department of Agriculture (USDA), through the USDA Forest Service (USFS) and USDA Natural Resource Conservation Service, will collaborate with DOI, the states, and other natural resource managers across the broader landscape when developing an all-lands approach to research, planning, and management, for ecological resources, to include migration corridors in a manner that promotes the welfare and populations of elk, deer, and pronghorn, as well as the ecological integrity of terrestrial ecosystems in the plan area.

Nevada has about 70.4 million acres of total land area, and approximately 49.5 million acres (70.3%) are managed by three DOI agencies: BLM (47.2 million acres), USFWS (1.5 million acres), and NPS (0.8 million acres) (Fig. 1). An additional 5.8 million acres are managed by the U.S Forest Service (USFS). In contrast to the 55.3 million acres (78.5%) managed by these four federal agencies, 9.2 million acres (13.0%) are privately owned and managed in Nevada. Nevada is unique in the lower 48 United States with this large proportion of public lands managed under multiple-use mandates, and this emphasizes the importance of collaborative Federal-State partnerships that recognize and appropriately work together to manage crucial winter range and movement corridors for migratory big-game wildlife.

To achieve the objectives of SO 3362, the Department of Interior asked states to identify 3-5 priority migration corridors or winter range habitats for big game species in their respective state. Where information on specific migration corridors or winter range habitat is lacking, the DOI requested states to identify their top 2-3 research priorities to fill these data or knowledge gaps.

The following summary outlines Nevada's response and justification for the selected corridors and priority research.

**Corridor/Winter Range** - Nevada has long recognized the importance of identifying and protecting migration corridors for big game species, particularly for mule deer. Beginning in 2011, Nevada initiated a large-scale research effort to investigate potential causes for declining mule deer populations in several key herds across the state. Nevada has collected GPS tracking information on approximately 600 adult mule deer distributed across 8 study areas in the state to delineate fine scale movements and monitor survival of deer herds. Of those study areas, 3 mule deer populations clearly stand out as meeting the need for prioritization based on SO 3362 (Figs. 2–5). In addition to mule deer corridors, a minimum of 2 pronghorn herds have been identified as a priority from a conservation and economic value to Nevada. The two pronghorn herds selected for this exercise occur in northwestern and northeastern Nevada (Fig. 6), but data and analyses are currently lacking to adequately identify corridors for these herds.

#### *Corridor #1 – Mule Deer Migration Nevada Management Area 10*

The Area 10 population is one of the largest deer herds in the state, accounting for roughly 20 percent of the statewide mule deer population. The Area 10 herd is comprised of several sub-herds that are highly migratory and exhibit long distances migrations from summer to winter ranges. Several migratory pathways in Area 10 face challenges to permeability including livestock fences, impediments to the migration path from mineral extraction, competition from wild horses, and increasing highway traffic on US Highway 50. This population is highly important to Nevada from an economic and ecological perspective.

The Area 10 deer herd is located in northeastern Nevada and spans across two counties (Elko County and White Pine County). The summer and winter ranges span a very large area occurring from Interstate – 80 about 30 miles east of Elko, Nevada to the White Pine Range around US Highway 50 about 30 miles west of Ely, Nevada (Figs. 2, 3). During heavy snow years, even farther migrations have been documented south of Highway 50 near Mt. Hamilton.

The habitats vary substantially depending on seasonal range distribution. The summer range is comprised of mountain sage and other shrub communities, aspen and riparian habitats and some alpine grass-forb communities. Winter ranges are comprised of mostly sagebrush steppe vegetation communities with some use of agricultural lands occurring during transition and migratory periods.

Several key stop-overs occur within the migration corridor for the Area 10 deer migration. Sawyer and Brittel (2014) identified several hundred “stop-over sites” based on the analysis of approximately 30 mule deer with GPS telemetry data from winter 2012 to spring of 2013. The largest stop-overs occurred: 1) north and south of Harrison Pass Rd on the west side of the Ruby Mountains, 2) west side of Pearl Peak and Sherman Mountain 3) near Little and Big Bald

Mountains on the Bald Mountain Mine complex 4) south of Warm Springs Ranch near Buck Mountain and Orchard Canyon and 5) north of Little Antelope Summit on US Highway 50 in the White Pine Range.

Landownership is comprised of mostly federal lands during winter and summer. The summer range is comprised of approximately 75% federal lands with the remaining herd occurring on private lands. The migration path and winter range is largely comprised of lands administered by the USFS and BLM, although substantial use of both private lands and Bureau of Indian Affairs (BIA) occurs during the migration periods.

Land uses include agricultural and livestock grazing on private and public lands, recreational activities including hunting and hiking activities on federal lands. About 36,000 acres of the East Humboldt range and about 90,000 acres of the Ruby Mountains are designated wilderness areas with no motorized access allowed. A large-scale gold mine operation is active on the southern portion of the migration path in northern White Pine County.

Risks or threats to this deer population include: 1) conversion of native habitat to exotic grasslands where large-scale wildfires occur in the lower elevation precipitation zones, 2) Pinyon-Juniper encroachment in open sage-steppe habitats that reduce the productivity of understory species that mule deer prefer for forage, and 3) increasing constrictions in the migration pathways where mineral extraction activities are expanding.

#### *Corridor #2 – Mule Deer Migration, Nevada Management Area 7*

The Area 7 population is another large deer herd in the state with a population estimate of approximately 10,000 in 2017. The population is highly important to Nevada from an economic and ecological perspective. The Area 7 mule deer herd was selected as a priority due to the long-distance migrations these mule deer embark on as well as several challenges to habitat conditions the herd faces. It is one of the longest distance migrations in the state. A sub-set of the mule deer herd crosses a major US Highway (93) and Interstate-80 during its migration from summer to winter range. Several million dollars in crossing structures have been developed to help these deer during their migration, yet they still face challenges to existing habitat. The southern extent of the winter range for this herd also has wild horse levels in excess of 1500% above AML.

The Area 7 deer herd is located in northeastern Nevada and occurs entirely within Elko County. The migration path for the Pequop herd expands over a hundred miles long and begins in the Jarbidge Mountains to the north and extends to far south end of the Pequop Mountains and northern extreme edge of Spruce Mountain (Figs. 2, 4).

The habitats vary substantially depending on seasonal range distribution. The summer range is comprised of mountain big sage and other shrub communities, aspen and riparian habitats and some alpine grass-forb communities. Winter ranges are comprised of mostly sagebrush steppe

vegetation communities with large portion of Pinyon-Juniper on the southern edge of their distribution.

Several key stop-overs occur within the migration corridor for the Area 7 deer migration. Blum and Stewart (2014) identified many “stop-over sites” based on the analysis of approximately 66 mule deer with GPS telemetry data from winter 2012 to spring of 2014. The largest stop-overs occurred at or near: 1) Mary’s River drainage and east side of Snake Mountains, 2) Highway 93 north of Wells, NV near Bishop Reservoir 3) north and south of Interstate 80 on north Pequop Range and 4) south of Long Canyon on eastside of Pequop Mountains.

Landownership 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 uses include agricultural and livestock grazing on private and public owned lands, recreation including hunting and hiking activities on National Forest and BLM lands. A large-scale gold mine operation is active on the southern portion of the migration path on the east side of the Pequop Mountains near Long Canyon.

Risks or threats to this deer population include: 1) conversion of native habitat to exotic grasslands where large-scale wildfires occur in the lower elevation precipitation zones, 2) Pinyon-Juniper encroachment in open sage-steppe habitats that reduces the productivity of understory species that mule deer prefer for forage, and 3) increasing expansion and development of the Long Canyon mine causing disturbance to migration corridor and winter range use.

### *Corridor #3 – Mule Deer Migration Nevada Management Area 6*

The Area 6 mule deer herd is the third largest deer herd in the state with a population estimate of approximately 9,500 in 2017. 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 Area 6 deer herd is located in northeastern Nevada (Figs. 2, 5) and spans across two counties (Elko and Humboldt County). The summer ranges span from the Independence and Tuscarora mountain ranges northwest of Elko, Nevada while stop-over and winter ranges extend north about 30 miles into Idaho and south in the Sheep Creek Range and Dunphy Hills near Interstate - 80.

The habitats vary substantially depending on seasonal range distribution. The summer range is comprised of mountain big sage and other shrub communities, aspen and riparian habitats. Winter ranges are comprised of sagebrush steppe vegetation communities and vast expanses of exotic annual grasslands.

Several key stop-overs occur within the various migration corridors for the Area 6 mule deer herd. Although a formal analysis using Brownian Bridge Movement Models has not been conducted for this area, several transition ranges and stop-over points are known to occur in the Santa Renia Mountains and along the western slope of the Tuscarora Mountains.

Landownership 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 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 or threats to this deer population include: 1) conversion of native shrubland habitat to exotic grasslands where large-scale wildfires have occurred on lower elevation winter ranges and 2) impediments to the migration pathways where several large-scale gold mines and other minerals have occurred over the past several decades.

#### *Corridor #4 – Pronghorn Migration Game Management Areas 1-3 (Northern Washoe)*

The Northern Washoe pronghorn herd is one of the largest and most migratory herds in the state with a population estimate of approximately 4,000 inhabiting 5 game management units in 2017. 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.

The Northern Washoe pronghorn herd occurs in northwest Nevada (Fig. 6) 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.

The habitats important for pronghorn abundance are comprised of sagebrush-steppe vegetation communities with scattered ephemeral lake beds and mountain springs and seeps that provide water sources.

Collins (2016) provided an analysis of migration routes for 39 pronghorn captured on the Sheldon NWR and monitored between 2011 and 2012, although the author did not calculate “stop-overs” for this analysis it is believed they do occur on some of the long distance migrations for some individuals.

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 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 approximately 560,000 acres.

Risks to this pronghorn herd include habitat type conversion from native shrub/forb communities to exotic grasslands, severe impacts from drought, and overuse and competition for forage from feral horses.

#### *Corridor #5 – Pronghorn Migration Game Management Areas 6-7*

The Area 6-7 pronghorn herd is one of the largest and most migratory herds in the state with a population estimate of over 2,000 inhabiting about 5 game management units in 2017. 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. 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.

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 sagebrush-steppe vegetation communities with mixed native/exotic grasslands comprising a large portion of the winter ranges. Specific stop-over 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 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 or threats to this pronghorn include: 1) conversion of native shrubland habitat to exotic grasslands where large-scale wildfires have occurred on lower elevation winter ranges and 2) impediments to the migration pathways where several large-scale gold mines and other minerals have occurred over the past several decades.

## **Research Needs – Mapping Crucial Migration Corridors for Pronghorn in Nevada**

### **Summary**

NDOW seeks funding in the amount of \$282,975 to collect GPS telemetry data for up to 60 pronghorn in 2 populations to document migration corridors and analyze the data using Brownian Bridge Movement Models. NDOW has limited knowledge and currently lacks specific information on migration corridors for 2 pronghorn herds that reside in northwestern and northeastern Nevada that are identified as top priorities for the state. The general objectives are to capture up to 60 pronghorn in 2 key migratory herds to attach GPS radio collars, and to analyze those data to understand migration patterns, stopover areas, and seasonal habitats for pronghorn.

### **Methods**

We propose to capture and collar up to 60 pronghorn in 2 separate herds in northern Nevada that are known to have extensive migration movements. The information from the GPS collars will be used to delineate migration corridors, stop-over locations, and quantify the amount of time spent in crucial winter habitats. We will use Brownian Bridge Movement Models (Horne et al. 2007, Sawyer et al 2009) to analyze the GPS telemetry data we collect on marked animals. To accomplish this goal, NDOW will contract or use existing agreements with the USGS Wyoming Cooperative Research Unit or a third party to analyze the migration movement data upon project completion. The migration corridors and winter range delineation will be used by NDOW to identify priority habitat and restoration projects. We will share these data and analyses with our federal partners and local wildlife conservation organizations to facilitate conservation efforts.

### **Budget and Justification**

The overall projected budget request is \$282,975 (Table 1). Line item descriptions are as follows:

#### **GPS collars and fees**

We budget for GPS radio collars for up to 60 animals to be deployed in 2 distinct pronghorn herds as a one-time, up-front cost. GPS radio-collar costs per animal and associated fees are an estimate based on previous studies, but remain subject to negotiated state contract prices. We

anticipate some telemetry units may be redeployed in following years if an adequate amount of battery life remains on collar, or they may be refurbished and redeployed for a reduced fee.

### Animal Capture

We budget for the capture of up to 60 pronghorn in the first year of the study. Our contracted price (~\$600/animal) includes capture crew costs and ferry time for helicopter capture services. We anticipate up to 10 additional animals annually may need to be captured to redeploy recovered or refurbished radio-collars.

### Contract Services

We will contract or develop a sub-grant with a third party or USGS Cooperative Research Unit to assist with field work involving collection of GPS radio collars, downloading of data, and analysis of the GPS telemetry data. We anticipate these costs to be \$35,000 per year, which does not include indirect costs for administrative overhead charges. We are assuming overhead charges of 17.5%.

*(This project will be funded using USFWS funds as a result of SO3362)*

### Current Activities

#### *Corridor #1 – Mule Deer Migration Nevada Management Area 10*

Various research efforts and habitat improvement projects are underway to better understand movement corridors and potential impacts from mining expansion activities. NDOW is working collaboratively with BLM and Kinross, Inc. on a 5-year monitoring plan for mule deer that migrate through an active gold mine operation in the Bald Mountain area. NDOW has contracted with WEST Inc. in the past to analyze GPS data (Sawyer and Brittell 2014). Currently, about 30 GPS collars are deployed on mule deer as part of the monitoring plan with Kinross and BLM. Several habitat improvement projects have been implemented or planned in the near future to enhance winter ranges for mule deer including fire re-seeding efforts and Pinyon-Juniper thinning projects.

Cost of habitat treatments is currently unknown, but at least a million dollars in projects have been identified, are in action, or planned to be implemented in the next several years. A possible wildlife crossing structure could be installed on US highway 50 near Little Antelope summit.

The USFS has performed work within the corridor area including pipe-rail fencing to limit feral horse access and impact on springs and riparian habitats, closure of low use roads, fence removal, water developments for wildlife, conifer removal in sagebrush habitats, and post-fire reseeded and invasive weed management activities.



### *Corridor #2 – Mule Deer Migration, Nevada Management Area 7*

Several research efforts and habitat improvement projects are underway to better understand movement corridors and potential impacts from wildfires and mining activity. NDOW has contracted with University of Nevada –Reno to analyze GPS collar for mule deer using the Brownian Bridge Movement Model. Currently, about 25 GPS collars are deployed on mule deer as part of the Long Canyon Mule Deer monitoring plan in collaboration with Newmont Mining. Several habitat improvement projects have been planned for the near future to enhance winter ranges for mule deer including Pinyon-Juniper thinning projects.

Cost of habitat treatments is estimated to be several million dollars and include habitat mitigation projects from mining activity. At least 5 wildlife crossing structures have been completed for this deer on US Highway 93 and Interstate -80. The cost of these structures is in excess of 20 million dollars, funded by Nevada Department of Transportation and from Federal Highway and Transportation funds.

The USFS has performed work within the corridor area including pipe-rail fencing to limit feral horse access and impact on springs and riparian habitats, closure of low use roads, fence removal, water developments for wildlife, conifer removal in sagebrush habitats, and post-fire reseeding and invasive weed management activities.

### *Corridor #3 – Mule Deer Migration Nevada Management Area 6*

The primary focus of this deer herd has been restoring winter ranges burned by wildfires using re-seeding, herbicide, and other methods. Approximately 40 GPS collars were deployed in winter of 2012 to delineate migration paths and better understand use of winter range. Migration pathways have been mapped and used in various NEPA processes related to mineral extraction. NDOW deployed an additional 45 GPS collars in this herd during the winter of 2017 to identify more migration corridors and initiate long-term monitoring for mining impacts and restoration efforts.

Cost of habitat treatments to restore burned winter ranges has been in excess of several million dollars, with many more habitat treatments planned in the near future. BVDV has also been documented in this deer herd at high levels compared to other mule deer herds in the state.

The USFS has performed work within the corridor area including pipe-rail fencing to limit feral horse access and impact on springs and riparian habitats, closure of low use roads, fence removal, water developments for wildlife, conifer removal in sagebrush habitats, and post-fire reseeding and invasive weed management activities.

#### *Corridor #4 – Pronghorn Migration Game Management Areas 1-3 (Northern Washoe)*

Currently, no research activities are being conducted on this pronghorn herd in Nevada, although some on-going efforts being led by the USFWS may be continuing from past collaring studies.

Habitat treatments have largely consisted of re-seeding efforts to restore summer and winter ranges burned by wildfires. An effort by the BLM Surprise Field Office has been proposed to make modifications to some existing fences to make the conducive to crossing by pronghorn. It is unknown what the cost of these efforts or future habitat improvements would be.

The Sheldon NWR, managed by the USFWS, has actively restored big-game habitats including the removal of juniper encroaching into important sagebrush habitats and early detection and rapid treatment of non-native invasive weeds. Feral horses and burros have also been actively managed to near-zero levels on the Sheldon. Barriers to big-game movement have been minimized through a combination of the removal of all interior fencing and the use of wildlife-friendly fencing on the Sheldon boundary. Refuge employees plan and conduct fuels habitat treatments and provide support and assistance when requested on the lands between the Refuges. Sheldon annually monitors pronghorn and bighorn populations through comprehensive aerial surveys across the Sheldon and the nearby lands.

#### *Corridor #5 – Pronghorn Migration Game Management Areas 6-7*

No research activities or collaring projects are currently underway to study this pronghorn herd. Current habitat management is focused on restoring winter ranges compromised by large wildfires and re-seeding efforts.

No formal cost estimate has been formulated to recover the habitat, but NDOW in collaboration with BLM, USFS and the private sector have spent millions of dollars in habitat restoration efforts thus far in post-fire restoration activities.

#### Literature cited

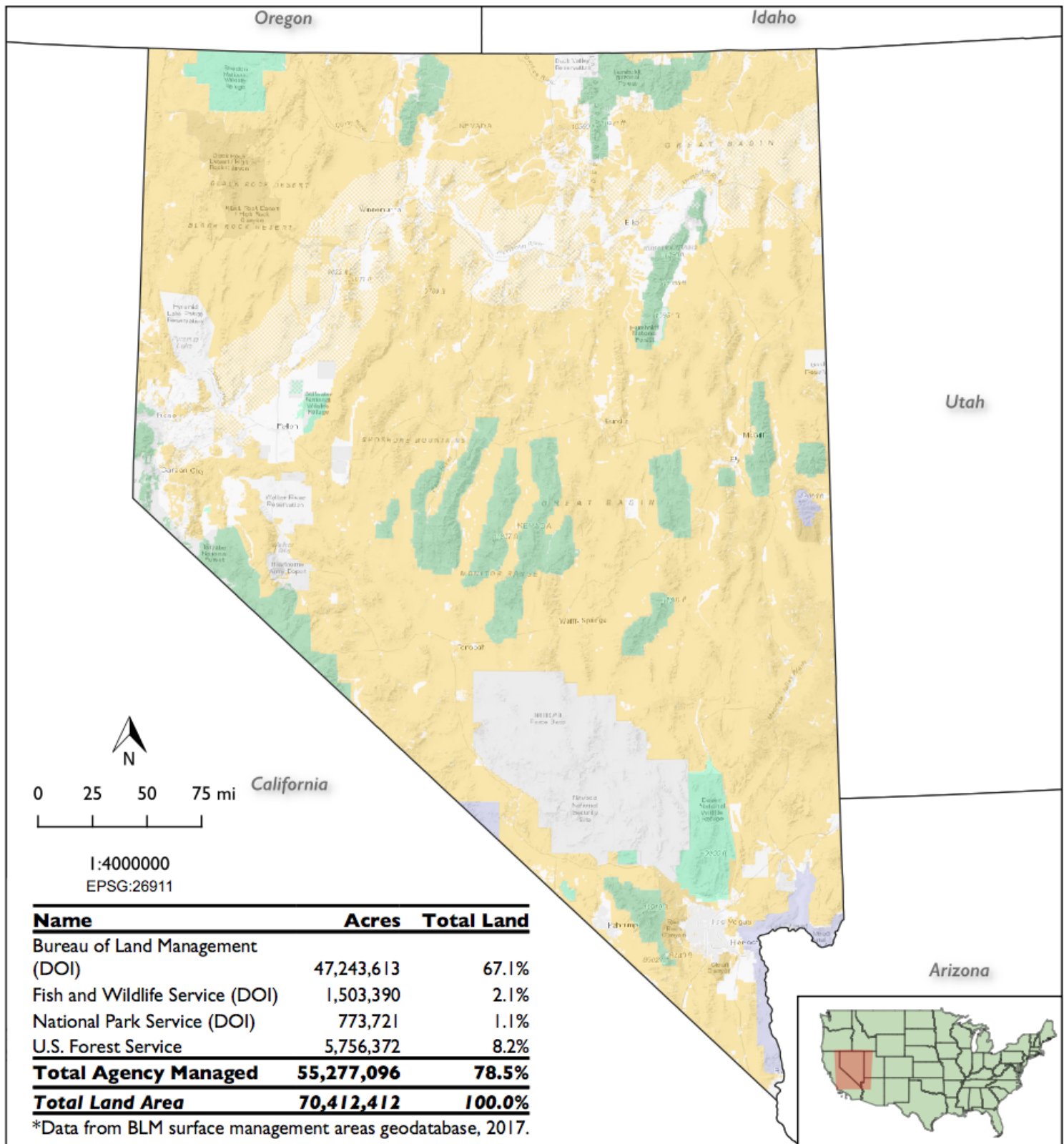
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- Horne, J. S., E. O. Garton, S. M. Krone, and J. S. Lewis. 2007. Analyzing animal movements using Brownian bridges. *Ecology* 88:2354–2363.
- Sawyer, H., and M. Brittell. 2014. Mule deer migration and the Bald Mountain Mine – a summary of baseline data. Western Ecosystems Technology, Inc., Laramie, WY.

Table 1. Budget for mapping crucial pronghorn migration corridors in Nevada.

Item	Fiscal Year (Jul 1–Jun 30)			Total
	2019	2020	2021	
GPS radio collars (\$1200 x 60 animals)	\$90,000	—	—	\$90,000
GPS data fee services (\$100 yr x 60 collars)	\$7,200	\$7,200	\$7,200	\$21,600
Capture services (\$600 per animal)	\$36,000	\$6,000	\$6,000	\$48,000
Total Direct Costs	\$133,200	\$13,200	\$13,200	\$159,600
Contract services (subject to indirect costs)	\$35,000	\$35,000	\$35,000	\$105,000
Indirect Costs (17.5%)	\$6,125	\$6,125	\$6,125	\$18,375
Total Costs	\$174,325	\$54,325	\$54,325	\$282,975



# U.S. Department of the Interior Nevada Surface Management Areas



## Legend

- Bureau of Land Management
- National Park Service
- U.S. Fish & Wildlife Service
- U.S. Forest Service

No warranty is made by the U.S. Fish & Wildlife Service as to the accuracy, reliability, or completeness of these data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This project was developed through digital means and may be updated without notice.

Figure 1. Federal surface management distribution in Nevada for Bureau of Land Management, U.S. Fish and Wildlife Service, National Park Service, and U.S. Forest Service.

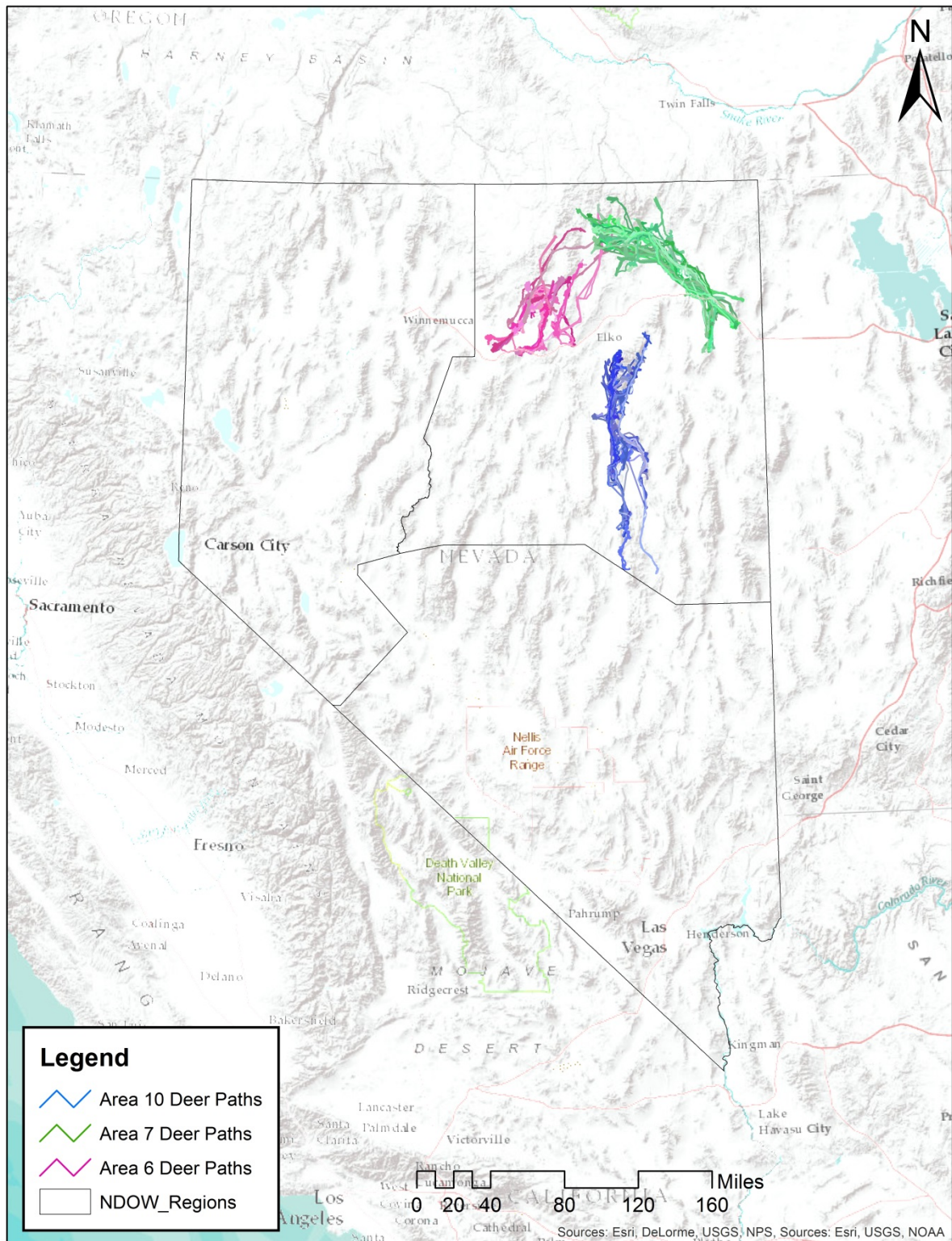


Figure 2. Migration paths and general location of top three priority mule deer populations in northeast Nevada.



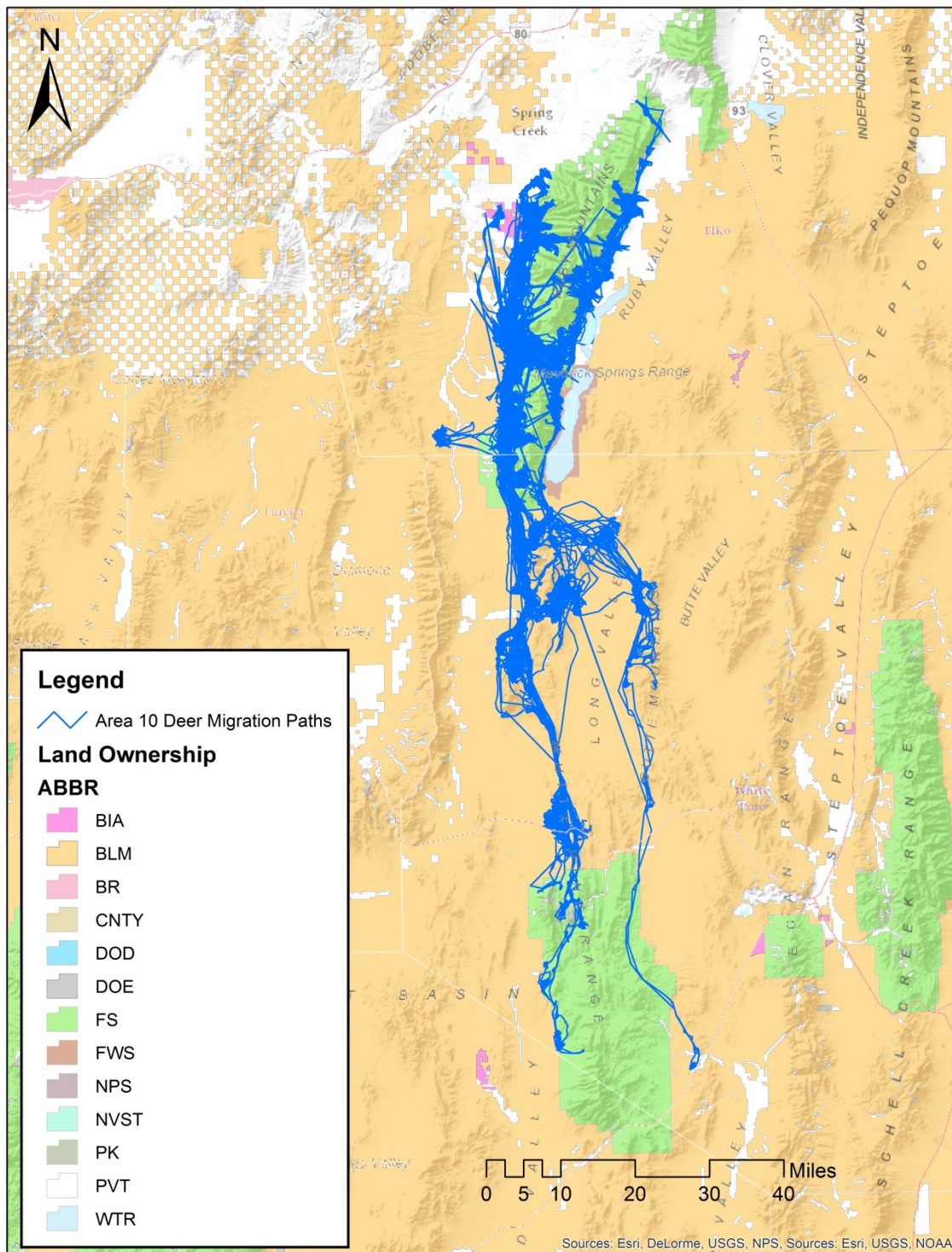


Figure 3. Area 10 mule deer migration paths in relation to land ownership in Elko County, Nevada.



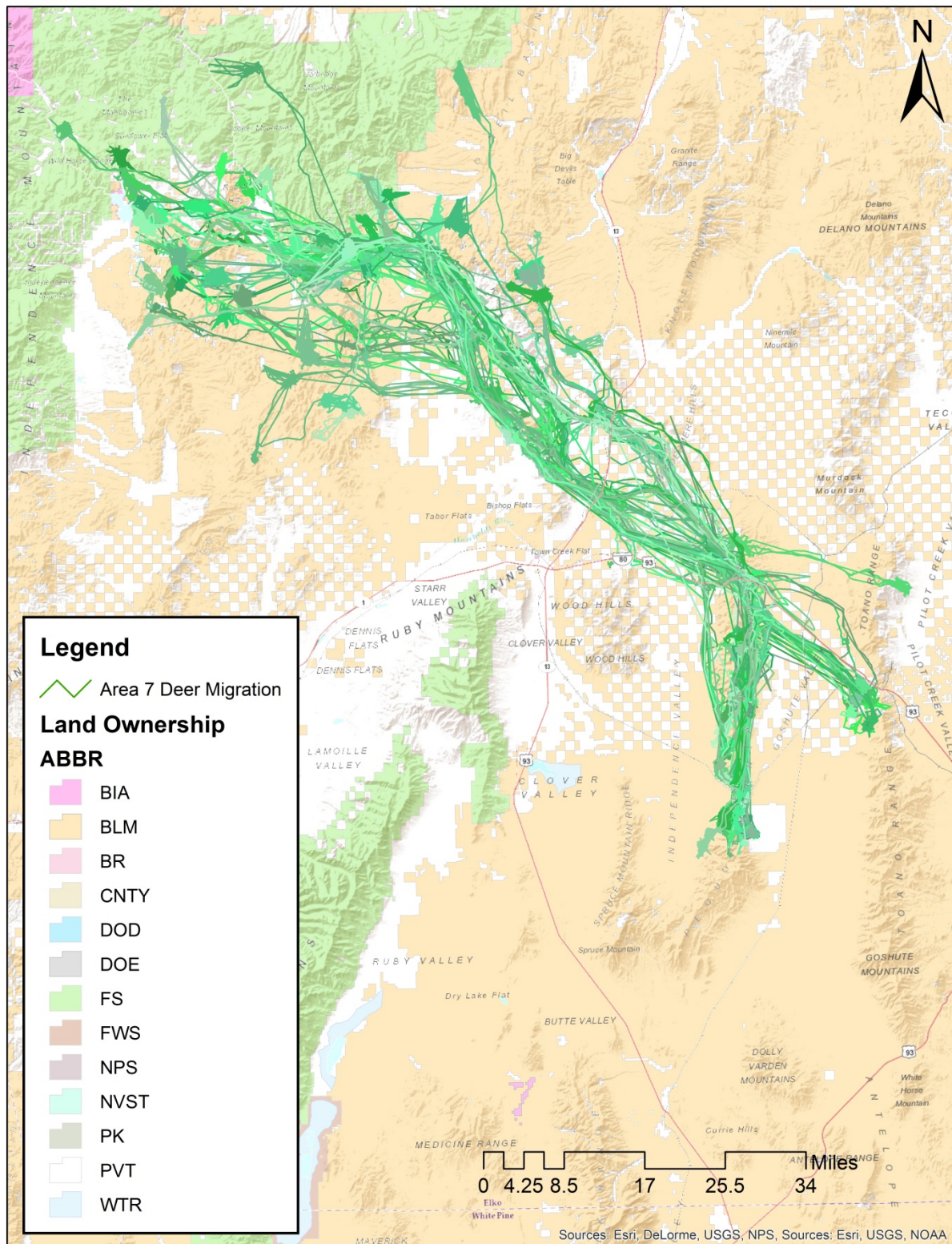


Figure 4. Area 7 mule deer migration paths in relation to land ownership in Elko County, Nevada.



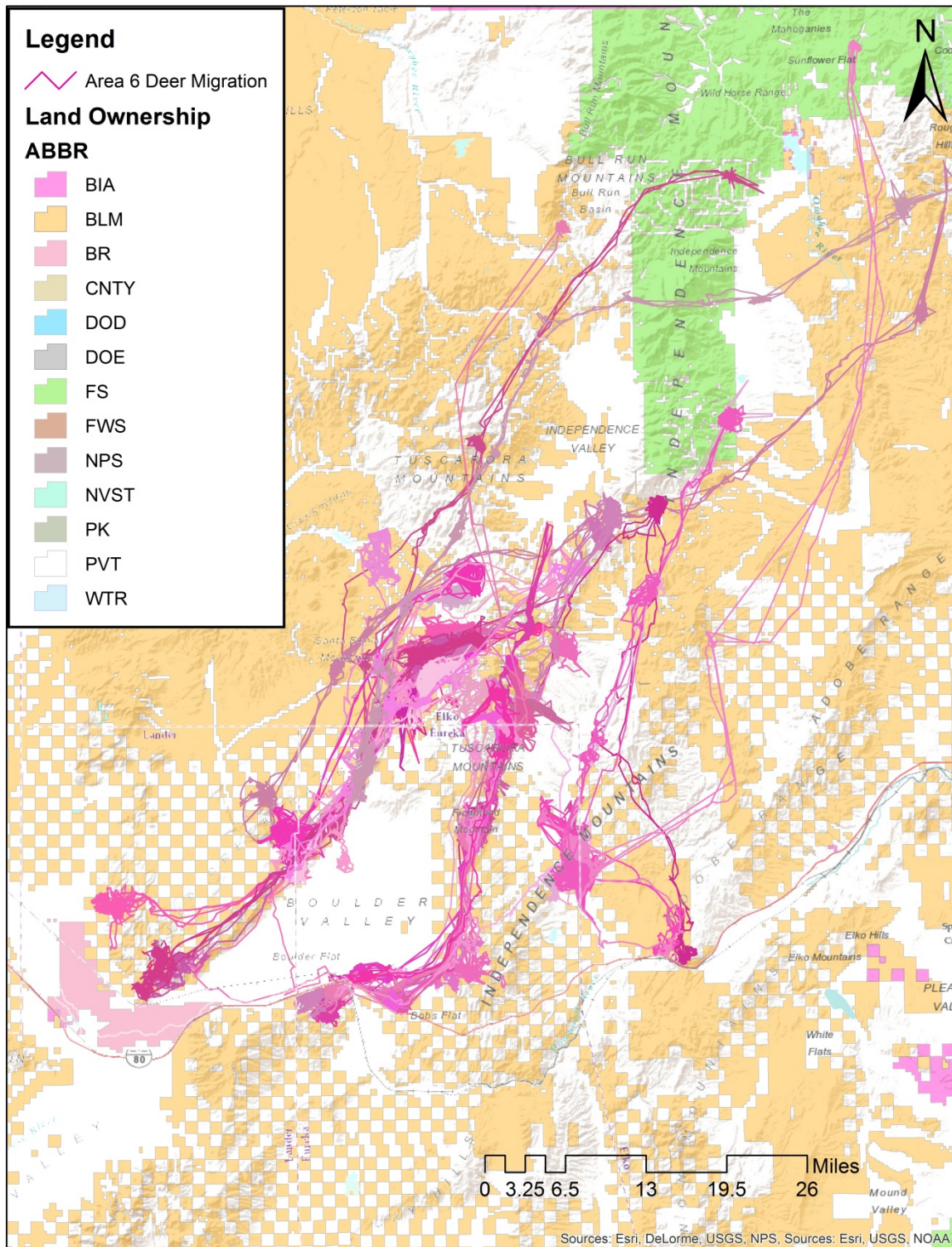


Figure 5. Area 6 mule deer migration paths in relation to land ownership in Elko County, Nevada.





## Appendix A. Secretarial Order 3362

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.