

**NEW MEXICO STATE 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**

The Department of the Interior Secretarial Order 3362 (Appendix A) directs appropriate bureaus within the Department of the Interior (DOI) to work in close partnership with the State of New Mexico to enhance and improve the quality of big-game winter range and migration corridor habitat on federal lands that are under the management jurisdiction of the DOI. These bureaus include the US Fish and Wildlife Service (USFWS), National Park Service (NPS), and Bureau of Land Management (BLM). The Secretarial Order recognizes the state’s authority to conserve and manage big game species and respects private property rights, and 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.

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 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.

With a total area of 77.3 million acres, New Mexico is the fifth largest state (Appendix B). Approximately 23.3 million acres is managed by the DOI and US Forest Service (USFS). Of the 23.3 million acres, almost 9.1 million acres are managed by the USFS and 14.2 million acres are managed by the DOI (Appendix B). The landscapes necessary to maintain ungulate winter range and migration routes are becoming increasingly fragmented across the western United States due to human encroachment from development and urban sprawl (Radeloff et.al 2005), agriculture (Donald and Evans 2006), roadway and railway expansion (White et. al 2007, Johnson 2001), natural resource extraction (Drohan et. al 2012, Hennings and Soll 2012) and fencing (Gates et.al 2012).

Deer, elk, and pronghorn in New Mexico are known to seasonally travel between summer and winter ranges in response to local environmental conditions, but details on the timing, routes, and distances traveled are generally lacking. There is some big game movement data available based on Very High Frequency (VHF) and Global Positioning System (GPS) collar data, but the projects are limited in scope and scale. A few recent projects focused on deer and elk have utilized GPS collars for various purposes. For example, WEST Inc. conducted a mule deer movement study in Northwestern NM (near Rosa, NM) to examine the impacts of oil and gas development on wintering deer in this socially and biologically important herd. Researchers on this project identified several major routes that most individuals used to migrate from the Rosa winter range to their summer range in Colorado’s San Juan Mountains. Additionally, the

Jicarilla Apache Tribe and New Mexico State University have recently deployed GPS collars on elk in different areas, expanding on knowledge of elk movements in Northern NM. In sum, these and other data confirm that individuals in these regions readily move across management jurisdictions and there are areas that are utilized where the Department does not have management authority. Our knowledge of big game movements will continue to grow as more GPS collars are deployed for various projects. For instance, an elk research project in the Mexican wolf recovery area in Southwestern New Mexico and Southeastern Arizona will deploy 500+ GPS collars on elk. Although migratory information was not the justification for the project, data gathered from these elk will certainly provide an increased understanding of movement in this elk herd and will likely guide management recommendations as development and anthropogenic use increases.

In addition to the type of data mentioned above, big game movement information in some areas, and for some other species, is largely based on expert knowledge. Because of this, a complete understanding of wildlife movements is lacking and it is sometimes difficult for New Mexico Department of Game and Fish (Department) to engage and provide the guidance requested for new infrastructure or development. Certainly increased development and habitat degradation may continue to inhibit natural movement across the landscape and the Department would like to be better equipped with information to guide development and habitat improvements in a manner that preserves important migratory or movement pathways to promote robust big game populations.

Through SO 3362 and this State Action Plan, the BLM and Forest Service will be able to revise management plans to align management prescriptions for winter range and migration corridors with conservation needs to retain and enhance the functionality of these habitats. Amendments could include, but not be limited to, avoidance or exclusion overlays, mineral withdrawal recommendations, changes to travel management zones, habitat restoration and enhancement, or other plan-based management prescriptions that contribute to the long-term integrity of these critical habitats.

**Corridor/Winter Range Data** – The Department’s knowledge of big game movement corridors and winter range is based on aerial survey data and observations and supplemented by expert knowledge. Some research conducted by the Department has increased our understanding of big game movements in select areas. Funding for additional research on big game movement throughout the state will improve our understanding of some corridors and could highlight crucial areas where management actions can be targeted.

#### Current and Upcoming Research:

**Mt. Taylor Elk Survival and Movement** – The Department implemented a 4 year elk study focused on identifying causes of low calf survival in the Mt. Taylor herd, a herd which has decreased over 50% in the last 10 years. Thirty GPS collars were deployed on females that were captured on winter range. The Department plans to fully analyze the GPS collar data soon but recently made recommendations to include some previously unidentified winter range in the primary elk management zone based on this GPS collar data.

Gila Elk Survival and Movement – In cooperation with Arizona Department of Game and Fish and New Mexico State University, the Department will begin a large, landscape scale elk project in the Mexican Wolf Recovery Area in southwest New Mexico. As part of this project, at least 500 adult elk will be equipped with GPS collars. One objective of the study is to better understand how elk are utilizing the landscape and identify movement corridors and winter ranges.

## **NEW MEXICO'S PRIORITY LANDSCAPES FOR WINTER RANGE AND BIG GAME MOVEMENT**

In general, big game movements in New Mexico are shorter and less consistent than the long-distance migrations between seasonal ranges that are seen in the Rocky Mountain states. Big game in New Mexico usually move on a seasonal basis or in response to shifts in environmental conditions.

The Department has identified the following highest priority landscapes for big game movement based on available data, local knowledge, expert opinion, and known barriers to movement. Below are the landscapes the Department currently believes big game movement is being severed or at risk of being disrupted based on the best information available to date. As more data are assembled and analyzed, these priority corridors may shift as we identify other corridors or winter ranges that require management attention.

### **1) Northcentral landscape (deer, elk, pronghorn)**

Although there is limited data on the exact linkages and movement corridors of mule deer, elk, and pronghorn in Northcentral New Mexico, movement occurs between Southcentral Colorado and New Mexico. Northcentral New Mexico is a destination for hunters, with sportsmen and women spending over \$31 million annually on hunting activities in Rio Arriba and Taos counties alone. The deer herd is among the densest in the state and it is socially important to residents and sportspersons. In addition, this area is home to one of the state's largest elk herds, the Northcentral herd. The limited data available on elk migrations in this area come from a previous study on a small segment of the population utilizing San Antonio Mountain. While elk in other segments of the Northcentral elk herd move across the landscape, details are not well known. This is a very important herd for both non-consumptive and consumptive public recreation with over 7,500 private and public hunting licenses issued in 2017. The Northcentral landscape also has a unique high-elevation (at or above 10,000 feet) pronghorn herd that winters in lower elevations. Little is known about the movement corridors utilized by this pronghorn population.

Ownership on this landscape is intermixed US Forest Service, Bureau of Land Management, State Game Commission-owned Wildlife Management Areas, Private, and Tribal lands. A general description of the focus area can be found on Map 1 in Appendix B. Habitat types include mixed conifer-aspen woodlands at the higher elevations, oak-woodland savannahs at the mid-elevations, and sagebrush communities and agricultural lands at the lower elevations. This area is at risk for increased habitat fragmentation from development, private subdivisions, increased human use, and road infrastructure. In addition to fragmentation, the associated roads result in a large number of wildlife-vehicle collisions annually with the majority occurring in the winter and transition times. US Highway 64 connects Chama to Farmington and is a perennial

hotspot for wildlife vehicle collisions. An 8-foot-tall fence to exclude deer and elk from accessing highway 64 and funnel them to existing drainage structures was constructed. Although these measures have reduced collisions, the fence risks severing an important movement pathway for these migratory ungulates.

The Department also has concerns about Chronic Wasting Disease (CWD) in this area, as it has been detected in close proximity to where this migratory deer herd summers in Colorado. In addition, a wild horse and burro population that resides in the area is rapidly expanding and negatively impacting the habitat on this important winter range.

***Habitat and Mitigation Projects Identified:***

Since preferred movement corridors of ungulates in the northcentral landscape are largely unknown at this time, we cannot specifically identify needed habitat work in this priority landscape at this time. The requested research will assist with identifying and focusing habitat treatments and management actions that will keep big game movement corridors in the northcentral landscape intact. Similarly, any future research prioritized by the Department will assist with focusing habitat work to maintain or improve ungulate movement corridors.

**2) Northern Sangre de Cristo landscape (deer, elk, bighorn sheep)**

Deer, elk, and bighorn sheep summer in the high elevations of the Northern Sangre de Cristo Mountain range. Winter conditions can force these herds to lower elevations but exact wintering areas and movement corridors are unknown. In addition, some elk migrants are thought to move south into New Mexico from Colorado in the northernmost part of the landscape, but little information is known about this migration or the corridor(s) utilized.

The landownership in the Northern Sangre de Cristo Mountains is comprised of US Forest Service, private, Department Wildlife Management Areas, and Tribal properties. Map 2 depicts the general area of interest associated with this priority corridor. The habitat ranges from alpine tundra at the highest elevation, mixed conifer-aspen forests and oak woodlands at the mid-elevations, and sagebrush flats intermixed with agriculture and urban development at lower elevations.

Because this area is a recreational destination with an expanding human population that also has potential for mineral extraction, the risk of development and fragmentation is high. Development in this portion of the Sangre de Cristo Mountains could sever seasonal movements and prevent animals from reaching their seasonal ranges or remove wintering areas altogether. In addition, a high number of wildlife-vehicle collisions occur along NM 522 every year. Wildlife fencing and associated wildlife crossings at vehicle collision hotspots on NM 522 would help reduce collisions and maintain intact corridors between winter and summer ranges.

***Habitat and Mitigation Projects Identified:***

Similar to the northcentral landscape, big game movement corridors in the Northern Sangre de Cristo are largely unknown, and we cannot specifically identify needed habitat work in this priority landscape at this time. The requested research will assist with identifying and focusing habitat treatments and management actions that will keep big game movement corridors in this

priority landscape intact. Similarly, any future research prioritized by the Department will assist with focusing habitat work to maintain or improve ungulate movement corridors.

### **3) Southeastern NM landscape (pronghorn)**

Pronghorn in arid grasslands need the ability to move across large areas throughout the year to take advantage of sporadic monsoonal rains. If their ability to move is impeded, they cannot meet their seasonal energetic needs. As a result, their fitness, ability to rear young, and survival may be reduced. The southeastern part of the state has been fragmented by energy development and historic domestic sheep ranching. Infrastructure associated with increasing energy development may result in barriers to pronghorn movement, although no information currently exists on pronghorn movements across this landscape. Additionally, domestic sheep fencing is a dominant feature on this arid landscape and this type of fencing is largely impermeable to pronghorn. This infrastructure and fencing may prevent pronghorn from making the necessary long distance movements to take advantage of sporadic seasonal rains. Identifying movement corridors and removing or modifying domestic sheep fencing in select areas may allow pronghorn to make necessary movements to meet their energetic demands.

Landownership in this area includes BLM, private property, and State Land Office property. Map 3 depicts the general boundaries of the landscape identified for pronghorn. The habitat is predominately grassland plains intermixed with pinyon-juniper (PJ) draws and woodlands. Recently the BLM office has worked with lessees in the area to convert some sheep fences to wildlife friendly fences. This work has improved pronghorn movement across the landscape but more work on a larger scale is necessary to restore and more closely replicate historic movements.

#### ***Habitat Projects Identified:***

Removing or modifying infrastructure (i.e. fencing, wildlife crossings, etc.) in southeastern New Mexico will improve and facilitate pronghorn movement throughout the region and allow the animals to make necessary seasonal movements to meet their energetic demands

### **4) I-25 corridor from Las Vegas, NM to the Colorado border (pronghorn)**

This corridor likely represents a historic movement corridor that was disrupted when Interstate 25 was constructed. While no data has been collected on pronghorn movement across this landscape, linkage east and west of the interstate is expected to be minimal. Ownership on this landscape is largely private with some intermixed State Land Office property (Map 4).

#### ***Habitat and Mitigation Projects Identified:***

Interstate 25 represents the biggest impediment to pronghorn movement and migration in this identified corridor. Wildlife crossings would improve migrations for multiple big game species, including pronghorn. Linkage of animals movements east and west of the interstate would be improved with the construction of several wildlife crossing structures across/under I-25 between Las Vegas, NM and the Colorado border, along with fencing to make these structures effective.

Removing or modifying other barriers to movement, such as fences, in this landscape will maintain or restore necessary seasonal pronghorn movements.

**5) Other areas where big game movement may be restricted as identified by NMDGF based on current and future research.**

***Habitat and Mitigation Projects Identified:***

As the Department's knowledge of big game movements and migration corridors improves throughout the state, other critical landscapes or conservation actions will likely be identified.

**CURRENT ACTIVITIES IN PRIORITY LANDSCAPES**

The activities described below are currently ongoing or recently completed in the priority corridors submitted by the Department. These activities are implemented by a variety of entities including the Department, the Bureau of Land Management, the US Forest Service, and other state and federal agencies.

**Department Activities**

**All Priority Areas** – The Department continues to develop partnerships and leverage funds to increase the scope and scale of wildlife habitat restoration across the state of New Mexico. These collaborative efforts have resulted in the Department putting over \$10 million worth of restoration dollars on the ground since 2015, with another \$15 million secured over the next few years. A few examples include:

- Partnered with NM State Forestry to restore approximately 20,000 acres of frequent fire forests across the state.
- Supported up to 100,000 acres of prescribed fire activities across US Forest Service and BLM lands in New Mexico.
- Developed a 140,000 acre forest and watershed restoration landscape in the southern Sacramento Mountains in southern NM in collaboration with the US Forest Service.
- Secured \$4.5 million of federal matching funds to restore 4,000 acres of woodlands and riparian areas in NE New Mexico.
- Funded the necessary archeological clearances that will clear the way for over 200,000 acres of forest restoration treatments on US Forest Service lands in north central NM.

**Priority Area 1** – Northcentral landscape for deer, elk and pronghorn.

- NMDGF has collaborated with the New Mexico Department of Transportation to implement seven wildlife-vehicle collision mitigation projects. These projects include retrofit of existing box culverts to allow passage of mule deer and 8-foot fencing at U.S. 550 north of Aztec to the Colorado border; three 8-foot fencing projects to direct mule deer and black bears to existing structures beneath I-40 in Tijeras Canyon and near Edgewood; a fencing project along 3 miles of U.S. 54 north of Corona to direct mule deer below the highway; an enlarged bridge structure and fencing to direct mule deer and elk below U.S. 64 west of Chama; approximately 5 miles of fencing to direct mule deer and black bears below I-25 through Raton; and a short fencing project on U.S. 64 east of Raton that directs mule deer below the highway at Chicorica Creek. Two more projects are planned including: a U.S. 550 project south of Cuba to construct 4 miles of 8-foot fence to direct mule deer and elk to cross below the highway; and a project on I-25 from Raton to the Colorado border (over Raton Pass) will be fenced to direct mule deer and elk under the interstate. This project is being implemented primarily to address motorist safety in an area with high wildlife-vehicle collisions.

**Priority Area 2** – Northern Sangre de Cristo landscape (deer, elk, bighorn sheep)

- Initiated a concept design and restoration plan for \$1 million worth of treatments focused on reducing active degradation of streambanks and slope wetlands, reestablishing floodplain connectivity, and raising water tables within wetlands and former wetlands in the 27,430 acre Comanche Creek Watershed of north-central NM.

**Priority Area 3** – Southeastern NM landscape (pronghorn)

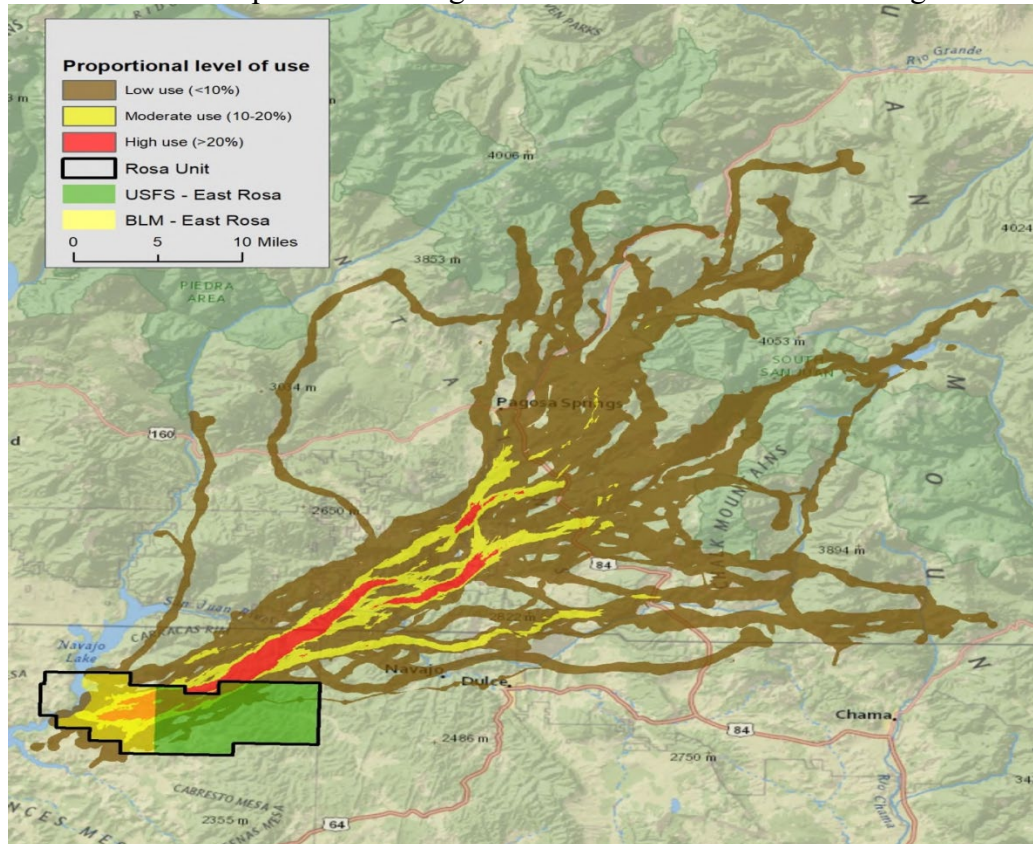
- Since 2014, the Department has translocated 188 pronghorn to Macho Flats in southeastern New Mexico to augment a declining population northwest of Roswell. The Department continues to monitor survival of these translocated pronghorn and survey the population to monitor population growth and herd expansion.

**BLM Activities**

**Priority Area 1** – Northcentral landscape for deer, elk and pronghorn.

- Rosa Mule Deer Research Project Farmington Field Office – The Rosa Mule Deer Study was initiated in 2011 to provide agencies and industry with the information they need to improve mule deer management and minimize potential impacts associated with ongoing and proposed energy development in the region. The study was specifically designed to identify the winter distribution patterns and migration routes of mule deer (Map 1).

Map 1. Winter distribution patterns and migration routes of mule deer wintering near Rosa, NM.



- Crow Mesa Research Project Farmington Field Office – The Crow Mesa Mule Deer Study is scheduled to start in December 2018. The research project is designed to document the seasonal distribution and migration patterns of an important deer herd in the Farmington Field Office. Similar data has been collected for mule deer herds to the northwest (Rosa and Southern Ute studies) and northeast (Jicarilla study); this work will fill in a key data gap for mule deer movements in northwest New Mexico.

**Priority Area 2 – Northern Sangre de Cristo landscape (deer, elk, bighorn sheep)**

- PJ mechanical sage treatments within both the Farmington Field Office (Crow Mesa, Rattlesnake Canyon, Carracas Mesa, etc.) and the Taos Field Office.

**Priority Area 3 – Southeastern NM landscape (pronghorn)**

- Fence Modification programs for big game (pronghorn, mule deer and elk) in Roswell and Carlsbad Field Offices – Big game habitat expansion and movement will be enhanced as opportunities arise by undertaking one or more of the practices listed below. These practices apply primarily to fences built for livestock control and highway right-of-way fences. Fences or enclosures constructed to keep livestock or wildlife out of certain types of facilities, such as oil and gas production facilities (e.g. pits or tank batteries), would be exempt from the fence modifications described below, unless the fence itself becomes a hazard, due to its design or condition. These fences may be modified to prevent losses to both wildlife and livestock.
  - Replacing existing netwire fences with barbed wire fences to facilitate the movement of wildlife between pastures;
  - Installing pronghorn passes in netwire fences;
  - Removing netwire fences on allotments converted from sheep to cattle;
  - Lowering fences that exceed 42 inches in height;
  - Removing extra strands of barbed wire to meet BLM standard 4-strand fence specifications;
  - Removing extra top strands of barbed wire from netwire fences to prevent entanglement of mule deer;
  - Considering terrain, forb and browse diversity, and pasture size and shape, when developing or redesigning pasture configurations;
  - Disallowing the installation, or replacing of netwire fences along highway rights-of-way crossing public lands if not required for ranching operations.
- Water Developments in the Roswell Field Office in conjunction with the fence modification/pronghorn translocations; Water developments in both elk and mule deer range in the Farmington Field Office and Taos Field Office.

**US Forest Service Activities**

*Carson National Forest*

**Priority Area 1 – Northcentral landscape for deer, elk and pronghorn.**

(Jicarilla Ranger District, Canjilon Ranger District, El Rito Ranger District, Tres Piedras Ranger District)

- Jicarilla Ranger District Big Sagebrush/Grassland Restoration – Mowing of big sagebrush and seeding of 600 – 1,000 acres with Gobernador, Ciruelas, La Jara, Cottonwood, Jaramillo, and Ahogadero Canyons to improve big game habitat.



- Rio Tulas Lower San Antonio Restoration Project – Landscape restoration activities within a 160,000 acre project area in the Tres Piedras Ranger District in Rio Arriba County. Landscape restoration could consist of uneven-aged thinning treatments in conjunction with prescribed burning on up to 47,000 acres and prescribed burning only treatments on up to 13,000 acres, for a total treatment area of up to 60,000 acres. Approximately 20 percent of forested acres will be allocated for old growth characteristics. Partners include the Department and the Mule Deer Foundation.
- Tio Gordito Restoration Project - The restoration project area is approximately 17,000 acres in the Tres Piedras Ranger District in Rio Arriba County. The project includes both vegetation and prescribed burning treatments. Partners include the Department.
- El Rito Canyon Restoration Project – This restoration project is located on the El Rito and Canjilon Ranger Districts and is approximately 62,000 acres. The project will treat primarily ponderosa pine, PJ, mixed conifer and aspen stands with thinning, mechanical treatments, and prescribed burning. Partners include the Department and New Mexico State Forestry.
- Canjilon WUI Restoration Project – This 12,000-acre restoration project is located on the Canjilon Ranger District in Rio Arriba County. Restoration activities include thinning and prescribed burning. Partners include the Department and New Mexico State Forestry.
- Upper Rio San Antonio Riparian/Stream Restoration Project – This riparian/stream restoration project is located on the Rio San Antonio and its tributaries on the Tres Piedras Ranger District. The project will enhance or restore up to 14 stream miles of stream/riparian habitat with the primary goal of improving water quality and fish habitat and a secondary goal of improving adjacent upland/riparian habitat for terrestrial species. Partners include the New Mexico Association of Conservation Districts, and Amigos Bravos.
- Stewart Meadows Wetland Complex – Stewart Meadows is located on the Tres Piedras Ranger District in Rio Arriba County and was acquired by the Carson National Forest with Land and Water Conservation Funds in 1973. Associated with the land acquisition are approximately 190 acre-feet of water rights. This 350-acre project area is located within the historic floodplain of the Rio San Antonio. The previous owners drained and leveled the land for irrigated agriculture to grow hay for their ranching operation. The nearly flat terrain and network of irrigation ditches were converted by the USFS for wetland terrestrial, aquatic, and plant habitat. The USFS installed and maintains a bovine exclosure fence around the wetland area. Partners include Ducks Unlimited and the Department.

**Priority Area 2 – Northern Sangre de Cristo landscape for deer, elk and bighorn sheep (Questa Ranger District, Camino Real Ranger District)**

- La Jara Hazardous Fuels Reduction – Restoration that utilizes vegetation treatments, prescribed fire, and installed water developments for wildlife/range to improve habitat conditions across the landscape.
- Rio de las Trampas – Restoration that utilizes vegetation treatments, prescribed fire, riparian treatments (fixing springs, invasive species removal) to improve habitat conditions across the southern end of the district.

- Amole Green Fuelwood – Prescription designed in a green fuelwood area to benefit wildlife by permitting the public to remove smaller diameter trees and increase forest complexity. Prescribed fire can follow up green fuelwood treatments.
- Comanche Creek Riparian and Wetland Restoration
- Rio Fernando Riparian and Wetland Restoration
- Midnight Meadows Riparian and Wetland Restoration
- Rio Trampas Riparian and Wetland Restoration
- GMU 55A – Valle Vidal: Flagship prescribed burns on the Valle Vidal Management Unit.
  - FY19 – Ring Rx Unit 4,900 acres
  - FY20 – Hart Rx Unit 6,500 acres
- GMU 53: Kiowa San Cristobal WUI –
  - Joint Chief’s Initiative: FY2018 thinning approximately 239 acres of PJ
  - Joint Chief’s Initiative: FY2019 thinning approximately 150 acres of PJ and Ponderosa Pine
  - Cerro Negro, Lenero CFRP FY19 thru FY20 thinning 100 acres per year of PJ

## **RESEARCH NEEDS:**

### **Northcentral deer, elk, and pronghorn seasonal movements**

*Need:* Because of the concerns identified in the “Priority Landscapes” section above, the Department desires full implementation of a project that will identify important seasonal movement pathways for deer, elk, and pronghorn in the Northcentral landscape including the timing and magnitude of movements; if movements are weather dependent; and if distances moved, routes travelled, and stopover areas are consistent across years.

Because of the variety of stakeholders and jurisdictions, higher risk for development, high densities of roads, and the relative unknown nature of wildlife movement on the landscape, it is imperative that the Department more fully understand these movements to improve management recommendations and guide landscape scale planning. Residential development has increased in recent years and is expected to rise as this area continues to become a more popular destination for tourists, vacation homes, and new residents. As identified above, this area is home to socially and biologically important deer, elk, and pronghorn populations that cross jurisdictional boundaries on an increasingly anthropogenic landscape. Further, the Department has received requests from NM DOT to identify wildlife crossings and potential hotspots for vehicle collisions.

*Methods:* We are proposing to deploy 50 GPS collars on deer and 50 on elk over 2 study areas for each species when animals are on winter range. In addition we propose deploying 30 GPS collars on pronghorn on their high elevation summer range. Capture will occur using a net gun fired from a helicopter. The capture will occur over a 3-5 day period for each species. GPS collars with a fix rate of 2-3 hours will be deployed on the animals to identify detailed movements.

*Management Implications:* By identifying the specific movement corridors, overwintering areas, timing, and magnitude of migration the Department can more effectively work with stakeholders

to plan for and improve deer, elk, and pronghorn movement across the Northcentral landscape. An added benefit is that this data will also help guide the Department's deer, elk, and pronghorn management by properly delineating biologically functional populations. This will ensure the Department collects accurate survey data and can allocate hunting licenses appropriately. This data may also help identify areas where the Department of Transportation should consider wildlife crossings or potential wildlife fencing to keep movements intact.

Item/Activity	
Mule deer, elk, & pronghorn capture (130 individuals @ \$750 each)	\$97,500
130 mule deer, elk, & pronghorn GPS collars & airtime (\$1,300 each)	\$169,000
Data analysis/report development	\$33,500
Subtotal	\$300,000

*(Note: this project will be funded using USFWS funds as a result of SO3362)*

#### **Literature Citations –**

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## Appendix A - Secretarial Order 3362

SECRETARIAL 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.

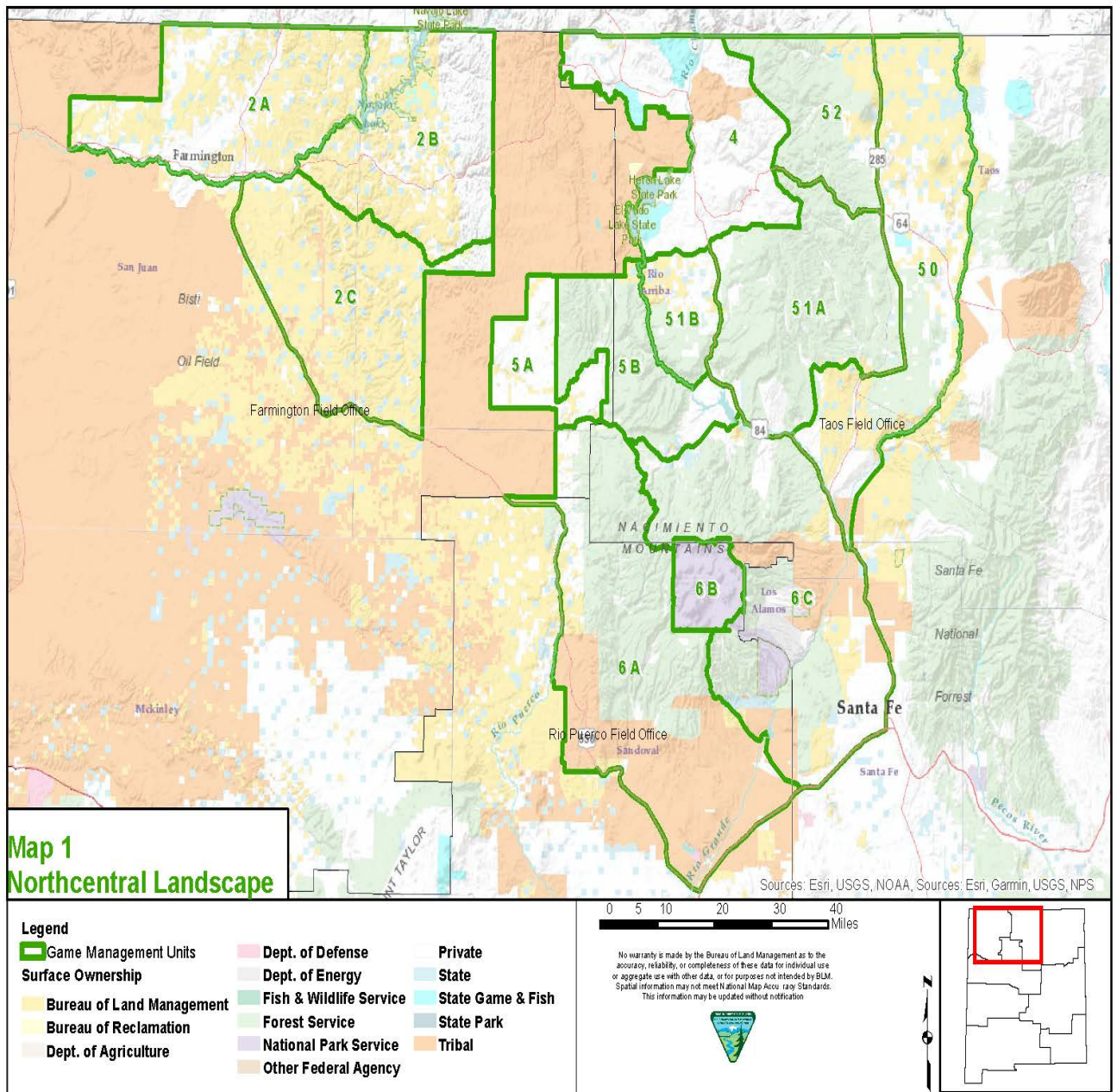
**Sec. 5 Management.** I hereby direct the Deputy Secretary to take is responsible for taking all reasonably necessary steps to implement this Order.

**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.

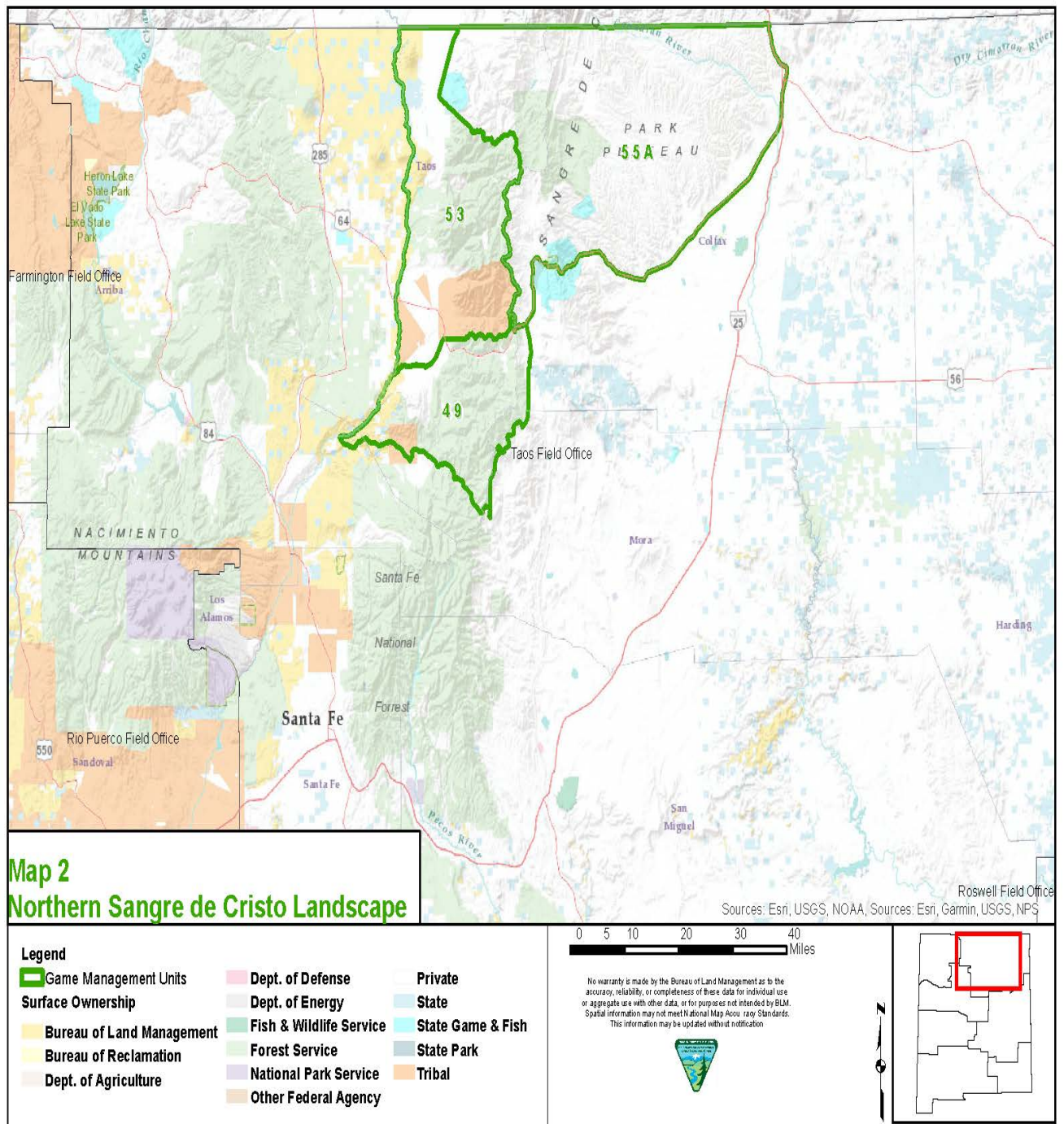
**Sec. 7 Expiration Date.** This Order is effective immediately. It will remain in effect until its provisions are implemented and completed, or until it is amended, superseded, or revoked.

## Appendix B – Maps

Map 1 – Priority Area 1 – North Central Landscape

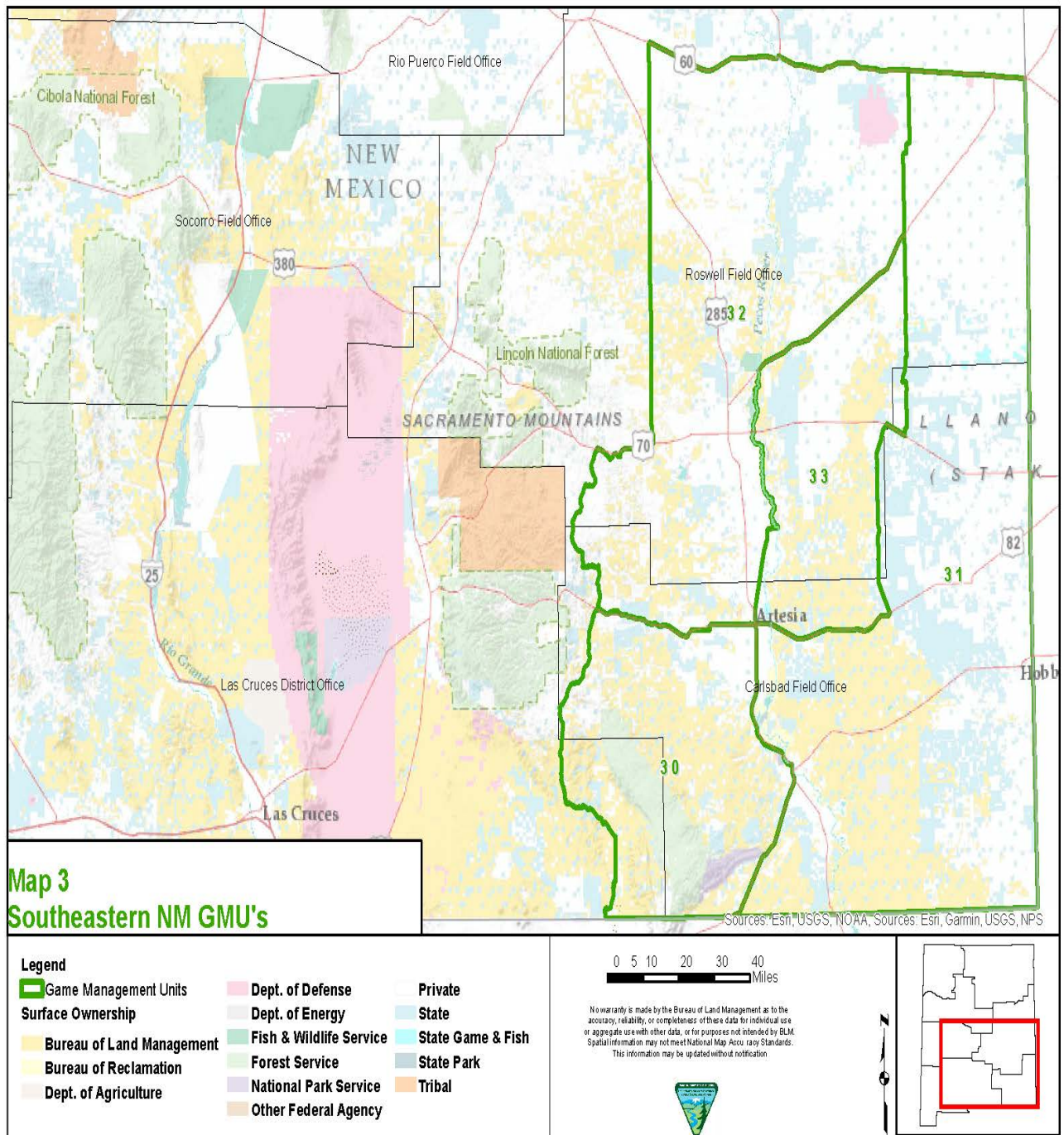


Map 2 – Priority Area 2 – Northern Sangre de Cristo Landscape

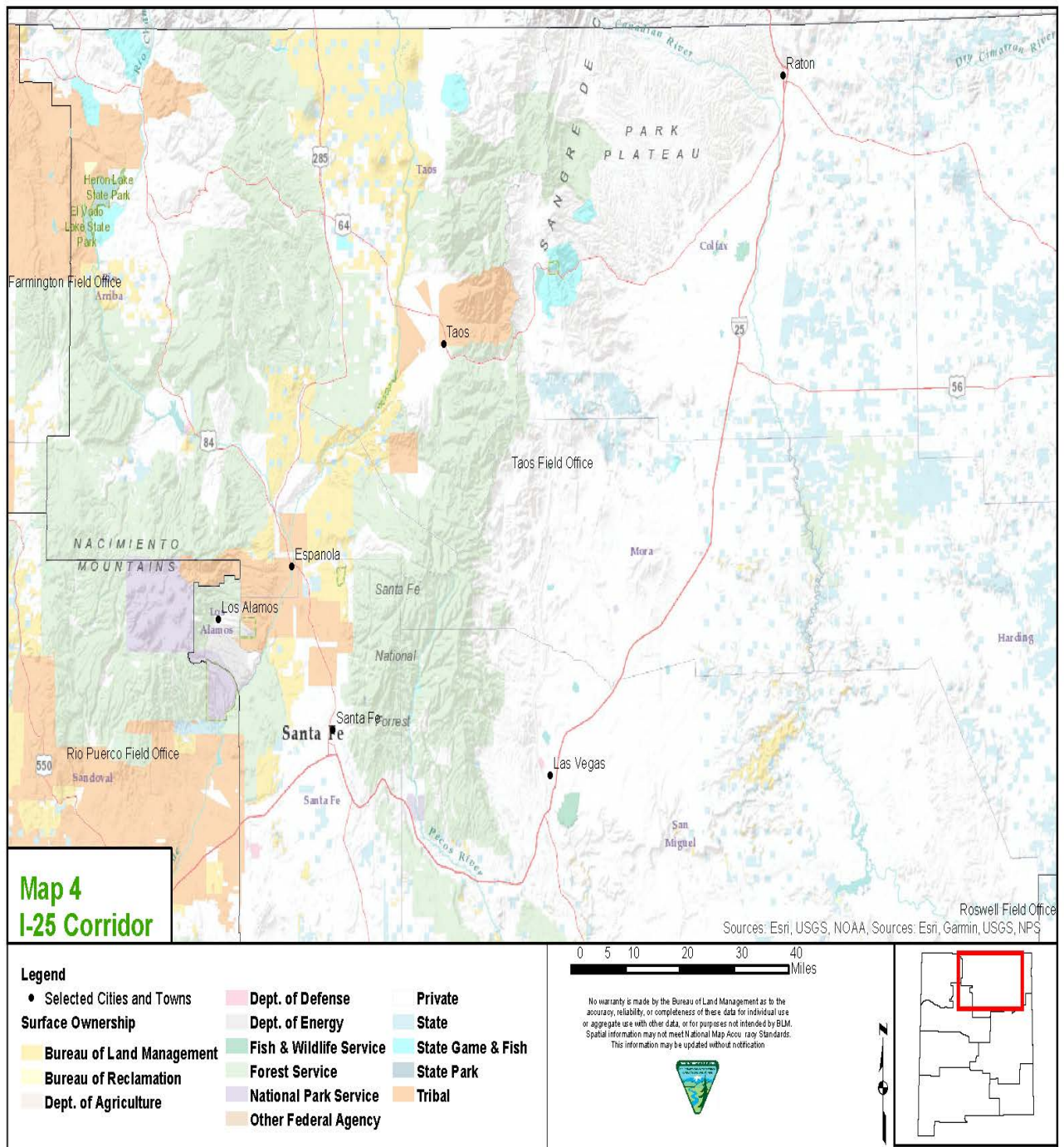




Map 3 – Priority Area 3 – Southeastern NM GMUs



Map 4 – Priority Area 4 – I-25 Corridor





Map 5 – New Mexico Land Ownership

