

OREGON 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 directs appropriate bureaus (US Fish and Wildlife Service [USFWS], National Park Service [NPS], and Bureau of Land Management [BLM]) within the Department of the Interior (DOI) to work in close partnership with the state of Oregon to enhance and improve the quality of big-game winter range and migration corridor habitat on federal lands under the management jurisdiction of the DOI 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.

Conditions in the broader landscape 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 (NRCS), 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 Oregon.

There are just over 62 million acres of land in Oregon, of which approximately 51% (31.9 million acres) is either DOI or USFS managed. The USFS manages about 25% (15.5 million acres), with DOI managing the rest (25% BLM, 1% USFWS and >1%NPS) (see map Appendix A). 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 agriculture (Donald and Evans 2006), residential development and urban sprawl (Johnson et. al 2018, Radeloff et. al 2005, Wyckoff et. al 2018), roadway expansion (Coe et. al 2015, Johnson 2001, Simpson et. al 2016), and natural resource extraction (Hennings and Soll 2012, Lendrum et. al 2013, Sawyer et. al 2017).

Secretarial Order 3362, Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors, recognizes the need to prioritize and enhance critical migratory corridors and winter range on Federal lands. The Order further directs the DOI to collaborate with both the state and tribal agencies to attain or sustain wildlife population goals. Additional important

partners in helping achieve Oregon's goals are both the national Department of Transportation (DOT) and the Oregon Department of Transportation (ODOT). In Oregon, the BLM administers 15.7 million acres of land, primarily in southeastern Oregon and along the Interstate 5 corridor of western Oregon. Native ungulates, including mule deer, elk, and pronghorn, occur throughout BLM lands, and commonly migrate 30-65 miles between seasonal ranges. While federal land management agencies and state and national transportation agencies influence wildlife habitat and movement, ultimately the Oregon Department of Fish and Wildlife (ODFW) is responsible for ungulate management on federal lands in Oregon.

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. The DOI has a responsibility as a manager with large landholdings to be a collaborative neighbor and steward of the resources held in trust. Secretarial Order 3362 directs the DOI to work with 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.

Collectively, the appropriate bureaus within the DOI 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 DOI, and by the USFS with their cooperation. In addition, if private landowners are interested and willing, conservation may occur on lands within these important areas through voluntary agreements.

This Oregon State Action Plan identifies two opportunities for immediate action: 1) a key priority area where ODFW and partners are already working to remove a barrier in a migration corridor, and 2) a research priority to assist in understanding migration corridors, winter range, and stop-over areas for pronghorn in southeastern Oregon.

Habitat Needs (Corridor/Winter Range)

Corridor Conservation Priority

Background

Maintenance of movement corridors is a critical component of wildlife conservation, and is particularly important for terrestrial species that migrate, such as elk and mule deer. These long-distance movements between winter and summer ranges often bring wildlife into conflict with humans. In particular, ungulates are susceptible to wildlife-vehicle collisions on the numerous roads and highways that bisect historic migratory routes. Mule deer winter ranges in south-central Oregon are populated by 18,000 – 22,000 animals, many of which migrate from summer ranges in the high Cascades. Analyses from 492 mule deer tracked by ODFW using GPS collars from 2005 to 2011 indicate that many critical migratory corridors overlap U.S. Highway 97, and that a significant number of deer-vehicle collisions (DVC) occur during migration periods

(Figure 1, Coe et al. 2015). Highway 97 is a major travel route from Oregon to California and Nevada and is currently undergoing expansion to add a number of passing lanes to facilitate traffic flow. Expansion is expected to increase DVCs with migrating mule deer, potentially having an additive impact on already depressed mule deer herds.

In 2014, ODFW, ODOT, and other partner groups proposed a series of wildlife crossing structures along U.S. Highway 97 and Oregon Highway 31, based on the above 7-year study of mule deer migration in south-central Oregon and concurrent 5-year deer-vehicle mortality study along both highways. ODOT is planning to incorporate passage structures for wildlife opportunistically, where topography and funding allows, as passing lanes are constructed along Highway 97. The first of these structures was a series of underpasses near Sunriver, OR that was completed in 2012.

Currently, ODOT has secured funding and plans for a single wildlife underpass to be installed during construction of the newest series of passing lanes on Highway 97, near mile marker 180 (Figure 2, Coe et al. 2015), but ODOT lacks funding for fencing to funnel wildlife to the passage. Ungulate-proof fencing is critical to the success of wildlife underpasses, and in decreasing wildlife-vehicle collisions with ungulates (Dodd et al. 2007, Huijser et al. 2016). In accordance with collaborative direction stemming from Secretarial Order 3362, ODFW requests support in the amount of \$250,000 for purchasing fencing material for use in constructing directional fencing along a section of Highway 97 in southcentral Oregon to increase use of crossing structures by mule deer and decrease DVCs during migration.

Objectives

The objective of this conservation priority is to increase effectiveness of a new wildlife crossing structure on U.S. Highway 97 that will facilitate movement of migrating mule deer between summer and winter ranges (Figure 1). This priority was selected because of the high potential for ongoing highway expansion to negatively impact mule deer and elk populations by increasing wildlife-vehicles collisions at migration corridor crossings. The highway fencing will be installed along both highway rights-of-way between mile 178 and mile 183 in south central Oregon (Figure 2).

Methods and Details

All construction activities for highway expansion are being coordinated and implemented by ODOT, including installation of wildlife fencing. Placement of specific crossing structures was developed in cooperation with ODFW. ODFW has committed \$150,000 to helping purchase fencing. Other partners include the Oregon Wildlife Foundation, which has committed an additional \$85,000, and the Oregon Hunter's Association, which has agreed to maintain the fencing once constructed.

The estimated funding need is \$250,000. All funds requested would be applied toward purchase of materials to construct fencing specifically to direct animals to use the crossing structure. Installation of fencing will be contracted by ODOT. Collaboration and communication at the field level for both ODFW (District Wildlife Biologists) and ODOT is ongoing in the area.

Impact of Addressing this Need

By funding this request, DOI will dramatically increase effectiveness of a new wildlife crossing structure on U.S. Highway 97 that will facilitate movement of migrating mule deer between summer and winter ranges. In so doing, DOI will help conserve established migration corridors and minimize the impact of ongoing highway expansion activities on mule deer and elk populations using the area. Technical assistance from BLM and USGS is not the direct need in this proposal.

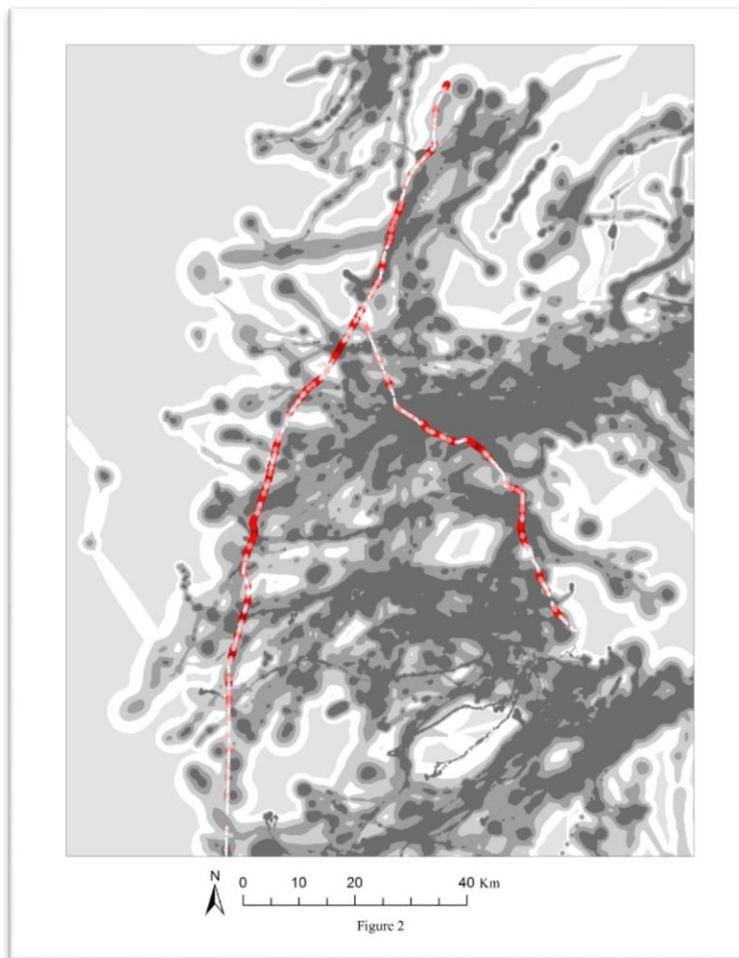


Figure 1. Relative risk of mule deer–vehicle collision (light pink to dark red = low to high risk) and probability of use during migration (gray to black = low to high probability of use) on U.S. Highway 97 and State Highway 31 in south-central Oregon, USA (From Coe et al. 2015).

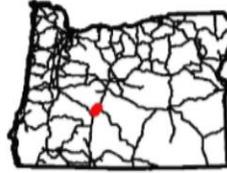
Deer-Vehicle Collision Density - Chemult Passing Lanes

v.5a

US 97 - ODOT HWY 004

Number of Reported Deer- and Elk-Vehicle Collisions

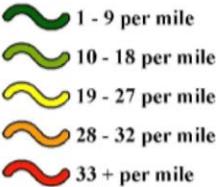
| Milepoint Range | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2010-2017 |
|-----------------|------|------|------|------|------|------|------|------|-----------|
| 175-176 | 2 | 0 | 4 | 4 | 3 | 3 | 4 | 2 | 22 |
| 176-177 | 1 | 3 | 1 | 1 | 3 | 5 | 3 | 1 | 18 |
| 177-178 | 3 | 4 | 2 | 1 | 4 | 3 | 0 | 1 | 18 |
| 178-179 | 2 | 3 | 4 | 2 | 6 | 5 | 3 | 5 | 30 |
| 179-180 | 2 | 7 | 2 | 3 | 5 | 11 | 10 | 1 | 41 |
| 180-181 | 4 | 0 | 5 | 0 | 8 | 6 | 7 | 4 | 34 |
| 181-182 | 0 | 5 | 2 | 8 | 5 | 7 | 6 | 2 | 35 |
| 182-183 | 1 | 4 | 2 | 4 | 3 | 4 | 2 | 1 | 21 |
| 183-184 | 3 | 1 | 1 | 3 | 2 | 4 | 0 | 3 | 17 |
| 184-185 | 0 | 2 | 7 | 6 | 4 | 7 | 3 | 2 | 31 |
| 175-185 | 18 | 29 | 30 | 32 | 43 | 55 | 38 | 22 | 267 |



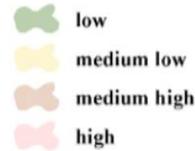
Collision Counts



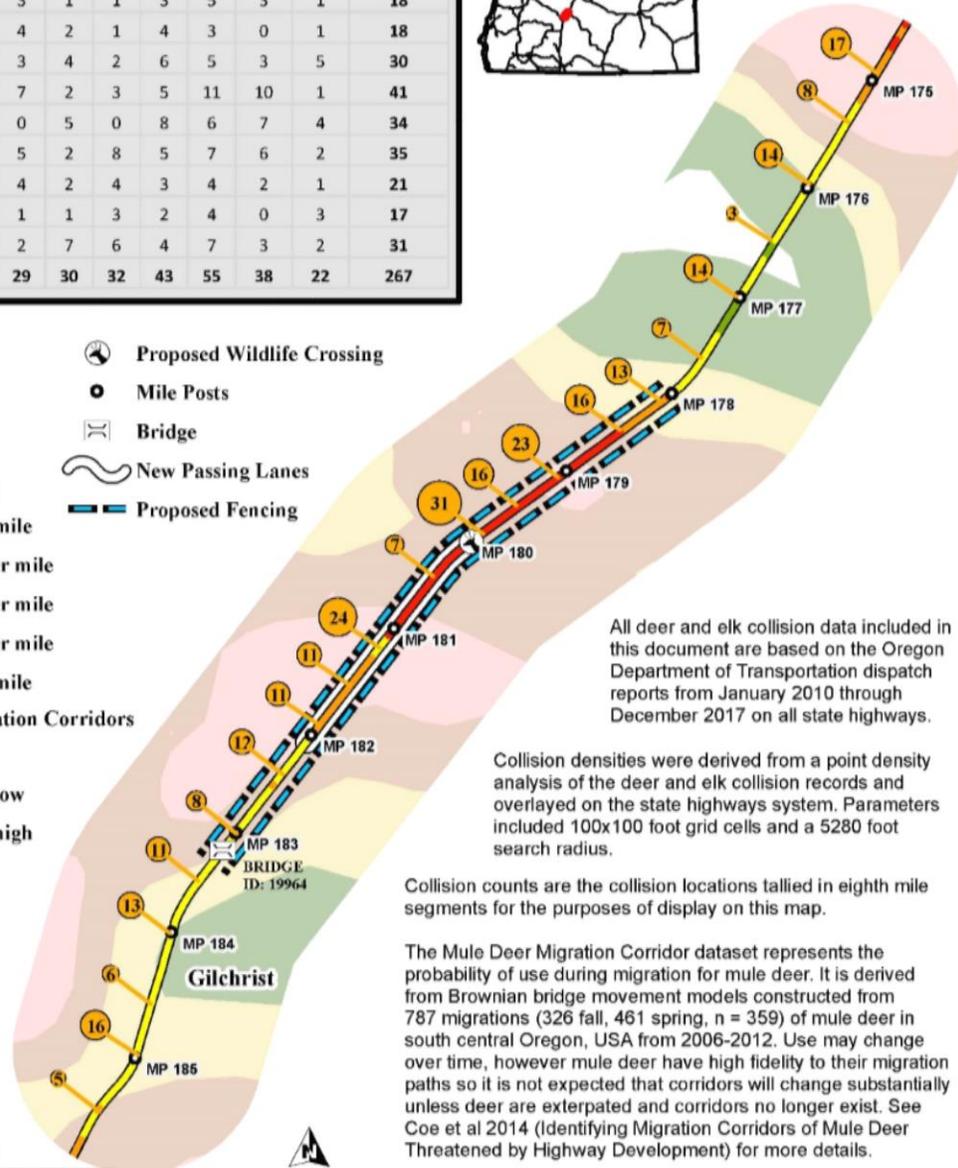
Collision Density



Mule Deer Migration Corridors



- Proposed Wildlife Crossing
- Mile Posts
- Bridge
- New Passing Lanes
- Proposed Fencing



All deer and elk collision data included in this document are based on the Oregon Department of Transportation dispatch reports from January 2010 through December 2017 on all state highways.

Collision densities were derived from a point density analysis of the deer and elk collision records and overlaid on the state highways system. Parameters included 100x100 foot grid cells and a 5280 foot search radius.

Collision counts are the collision locations tallied in eighth mile segments for the purposes of display on this map.

The Mule Deer Migration Corridor dataset represents the probability of use during migration for mule deer. It is derived from Brownian bridge movement models constructed from 787 migrations (326 fall, 461 spring, n = 359) of mule deer in south central Oregon, USA from 2006-2012. Use may change over time, however mule deer have high fidelity to their migration paths so it is not expected that corridors will change substantially unless deer are extirpated and corridors no longer exist. See Coe et al 2014 (Identifying Migration Corridors of Mule Deer Threatened by Highway Development) for more details.



Produced by ODOT - GIS Unit
(503) 986-3154 - APRIL 2018

DISCLAIMER: This product is for informational purposes only and may not have been prepared for or be suitable for legal, engineering or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

gis_resources\GISWORK\GIS23_97_Environmental_GeoEnvironmental_support
GIS23_97_01_Wildlife_Collision_Mapping\mxd_new\DeerElkCollisions_ChemultPassingLanes_20180417.mxd

Figure 2. Detailed location of proposed fencing relative to known migration corridors, proposed passing lanes, and deer-vehicle collisions along a portion of U.S. highway 97 in central Oregon.

Research Needs

There is a pressing need to initiate development of connectivity maps for a broad array of Oregon's terrestrial wildlife species, as many species rely on the ability to move throughout the landscape to fulfill their daily and seasonal requirements for access to food, shelter, and opportunities to reproduce. Anthropogenic landscape change can restrict the ability of wildlife to move across the landscape by adding barriers, instigating behavioral changes, impacting critical stopover sites, and increasing habitat fragmentation. Mapping and maintaining movement corridors will help species to fulfill their daily, seasonal, and life history needs (Noss 1991), allow for dispersal (Hanski 1998), help maintain genetic diversity (Watts et al. 2015), and promote population viability and persistence in increasingly-fragmented landscapes. Further, maintaining and restoring landscape connectivity is the most frequently proposed strategy to aid wildlife in adapting to changing climates (Heller and Zavaleta 2009).

The Oregon Habitat Connectivity Consortium (OHCC), led by ODFW, has recently developed an implementation plan for how to assess existing habitat connectivity for terrestrial wildlife across the state. The plan was co-developed with state, federal, and NGO partners and represents the current best practices in landscape-scale connectivity assessment and mapping for movement and migration corridors. The next step in their process is to complete the assessment and produce connectivity maps for the state of Oregon and adjacent lands in neighboring states. These fine resolution connectivity maps will provide utility to a wide diversity of partners, aiding in statewide planning and prioritization for strategic conservation investment, protection measures, siting for land use changes and development, mitigating barriers to animal movement, targeted restoration efforts, and transportation improvements, among many other uses.

To date, efforts to map connected habitat corridors in Oregon have been based primarily on expert opinion, and have proven to be insufficient in making decisions related to maintaining species' ability to move across the landscape. Improvements in the availability and resolution of spatial data, as well as new and more robust statistical modeling techniques, have made fine-resolution, landscape-scale habitat connectivity modeling feasible.

The OHCC planned assessment draws on hierarchical clustering analysis to create groups of species based on habitat associations for each ecoregion in the state. These species are then filtered using a set of criteria regarding life history types, dispersal capabilities, diversity of taxa, availability of data on species presence and distribution, and sensitivity to human disturbance, among others, to select species from each group to act as surrogates, or representatives of broader classes of species and movement types. To those surrogate species, focal species and generalists are added—species such as elk, deer, and pronghorn, which might not have close habitat associations but are nonetheless ecologically and socioeconomically important for understanding connectivity.

The ultimate goal is to map connectivity for a variety of both game and non-game species that are representative of a broad diversity of taxa, dispersal capabilities, conservation need, and movement types. For each selected species, species habitat models are built to identify important habitat areas. These models, along with species-specific landscape resistance models, are used to map landscape permeability, highlighting areas that both facilitate and impede species movement. Ultimately, the outputs from the analyses for each species are combined, resulting in a suite of maps highlighting connectivity for each individual surrogate/focal species, as well as a single map illustrating connectivity for the group of all species as a whole.

This work is a massive undertaking with a large financial burden. Estimated costs to complete the corridor assessment are ~ \$1 million. The Oregon Department of Fish and Wildlife, in partnership with the OHCC, has secured matching funds from a variety of organizations, totaling \$300K. ODFW and the OHCC are looking for granting opportunities to obtain the remaining \$700K for the project. The Opportunity for Immediate Action below will provide ODFW with foundational information on current pronghorn corridors and winter range that will eventually inform the statewide analysis. Alongside the need to assess and map connectivity for big game and other terrestrial wildlife in the state, Oregon has identified two additional longer-term, persistent research needs. First, management of big game in Oregon would benefit from research investment in appropriate, viable seed mixes for restoration of shrub-steppe habitat. There has been strong, successful investment in developing seed mixes for native grasses, but there has not yet been success with a robust seed mix for restoring shrub-steppe habitat, particularly following wildfire. Second, the current failure rate of the existing options for GPS collars frequently increases the cost of collaring animals and extends the time it takes to collect data on big game migrations and migratory pathways. Research directed toward improving GPS collar technology for big game, particularly research addressing collar failure rates, is needed.

Opportunity for Immediate Action

Oregon Research Priority

Background

Movement and migration corridors are important biological parameters for ungulate populations. These areas are best delineated using movement data collected from animals using GPS transmitters and modern, rigorous geospatial analyses. While Secretarial Order 3362 recognizes the need for habitat improvement and conservation of migration corridors, more data are needed in Oregon to properly identify where critical corridors occur on the landscape. ODFW possesses the technical capacity for analyzing movement data, but data gaps for ungulate movements preclude corridor analyses across large swaths of Federal lands.

In particular, data are lacking for pronghorn movements across most of southeastern Oregon. ODFW is currently collecting GPS data from hundreds of mule deer throughout their eastern Oregon ranges that will facilitate identification of critical movement and migration corridors on all land ownerships. ODFW has initiated research on Roosevelt elk in southwestern Oregon,

including movements on BLM lands. Most Rocky Mountain elk occur primarily on USDA Forest Service lands or on privately owned lands.

The majority of pronghorn habitats in Oregon occur on BLM lands. Rigorous data documenting movement and migration corridors for pronghorn in Oregon is extremely limited in extent. In accordance with collaborative direction stemming from Secretarial Order 3362, ODFW proposes a \$290,000 study documenting movements of pronghorn throughout BLM lands in southeastern Oregon.

Objectives

1. Identify specific seasonal pronghorn distribution and ranges in southeastern Oregon.
2. Identify location and timing of pronghorn migration corridors in southeastern Oregon.
3. Identify potential barriers to pronghorn migration and movement in southeastern Oregon.

Methods and Details

This basis of the study will be deployment of Iridium-based GPS telemetry collars. A total of 110 GPS/Iridium collars will be deployed via helicopter net gun capture during November-December. Location data will be remotely monitored by ODFW staff. ODFW District wildlife staff will recover collars from any mortalities as quickly as workloads allow. ODFW personnel will conduct analyses with potential consultation with USGS research staff.

Expected GPS collar lifetime would provide three years of data collection. Collecting 5 locations per animal per day for 3 years would produce a maximum of over 600,000 animal locations from which to identify seasonal ranges and movement corridors. Additionally, the 3-year lifespan of collars will capture annual variation in movement patterns that may be influenced by variability in weather patterns or other factors.

The estimated funding need from DOI is \$290,000 (Table 1). All funds requested would be applied toward purchase and deployment of Iridium-based GPS collars for pronghorn. ODFW already has qualified staff, and/or has established collaborations with other institutions, to monitor data collection and conduct analyses. Additionally, collaboration at the field level for both ODFW (District Wildlife Biologists) and BLM (District Rangers or Wildlife Specialists) is already ongoing for many issues in the area. ODFW staff have also confirmed with staff from Idaho Department of Fish and Game and Nevada Division of Wildlife that the three state agencies will coordinate our efforts to implement pronghorn collaring. We anticipate that these animals will move across state lines and intend to gather data across all three states.

Table 1. Estimated GPS Radio-collar cost to evaluate distribution and movements of pronghorn in southeastern Oregon.

| Item Detail | Quantity | Unit Price | Total |
|------------------------------------|----------|------------|----------------------|
| Iridium Platform GPS Collars | 100 | \$1,350.00 | \$135,000.00 |
| Collar Data Fees (3 Years) | 100 | \$900.00 | \$90,000.00 |
| Collar Shipping and Handling | 1 | \$1,500.00 | \$1,500.00 |
| Collar Supplies | 1 | \$2,000.00 | \$2,000.00 |
| Animal Capture | 100 | \$600.00 | \$60,000.00 |
| Capture Travel and Per Diem (Days) | 10 | \$150.00 | \$1,500.00 |
| Total | | | \$ 290,000.00 |

Impact of Addressing this Research Need

By funding acquisition and deployment of GPS tracking collars on pronghorn in southeastern Oregon, DOI will address a critical shortfall in ODFW’s ability to identify migration corridors on DOI-managed lands. ODFW is currently monitoring over 300 GPS collars on mule deer, and is scheduled to deploy 60 on Roosevelt elk in southwestern Oregon, but does not have sufficient funding to initiate a rigorous evaluation for pronghorn. Technical assistance from BLM and USGS is not the direct need in this proposal. However, it is likely that ODFW will work with USGS staff through already established collaborations.

(Note: USFWS or BLM will provide funding as requested above as a result of SO3362)

Literature cited

- Coe, P. K., R. M. Nielson, D. H. Jackson, J. B. Cupples, N. E. Seidel, B. K. Johnson, S. C. Gregory, G. A. Bjornstrom, A. N. Larkins, and D. A. Speten. 2015. Identifying Migration Corridors of Mule Deer Threatened by Highway Development. *Wildlife Society Bulletin* 39(2):256–267.a
- Dodd, N.L., J.W. Gagnon, S. Boe, and R.E. Schweinsburg. 2007. Role of Fencing in Promoting Wildlife Underpass Use and Highway Permeability. Pages 475-487 in C.L. Irwin, D. Nelson, and K.P. McDermott, editors. 2007 Proceedings of the International Conference on Ecology and Transportation. Center for Transportation and the Environment, Raleigh, NC.
- Donald, P. F., and A. D. Evans. 2006. Habitat connectivity and matrix restoration: the wider implications of agri-environment schemes. *Journal of Applied Ecology* 43:209-218.
- Hanski, I. 1998. Metapopulation dynamics. *Nature* 396:41–49.
- Heller, N. E., and E. S. Zavaleta. 2009. Biodiversity management in the face of climate change: A review of 22 years of recommendations. *Biological Conservation* 142:14–32.
- Hennings, L., and J. Soll. 2010. Wildlife corridors and permeability: A literature review. https://www.researchgate.net/publication/265085554_Wildlife_corridors_and_permeability_-_a_literature_review. Accessed 6 Sept 2018.
- Huijser, M.P., E.R. Fairbank, W. Camel-Means, J. Graham, V. Watson, P. Basting, and D. Becker. 2016. Effectiveness of short sections of wildlife fencing and crossing structures along highways in reducing wildlife-vehicle collisions and providing safe crossing opportunities for large mammals. *Biological Conservation* 197:61-68.
- Johnson, H.E., Sushinsky, J.R., Holland, A., Bergman, E.J., Balzer, T., Garner, J. and Reed, S.E., 2017. Increases in residential and energy development are associated with reductions in recruitment for a large ungulate. *Global change biology*, 23(2) 578-591.
- Johnson, D. 2001. "Habitat Fragmentation Effects on Birds in Grasslands and Wetlands: A Critique of our Knowledge". *Great Plains Research: A Journal of Natural and Social Sciences*. 568.
- Lendrum PE, Anderson CR Jr, Monteith KL, Jenks JA, and Bowyer RT. 2013. Migrating Mule Deer: Effects of Anthropogenically Altered Landscapes. *PLoS ONE* 8(5): e64548.
- Noss, R. F. 1991. Landscape Connectivity: Different Functions at Different Scales. Pages 27-39 in W. E. Hudson, editor. *Landscape Linkages and Biodiversity*. Defenders of Wildlife.
- ODFW (Oregon Department of Fish and Wildlife). 2016. Oregon Conservation Strategy. Oregon Department of Fish and Wildlife, Salem, Oregon.

Radeloff, V. C., R. B. Hammer, S. I. Stewart, J. S. Fried, S. S. Holcomb, and J. F. McKeefry. 2005. The wildland-urban interface in the United States. *Ecological Applications* 15:799-805.

Sawyer, H., Korfanta, N.M., Nielson, R.M., Monteith, K.L. and Strickland, D., 2017. Mule deer and energy development—Long- term trends of habituation and abundance. *Global change biology*, 23(11) 4521-4529.

Simpson, N.O., Stewart, K.M., Schroeder, C., Cox, M., Huebner, K. and Wasley, T., 2016. Overpasses and underpasses: effectiveness of crossing structures for migratory ungulates. *The Journal of Wildlife Management*, 80(8) 1370-1378.

Watts, A. G., P. Schlichting, S. Billerman, B. Jesmer, S. Micheletti, M.-J. Fortin, C. Funk, P. Hapeman, E. L. Muths, and M. A. Murphy. 2015. How spatio-temporal habitat connectivity affects amphibian genetic structure. *Frontiers in Genetics* 6.

Wyckoff, T. B., H. Sawyer, S. E. Albeke, S. L. Garman, and M. J. Kauffman. 2018. Evaluating the influence of energy and residential development on the migratory behavior of mule deer. *Ecosphere* 9(2).

Appendix A

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



U.S. Department of the Interior

Distribution of Department of Interior and Department of Agriculture Lands in the State of Oregon

