



CALIFORNIA ACTION PLAN

For

Implementing the Department of Interior Secretarial Order 3362:

**Improving Habitat Quality in Western Big-Game
Winter Range and Migration Corridor**

Prepared by the California Department of Fish and Wildlife

September 2024 Update



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Introduction

Secretarial Order 3362 (SO 3362) directs appropriate agencies within the Department of the Interior [DOI; US Fish and Wildlife Service (USFWS), National Park Service (NPS), and Bureau of Land Management (BLM)] to work in close partnership with the California Department of Fish and Wildlife (CDFW) to identify, enhance, and improve the quality of big-game winter range habitats and migration corridors on appropriate DOI managed lands 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*), Roosevelt elk (*C. c. roosevelti*), and Tule elk (*C. c. nannodes*); collectively hereafter elk and other wildlife and their habitats may benefit.

Conditions in the broader landscape may influence the function of migration corridors and the 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.

According to the California Department of Forestry and Fire Protection (Cal Fire) Wildlife Activity Statistics Redbooks (Cal Fire 2023), 33,738 fires have burned over 8 million acres in California since 2020. Many of these fires occurred within California's priority areas, highlighting the need to restore habitats for ungulates.

To achieve the objectives of SO 3362, the DOI 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 habitats is lacking, the DOI requested states to identify research priorities to fill these data or knowledge gaps to produce Brownian Bridge Movement Models (BBMM) using methods and tools developed by the United States Geological Survey. Recent improvements to these methods have also been developed to make legacy data available for analysis to inform corridor delineations.

Implementation of SO 3362 will occur alongside and in coordination with ongoing efforts to improve wildlife habitat and connectivity in the state. Executive Order B-54-18 Biodiversity Initiative has tasked the California Department of Transportation (Caltrans) and CDFW with updating the 2010 statewide assessment of essential habitat connectivity. The science, data, and modeling techniques have progressed, and an updated connectivity analysis is necessary to integrate biodiversity conservation with transportation and

infrastructure planning.

CDFW and Caltrans Headquarters staff conducted a one-day collaborative symposium in January 2020. Both departments strive to coordinate, integrate, and focus investments on projects that maintain and restore habitat connectivity and support landscape resiliency. Both departments also want to focus on incorporating wildlife connectivity features into future transportation projects with the highest biological priority and provide the most significant benefit to the traveling public's safety and Caltrans maintenance operations. A diverse group of stakeholders and experts participated in the symposium, which allowed participants to share data and knowledge to inform a collaborative effort. In 2018-19, the California Biodiversity Initiative tasked CDFW to update the California statewide connectivity map. CDFW compiled all existing habitat linkage and wildlife corridor spatial data, including the 2014 northern Sierra Nevada foothills fine-scale connectivity analysis, and integrated these elements into a single statewide Terrestrial Habitat Connectivity map made available through the Areas of Conservation Emphasis (ACE) spatial database. Efforts to update and improve the data are ongoing. In 2020, high-impact barriers to wildlife movement statewide were identified in the Priority Wildlife Barriers Report (CDFW 2022). This report also identifies priority wildlife barrier locations in each of CDFW's terrestrial regions, including barriers within the priority migration areas.

In 2020-21, CDFW received a federal grant to study migration patterns of deer, pronghorn, and elk. The migration corridors, stopovers, and winter ranges for 20 deer, eight pronghorn, and 55 elk herds have been modeled based on GPS collar location data. CDFW shares migration corridor information with the US Geological Survey (USGS) for inclusion in their annual Ungulate Migrations of the Western United States report, have been made publicly available for viewing and downloading in USGS's Wildlife Corridors and Router Viewer (<https://www.westernmigrations.net>), the Department's Biogeographic Information and Observation System (BIOS), and are being incorporated into the Department's statewide ACE connectivity map for use in land management and conservation planning. Work modeling movement corridors for additional herds is ongoing.

CDFW will continue to focus on priority migration areas identified in the 2024 SO 3362 State Action Plan. The migration priority areas carefully consider population stressors, including fire, habitat quality, and geography (Fig. 1), and represent our top five priority areas in response to SO 3362. Each section of this report will provide a brief overview of the priority area and current efforts, followed by a list of risks/threats and potential collaborative actions between local, state, federal, tribal, and non-governmental organizations to address risks.

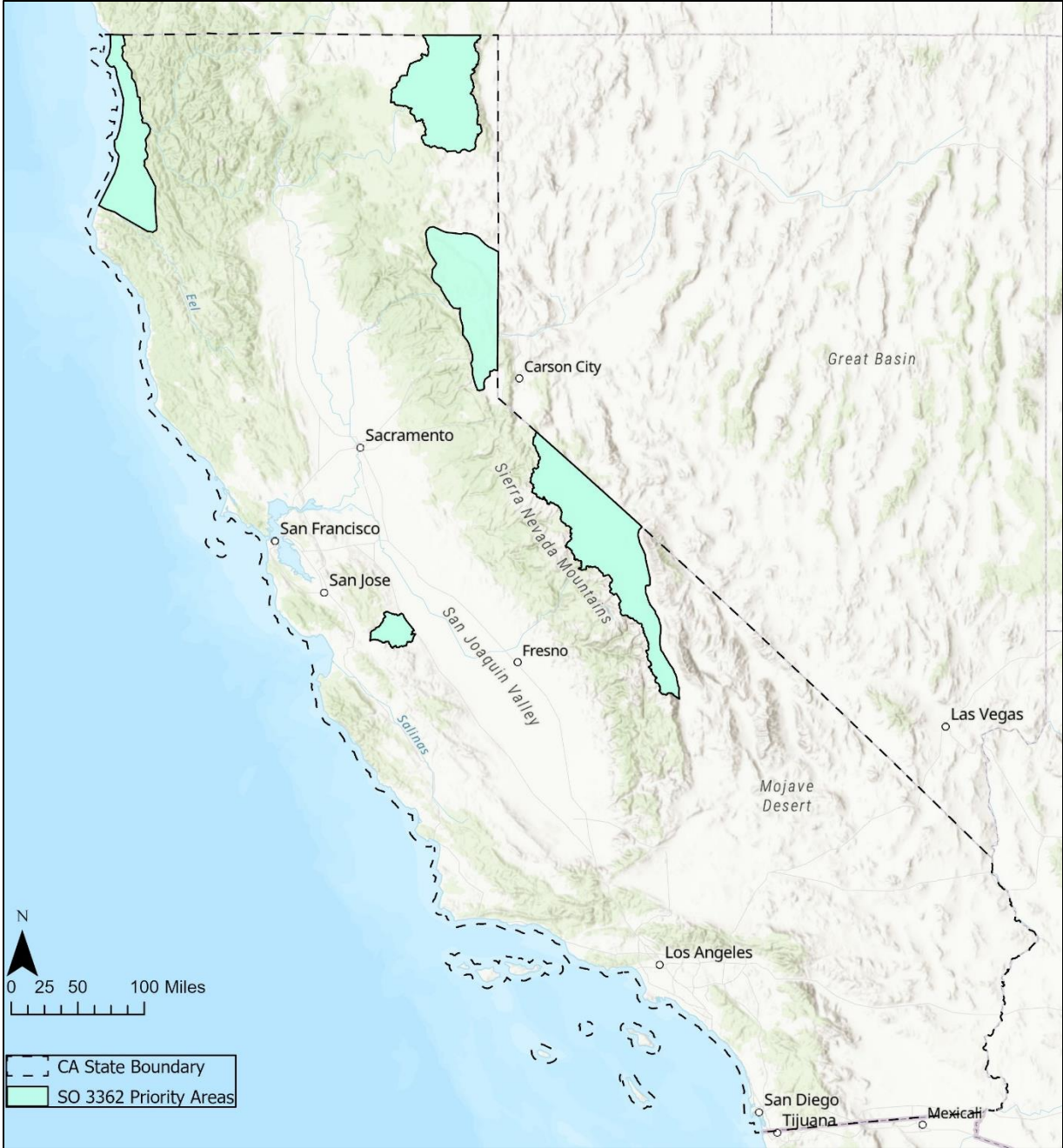


Figure 1. CDFW corridor focus areas in response to the US Department of Interior's SO 3362.

Deer

Deer reside throughout the State of California. East of the Sierra Nevada Crest, they are managed within premium deer hunt zones. Deer habitats in California typically include a mix of densely forested summer ranges and more open shrub communities in the winter range. Deer of the east Sierra Nevada Crest are primarily migratory, moving into both Oregon and Nevada, and as such, are managed cooperatively with those states. Primary

threats to summer ranges include development, fire impacts, lack of early seral habitat, and human population and disturbance (Arnett et al., 2023). Within winter seasonal ranges, development, fire, habitat conversion to invasive weed species, and declining high-quality forage are essential issues for deer. Deer navigate multiple highway systems, creating cumulative impacts in direct mortality or conditions that tax deer energetically as they attempt daily or seasonal movements between ranges.

Conservation of deer habitats and management of herds is challenging for deer managers within California because of the diversity of landscapes and varied land use practices. Land use practices may also conflict with wildlife habitat needs, creating management challenges balancing socioeconomic needs with maintaining a suitable landscape for a large, healthy deer population. The USFS is California's primary federal landowner (>20%), managing a wide range of deer habitat. Land use practices may decrease early seral habitats, essential to summer range quality, and provide abundant fuel for intense wildland fires (Hessburg et al., 2021).

Research projects have or continue to monitor deer movements, but there are information gaps. CDFW personnel continue to collect movement data suitable for spatial analyses, including identifying essential corridors, stopover locations and providing much-needed information to inform wildlife managers.

The 2024 State Action Plan identifies two deer populations within priority areas: the deer population within the X9a, X9b, and X12 hunt zones located in Mono County and the Sierra Nevada X6a, X6b, X7a, and X7b hunt zones deer population.

Deer Mono County X9a, X9b, and X12 Hunt Zone

This priority deer focus area is in Mono County (Fig. 2). It consists of deer winter range, transitional or stopover habitats, and summer range in the eastern Sierra, down into the toe slopes (transition), mixed sagebrush, desert scrub, and agricultural lands. Habitats vary depending upon altitude and aspect and include shrub-steppe and shrub communities, open forest communities, and alpine meadows. In addition to deer, this area contains bears (*Ursus americanus*), mountain lions (*Puma concolor*), numerous meso-carnivore species, and a variety of other important wildlife, including the California Endangered Species Act (CESA) candidate species, greater sage-grouse (*Centrocercus urophasianus*).

The Mono County priority area contains five connected deer herds, residing primarily in hunt zones X9a, X9b, and X12 (Supp. Fig. 1- 3). The USFS (Inyo National Forest) manages much of the land along the northern portion of the focus area (Supp. Fig. 1). The BLM and the Los Angeles Department of Water and Power own lands along the southern border. The area is a popular and heavily used recreational area, with activities including fishing, camping, and horseback riding. Livestock grazing and agriculture supporting the ranching industry are also typical land uses of federal land.

Highway 395 bisects the migration corridors of five migratory deer herds that annually move between the winter range in eastern Mono County and western Nevada and

the summer range in the Sierra Nevada. From 2002 to 2018, Caltrans recorded 2,048 deer-vehicle collisions (DVCs) along Highway 395 in Mono County. The Mammoth Lakes Highway 395 Wildlife Crossing project (MWC) study area is the highest priority for implementing wildlife crossing structures along Highway 395, according to the CDFW barrier assessment report (CDFW 2022). This 13.5 km section of highway comprises only 7% of the entire length of Highway 395 in Mono County yet currently accounts for approximately 33% of all DVCs annually (Taylor 2023).

The MWC project area is of high importance to deer because it bisects a large stopover site that is an expanded portion of the migration corridor that includes both the east and the west sides of Highway 395, from north of Highway 395-State Route 203 junction, south to Crowley Lake (Fig. 2). Deer arrive at the stopover site from early to mid-April and remain there for 6-10 weeks while foraging on spring vegetation. During this period, many deer move back and forth across the highway to access forage and water resources on both sides of Highway 395 and State Route 203, causing an increase in DVCs. After the stopover period, deer from the Round Valley and Casa Diablo herds migrate to the summer range located on both the east and west sides of the Sierra Crest. However, many deer remain in the area as summer residents and continue to cross the highway to access resources throughout the season.

Past and Current Efforts

In March 2019 and 2020, 77 female deer from five eastern Sierra herds in Mono County were marked with high-fix rate GPS collars to determine deer movements concerning Highway 395 and the MWC area. A total of 20 collars were deployed in the Casa Diablo herd, 15 collars each in the Mono Lake and the West Walker herds, and six collars in the East Walker herd. In addition, 21 collars were deployed in the Round Valley herd.

In 2019, CDFW contracted Utah State University, Logan, Utah, to study the migratory movements of the GPS-collared female deer concerning Highway 395 in Mono County. This study used a multiple data source approach to identify successful and unsuccessful deer crossing locations within the project area and provide recommendations to Caltrans for crossing structure locations. To meet this goal, specific objectives included: (1) Conduct standardized roadside carcass counts that record the locations of deer involved in DVC; (2) Create a heatmap of recorded locations that identify segments of Highway 395 where collisions occur with the highest frequency; (3) Use GPS telemetry data from collared deer to model successful highway crossings concerning surrounding environmental factors; (4) Evaluate the correspondents between outputs from the hot spot analysis results from our predictive model to examine the spatial relationship between successful and unsuccessful crossings (Taylor 2023).

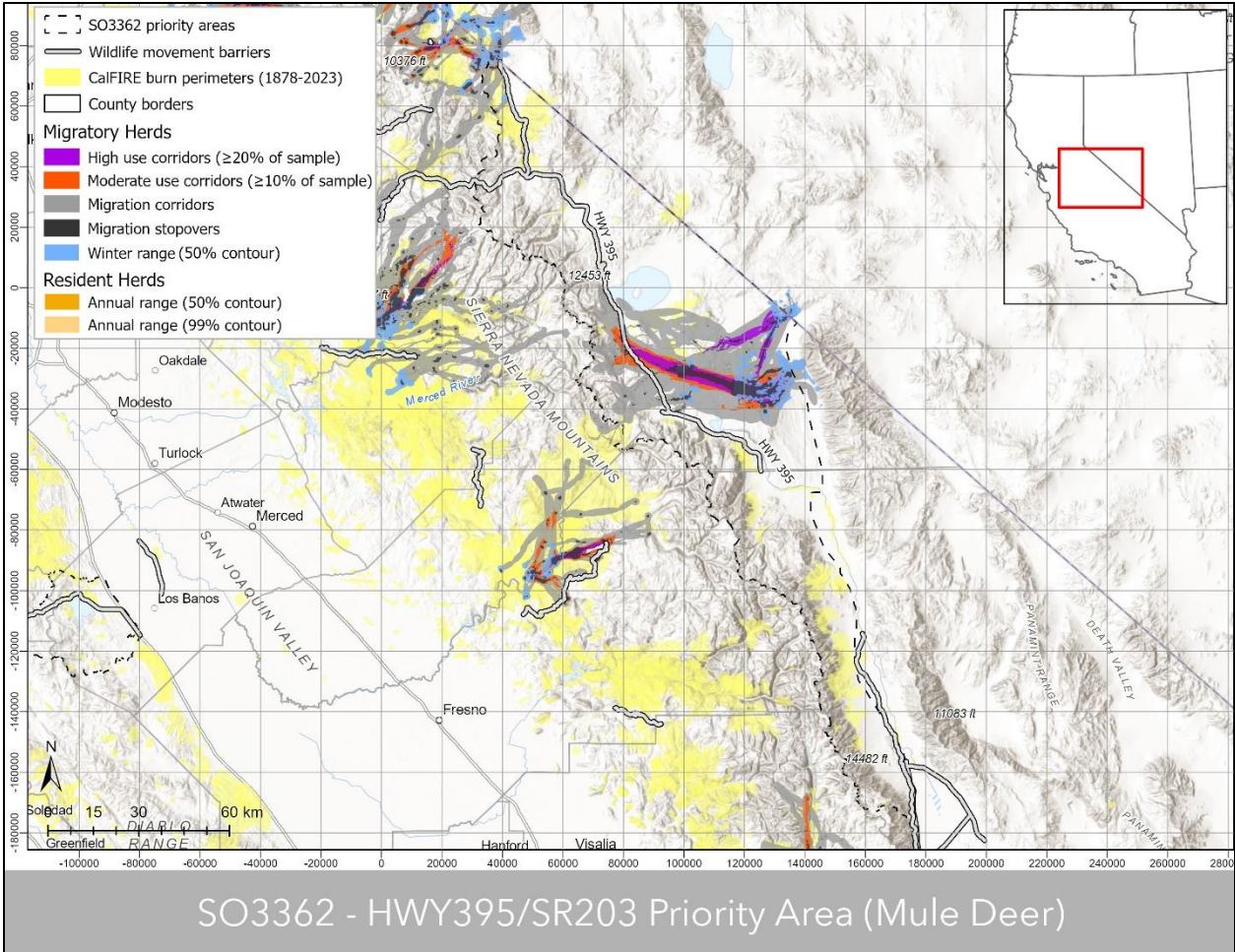


Figure 2. Mono County, containing hunt zones X9a, X9b, and X12, is a priority area with migration corridors, seasonal range, and burn perimeters.

Based on DVC and GPS data, there are three potential locations for wildlife crossings: Morrison Hill, Mammoth Creek, and Airport sections of Highway 395. The DVC analyses from 2002-2015 (Caltrans 2016) taken with our DVC results confirm that the Morrison Hill, Mammoth Creek-Hot Creek, and the Airport areas should be treated as high priority wildlife crossing structure locations. Construction of the recommended wildlife crossing structures would be invaluable additions to Highway 395 to reduce wildlife mortality, restore and maintain necessary habitat connectivity for migratory deer, and create a safer roadway for motorists.

The Eastern Sierra Wildlife Stewardship Team continues to meet to develop strategies to mitigate deer-vehicle collisions on Highway 395 in Mono County and identify fund sources for implementing the wildlife crossing project. The team received a \$3.17 million grant from the California Wildlife Conservation Board (WCB) in 2022 to complete planning studies and project design.

BLM - Bishop Field Office was awarded \$70,000 in 2020 from the National Fish and Wildlife Foundation (NFWF), Improving Habitat Quality in Western Big Game and Migration

Corridors Program. This funding was used to purchase approximately 2 miles of deer fencing along both sides of Highway 395 between Mammoth Creek Bridge and the State Route 203 junction. In addition, this funding is being used to purchase two portable changeable message signs that can be strategically situated during migration at deer-vehicle collision hot spots along the Highway 395 corridor.

Risks/Threats and Proposed Actions

1. Deer vehicle collision rates are high along highways, particularly within the MWC, and deer movements are impeded when transitioning between winter and summer ranges.
 - Collaborative Action: Funding and other support for installing passes and other crossing structures in areas with the greatest need to reduce collisions and provide safe passage to deer and other wildlife during migration.
2. Increasing development and fragmentation of available summer, winter, and migratory habitats reduce deer herd carrying capacity. A primary cause is the conversion of agricultural lands to industrial and housing developments.
 - Collaborative Action: Incorporate movement data into local, state, and federal planning documents and efforts to facilitate the conservation of migration pathways.
 - Collaborative Action: Work with private landowners to facilitate the safe passage of deer along migration pathways.
 - Collaborative Action: Conserve open space using conservation easements or similar protection figures, with willing parties to protect essential areas of deer movement through private lands.
3. High-intensity catastrophic wildfires are anticipated to continue throughout the focus area due to high fuel loads from historic fire suppression efforts, persistent drought conditions in recent years, and changes to precipitation patterns.
 - Collaborative Action: Forest thinning, noxious weed control, planting native shrubs, prioritizing high-use deer areas on federal lands.
4. The Mammoth-Yosemite Airport Capital Improvement Project (2020-2026), east of Highway 395 between mile markers 22.74 and 20.36, is planning an impermeable fence around its perimeter. The fence will include a 1.7-mile-long segment that abuts Caltrans right-of-way on the east side of the highway.
 - Collaborative Action: Plan and build additional fencing on the west side of the highway to prevent deer from being trapped within the right-of-way and reduce DVCs.

Deer, Sierra Nevada, X6a, X6b, X7a, and X7b Deer Hunt Zones

This area (Fig. 3 and 4) consists of premium hunt zones X6a, X6b, X7a, and X7b (Supp. Fig 4-7). Deer have significant ecological and economic value in this area. In addition to deer,

this area contains pronghorn, an expanding Rocky Mountain elk population, and gray wolf (*Canis lupus*). Habitats vary but include coniferous forests, bitterbrush (*Purshia tridentata*), sagebrush steppe and shrub communities, riparian habitats, pockets of aspen, and agricultural lands.

This priority focus area is located approximately between Reno, Nevada, and Susanville, California, on the east side of the Sierra Nevada Range along Highway 395, then south through Sierraville to the McKinney Bay area of Lake Tahoe. Previously considered two priority areas, CDFW combined these areas due to their proximity and animal movements between them (Kaufmann et al., 2022), similar risks/threats, and proposed actions.

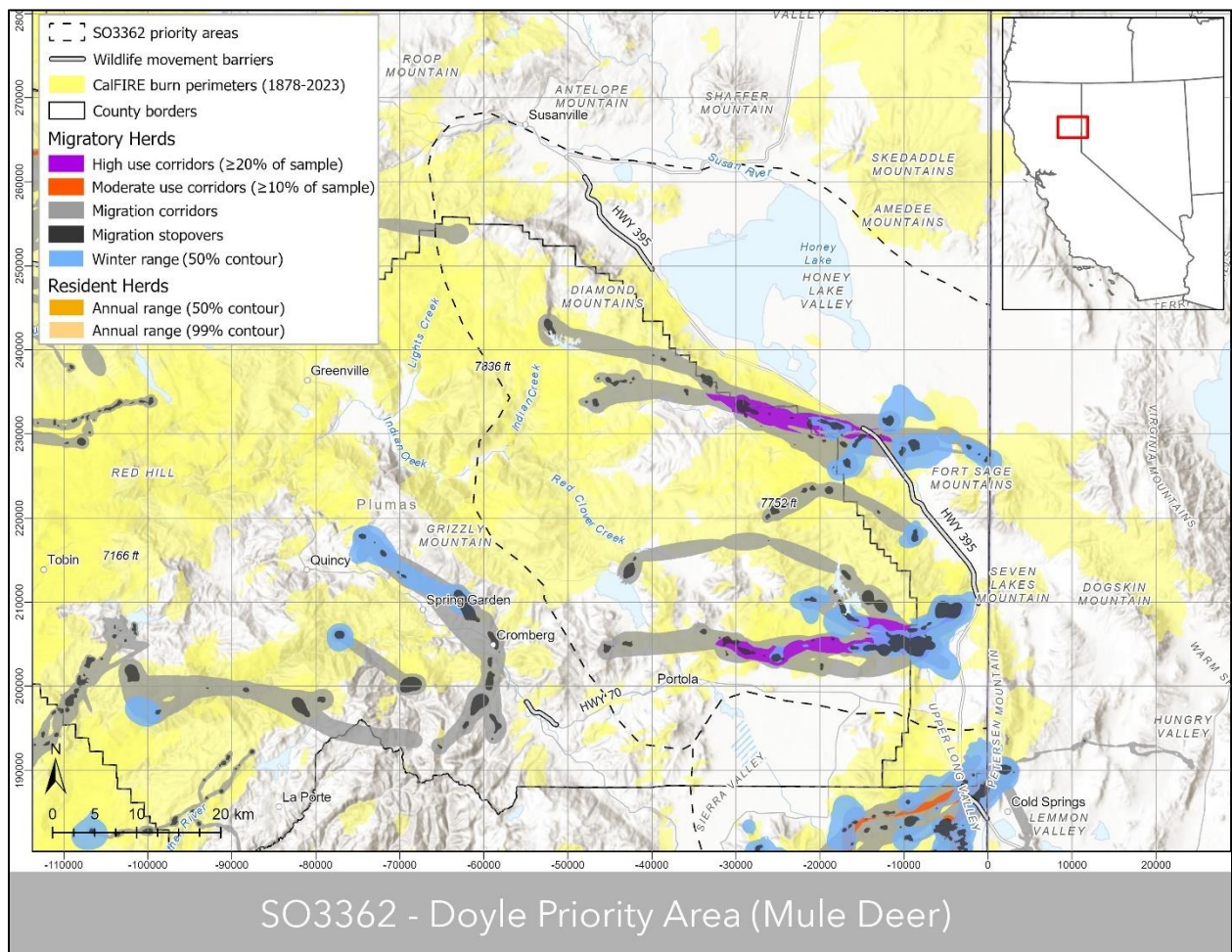


Figure 3. The northern section of this priority is the Sierra Nevada deer priority area, including burn perimeters and migration corridors. Numerous roads bisect this priority area, limiting movement and connectivity between herds.

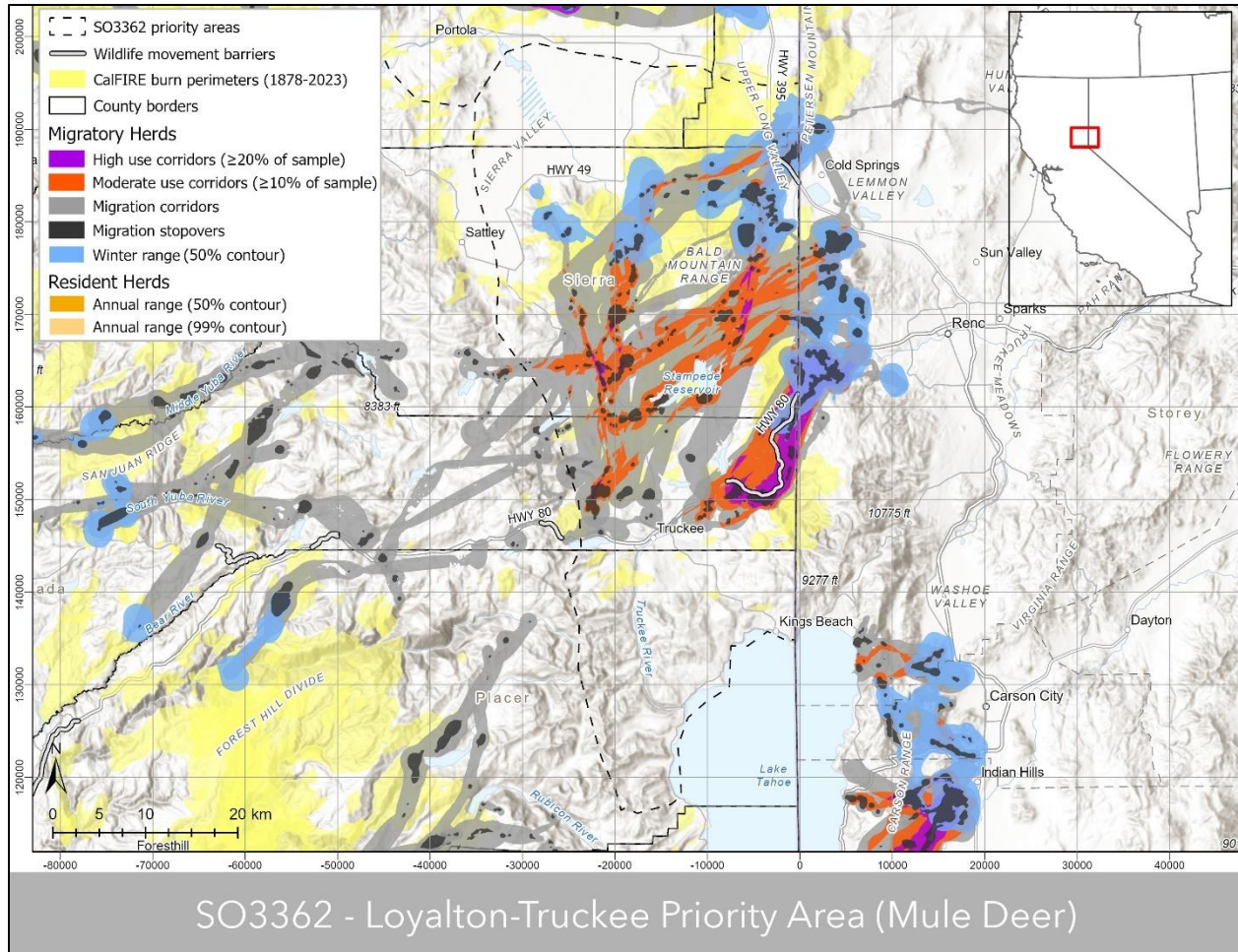


Figure 4. The southern section of this priority is the Sierra Nevada deer priority area, including burn perimeters and migration corridors. Numerous roads bisect this priority area, limiting movement and connectivity between herds.

Migrations tend to be short, with deer moving quickly between the summer and winter range and deer staying on the summer range later in the year until snow and temperature push them out in November (Kauffman et al., 2022). Summer range in the south near Truckee is minimal and highly developed, leaving small pockets of intact habitat. Migration is constricted by the Truckee River, the railroad tracks, Highway 395, and Interstate 80 through the Truckee River Canyon (Kauffman et al., 2022). The deer within the priority area are an interstate population, with summer ranges in California and winter ranges in California and Nevada (Caldwell et al., 2021).

Private and public agencies are primary landowners, with the Plumas, Humboldt-Toiyabe, and Lassen National Forests, BLM, CDFW's Doyle, Bass Hill, and Hallelujah Junction Wildlife Areas being the significant public land holdings. Private timber companies own large portions of forested areas within this area. Privately owned lands are interspersed along the highways, including developments at Doyle, Janesville, Sierraville, and Truckee. The predominant land uses are livestock grazing, human development,

recreation, and timber harvest. Cheatgrass (*Bromus tectorum*) invaded the burned area, reducing habitat suitability for migratory deer (Caldwell et al., 2021).

Past and Current Efforts

- The BLM has performed post-fire restoration activities following the 2017 Long Valley Fire. They also plan to replace ~3,600 feet of 8-foot fencing in the Fort Sage Off-highway Vehicle Area with wildlife-friendly fencing to facilitate better access to surrounding BLM lands and habitats. Additional post-fire rehabilitation plans include drill, broadcast, and hand-seeding of ~5,350 acres of burned shrubland communities. Noxious weed control will occur by implementing the Eagle Lake Prevention Schedule.
- The Highway 395 Connectivity Team expanded the original Highway 89 Stewardship Team and has several partners, including CDFW, Wildlands Network, Pathways for Wildlife, Caltrans, Nevada Department of Transportation (NDOT), Nevada Department of Wildlife (NDOW), and others. Partners have collected extensive camera, roadkill, and collar data. A WCB grant was received for choosing a location for an overpass and to prepare 65% of the project design, but it will need construction funding.
- CDFW has been working closely with Caltrans to increase the planning and mitigation of road projects in impacted areas. The Highway 89 stewardship team (H89ST) constructed three underpasses with fences and jump outs on Highway 89, a stretch that deer in the area cross. CDFW has also collaborated with NDOW to address interstate deer issues, interstate connectivity, and end-run issues at deer fences along the border. There are potential crossing sites on USFS and BLM lands.
- After a fire, Caltrans completed the emergency replacement and extension of the critical wildlife fence and jump outs on the north side of Hallelujah Junction.
- Caltrans completed a one-million-dollar project to extend the deer fence for CDFW's Hallelujah Junction Wildlife Area to the state line, as well as replace all one-way gates with jump outs and repair the fence where it has not been maintained near the existing three under crossings.
- Caltrans plans to add wildlife fencing and jump outs to funnel wildlife through two existing concrete box culverts under Interstate 80.
- Projects on CDFW lands have sought to control noxious weeds and junipers, promote natural regeneration after fire, and plant native bitterbrush seed grown in nurseries onto Hallelujah Junction Wildlife Area following catastrophic fires.
- Backcountry Hunters and Anglers secured an NFWF grant for a two-year project that included collecting native seeds, propagating them, and planting them at Hallelujah Junction Wildlife Area to re-establish bitterbrush, sagebrush, and Washoe Tribe culturally important plants after fire.
- USFS has performed revegetation and habitat restoration in critical winter habitats for deer following wildfires. Additionally, ~500 acres are treated annually to control invasive plants, reduce wildfire risk, and reduce habitat conversion to annual invasive

grasses. Treatments include mechanical, biological (insects), hand, and herbicide treatments. Key riparian and meadow areas are the focus of reseeded and replanting efforts (~100 ac.). The Humboldt-Toiyabe National Forest is a member of a wildlife working group that focuses on opportunities to improve habitat for deer and other wildlife within this area.

- CDFW is collaborating on a large fee title acquisition of land within a critical summer range at risk for development.
- GPS collars were deployed for use in a population estimation project and by the H89ST to monitor and effectively place crossings on the highway. More detailed analysis with a focus on migration and stopovers is needed.
- NDOW, in coordination with CDFW, has mapped the movement corridors and analyzed the Loyaltan-Truckee deer herd telemetry datasets using Migration Mapper.
- Deer monitoring of crossings under the highway with cameras by the 395 Connectivity Team, Caltrans, and CDFW.

Risks/Threats and Proposed Efforts

1. High-intensity catastrophic wildfires throughout the area will continue due to high fuel loads from historic fire suppression efforts, conversion of high-quality habitat to cheatgrass, and stochastic climate events causing wide-ranging annual precipitation totals.
 - Collaborative Action: Identify vegetation restoration projects, potential fuel breaks, and best management practices to limit habitat degradation and wildlife fires related to aspen/meadow restoration or seeding (bitterbrush, sagebrush, mahogany) of burned areas.
 - Collaborative Action: Identify and undertake post-fire restoration opportunities following recent wildfires. Immediate needs include crucial winter range habitat restoration in the burned area and treatment of cheatgrass.
2. Mid-elevation forests comprise closed-canopy, over-stocked stands of mixed conifer species with little understory vegetation. Burns and cuts on privately owned timberlands or USFS lands are often treated with herbicide and replanted with single age stands. These activities reduce early seral conditions critical for summer forage and cover.
 - Collaborative Action: Identify restoration projects to enhance nonproductive vegetation communities and implement best management practices for private and public timberlands that incorporate deer habitat needs.
3. Habitat conversion to invasive weeds in wintering areas due to disturbance from large and high-intensity wildfires, conifer encroachment on open shrub communities, and senescence of nutritional forage all threaten the native habitats that support deer.
 - Collaborative Action: Identify vegetation restoration projects, potential fuel breaks,

and best management practices to limit habitat degradation and wildlife fires.

4. Growing use and distribution of motorized and non-motorized off-road vehicles and increasing disturbance on winter ranges.
 - Collaborative Action: Develop new or modify existing travel management plans to include restrictions on the timing and location of motorized uses to minimize impacts on deer's critical seasonal activities.
5. Persistent drought conditions reduce water availability and may reduce the landscape's overall nutritional carrying capacity. Changes in migration strategies may result in higher deer densities in the summer range and current winter range abandonment.
 - State Action: If available, comprehensively analyze existing telemetry data using new BBMM methods to establish baseline migration activities. Develop ongoing monitoring activities to monitor potential shifts in migration strategies and adapt management as needed.
 - Collaborative Action: Provide or maintain existing water development (guzzler) to combat arid conditions and lack of water sources.
6. The increasing development and fragmentation of available winter and migratory habitats in the area is an ongoing threat. Nevada has no equivalent to the California Environmental Quality Act or the CESA processes that can limit or mitigate development. Critical ranges and corridors must be identified and protected as the winter range suffers from increased heavy development.
 - Collaborative Action: In coordination with the NDOW, explore options to conserve priority winter and summer habitats, stopovers, and migration routes.
7. Deer vehicle collision rates are high along highways, particularly on Highway 395 from Susanville south through Honey Lake and near Doyle. Highway 70 and Highway 89 also contain many deer-vehicle collision hotspots.
 - State Action: Monitoring of identified important seasonal crossing areas, movement routes, and stopover areas within the focus area.
 - Collaborative Action: Incorporate movement data into planning documents and efforts to facilitate the conservation of migration pathways and landscape permeability.
 - Collaborative Action: Funding and other support for installing wildlife crossing structures in areas with the greatest need to reduce collisions and provide safe passage to deer and other wildlife during migration. The growing use and distribution of motorized and non-motorized off-road vehicles are increasing disturbance in deer ranges.
 - Collaborative Action: Develop new or modify existing travel management plans to include restrictions on the timing and location of motorized uses to minimize

impacts on deer's critical seasonal activities.

8. Habitat degradation and fire are caused by habitat conversion to cheatgrass or other non-native vegetation communities unable to sustain migratory herds.
 - Collaborative Action: Manage invasive weed species by identifying outbreak areas and undertaking restoration projects that provide more desirable forage species, including bitterbrush and 'Snowstorm' forage kochia (*Bassia prostrata*) for deer.

Pronghorn

Pronghorn Likely Tables Hunt Zone

The Likely Tables pronghorn priority area (Hunt Zone 3) (Fig. 7), which extends over half of Modoc County, is primarily public land, with landowners including the USFS, USFWS, NPS, and BLM (Supp. Fig 8). Highways 395 and 299 split the priority area, separating habitat on USFS and BLM lands.

The Likely Tables pronghorn display a nomadic tendency, slowly migrating north for the summer (Kauffman et al. 2024). Little movement occurs across highways 395 and 299, with one main corridor connecting the landscape (Kauffman et al. 2024).

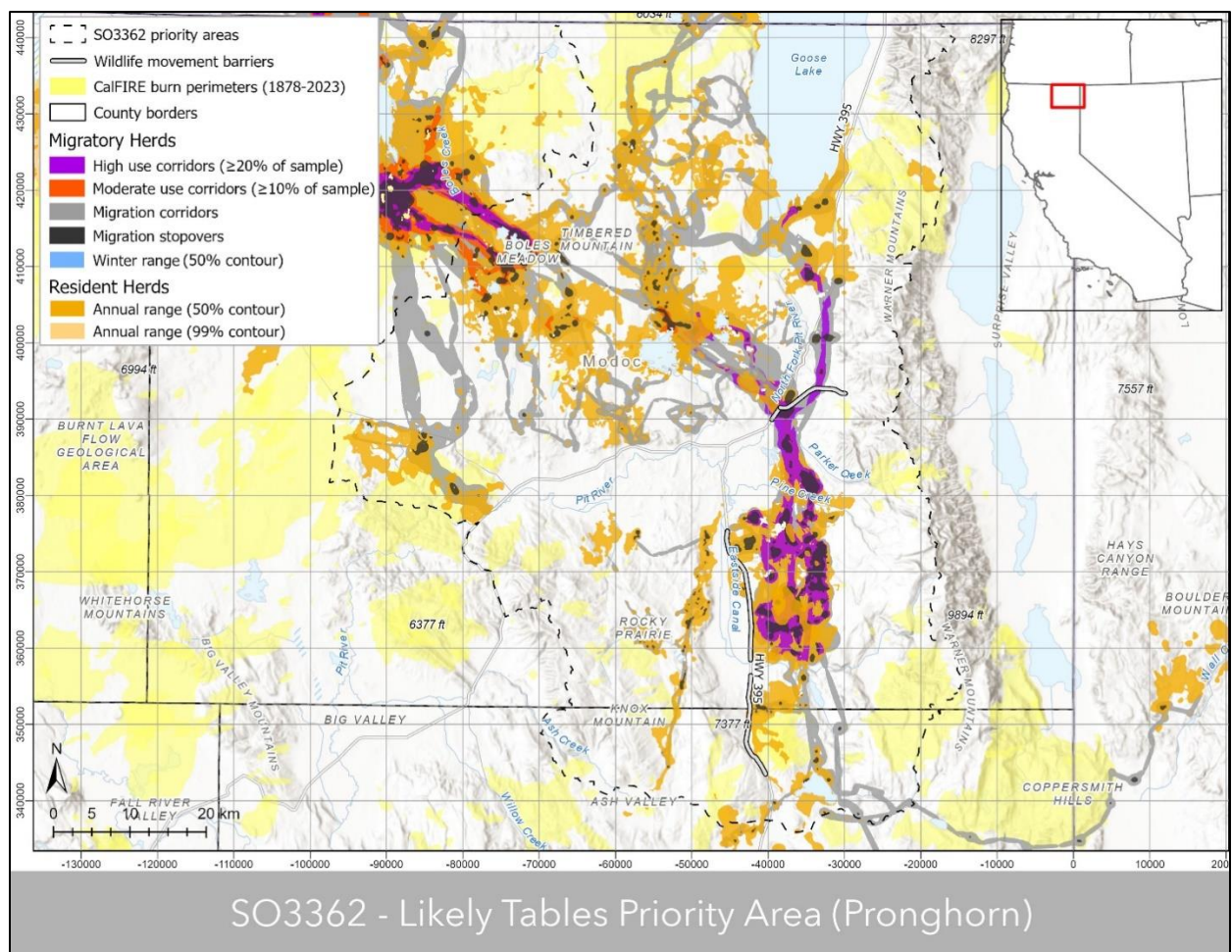


Figure 7. The Likely Tables priority area includes pronghorn migration corridors, burn perimeters and wildlife movement barriers.

Pronghorn populations in the Modoc Plateau of northeast California have declined since the winter of 1992/1993, with estimated population declines from 8,000 in 1992 to 3,129 in 2019 (Trausch et al., 2020). Additionally, deer within the area have seen a similar decline (CDFW unpublished data). The continuous decline suggests that conditions over

this nearly thirty-year period have inhibited recovery. Habitat fragmentation, particularly from roads and fences, and degradation could significantly contribute to the population decline, and the persistence of pronghorn in smaller fragments may be threatened.

Anthropogenic barriers impede movements and may harm individuals, resulting in area avoidance and potential mortality. Pronghorn have shown higher susceptibility to fencing and development than other ungulates because they typically go under instead of over fences (Xu et al., 2021). Roads and development may alter vigilance levels, lower forage times, and alter body conditions (Gavin & Komers, 2006). Changes in body condition may also result in migratory timing changes (Berg et al, 2019).

Habitat degradation, consisting of increased invasive grass and woody vegetation, has been tied to population productivity declines. Increased invasive grass can increase fire frequency and damage sagebrush ecosystems (Davies et al. 2022). Additionally, feral horses (*Equus caballus*) increase soil erosion, reduce water availability, and potentially limit sagebrush recruitment (Davies et al. 2014). Juniper removal on public land may improve habitat quality and potentially reduce predation (Ewanyk 2020).

Past and Current Efforts

- The Likely Tables pronghorn unit has been subject to a multi-year study, dating back to 2014, led by CDFW and the Institute for Wildlife Studies.
- The number of hunting tags available was reduced in 2024 because of lower population counts.
- BLM is performing an inventory on fencing and if it is considered "wildlife-friendly."
- Modoc National Forest has juniper clearing projects planned, but additional funding for clearing and monitoring projects is needed. USFS is actively working on shovel-ready Juniper removal projects within Modoc National Forest. A new proposal to extend the project by an additional 300 acres, bringing the total area to approximately 4,900 acres. One permittee obtained funding from the Natural Resources Conservation Service (NRCS) to cover 700 acres of the project. The shovel-ready project has completed all National Environmental Policy Act (NEPA) requirements.

Risks/Threats and Collaboration

1. High-intensity catastrophic wildfires are anticipated to continue throughout the focus area due to high fuel loads from historic fire suppression efforts, persistent drought conditions in recent years, and changes to precipitation patterns. The proliferation of and conversion to monoculture cheatgrass and other invasive annual communities contribute to the risk and intensity of wildfires.
 - Federal Action: Forest thinning, invasive weed control, and planting native shrubs with prioritization for high pronghorn use areas on federal lands.
 - Collaborative Action: Thinning forests and managing invasive weed species by

identifying outbreak areas and undertaking restoration projects that provide more desirable forage.

2. Persistent drought conditions reduce water availability and may reduce the landscape's overall nutritional carrying capacity. Changes in water resource availability may result in higher pronghorn densities, increased competition, and predator abundance near the limited water resources.
 - State Action: If available, thoroughly analyze existing telemetry data using new BBMM methods to establish baseline migration activities. Develop ongoing monitoring activities to monitor potential shifts in migration strategies and adapt management as needed.
 - Collaborative Action: Provide or maintain existing water development (guzzler) to combat arid conditions and lack of water sources.
3. Wetlands degradation decreases habitat quality and reduces the landscapes carrying capacity.
 - Collaborative Action: Enhance and restore wetlands, including invasive vegetation removal, beaver dam analog and z dike installation, and native vegetation planting. Remove fencing to access wetlands.
4. Juniper encroachment alters habitat quality and availability. Due to the low number of ungulates observed during aerial surveys, a juniper removal project within the winter range habitat is being considered. This plan aims to improve habitat quality in winter ranges and migration corridors for big game species.
 - Federal Action: Removal of juniper on federally owned land.
 - Collaborative Action: Follow up monitoring and prioritization.
5. Fencing and roads limit movements across the landscape. Highways and fencing are barriers to movement, limiting access to seasonal habitats. As Juniper encroachment, invasive grasses, and drought limit h, ensuring access to high-quality habitat becomes increasingly essential.
 - Collaborative Action: Identify wildlife crossings near roads and mitigate efforts, including installing wildlife crossing infrastructure.
 - Collaborative Action: Removal of fencing or replacement with wildlife-friendly Fencing.

Elk

Roosevelt Elk, Northern California, Northwestern Elk

Along the North Coast (Fig. 5), populations of Roosevelt elk have expanded in the last 20 years. Del Norte and Humboldt counties in northwestern California have experienced growing conflict due to increasing Roosevelt elk herds and vehicle collisions along Highway 101—a major highway running north and south through the corridor of Del Norte and Humboldt counties. As these Roosevelt elk populations continue to grow, access to suitable habitats can be limited by barriers such as Highway 101, and elk may concentrate on private lands with higher quality forage, creating even more conflict and management issues by potentially impacting crops and property. CDFW continues to work with local governments, tribes, and landowners to expand hunter opportunities to help reduce conflict and manage the growing Roosevelt elk populations. Improving movement corridors may also help increase the accessibility of elk on public land and thereby reduce conflict.

Much of the occupied habitats are on timberlands, ranches, dairies, farms, and rural residential areas. Ownership is mixed between public, tribal, and private holdings, with some large blocks of land owned by USFS and private timber, particularly in the uplands (Supp. Fig 9). Approximately 60% of this area is privately owned, with most public land administered by the USFS (Six River National Forest), BLM (Lacks Creek and King Range), NPS, and California State Parks lands. The primary land use in this area includes timber production and agricultural practices ranging from irrigated crop production to dairy and cattle production.

Elk respond predictably to increased hunting pressure and traffic density by becoming more mobile and expending more energy, avoiding people and roads (Hurley and Sargeant 1991, Lyon and Canfield 1991). In addition, increased road density has been shown to increase the probability of mortality in cow elk, decrease the ratio of bulls to cows, and increase hunting harvest mortality when compared to relatively roadless areas (Leptich and Zager 1991, Unsworth et al., 1993, Leptich et al., 1995).

A preliminary report by the University of California, Davis (UCD), as well as the CDFW Wildlife Connectivity Priority Barrier Assessment, identified Highway 101, north of Arcata, as an area with significant hotspots for vehicle-wildlife collisions (Shilling and Waetjen 2016). The North Coast (Caltrans District 1) reported having the third highest density for wildlife-vehicle conflict in California (Shilling et al., 2017). Since 2017, 67 elk-vehicle collisions (EVCs) have been reported to CDFW and Caltrans within Del Norte and Humboldt counties. However, some EVCs remain unreported, and the total number is presumed higher.

Elk on the North Coast tend to utilize small home ranges and do not migrate seasonally, leading to a high concentration of elk along Highway 101. Inland, there appear to be seasonal changes in habitat utilization by elk, but this extent is much smaller than in

other parts of the state.

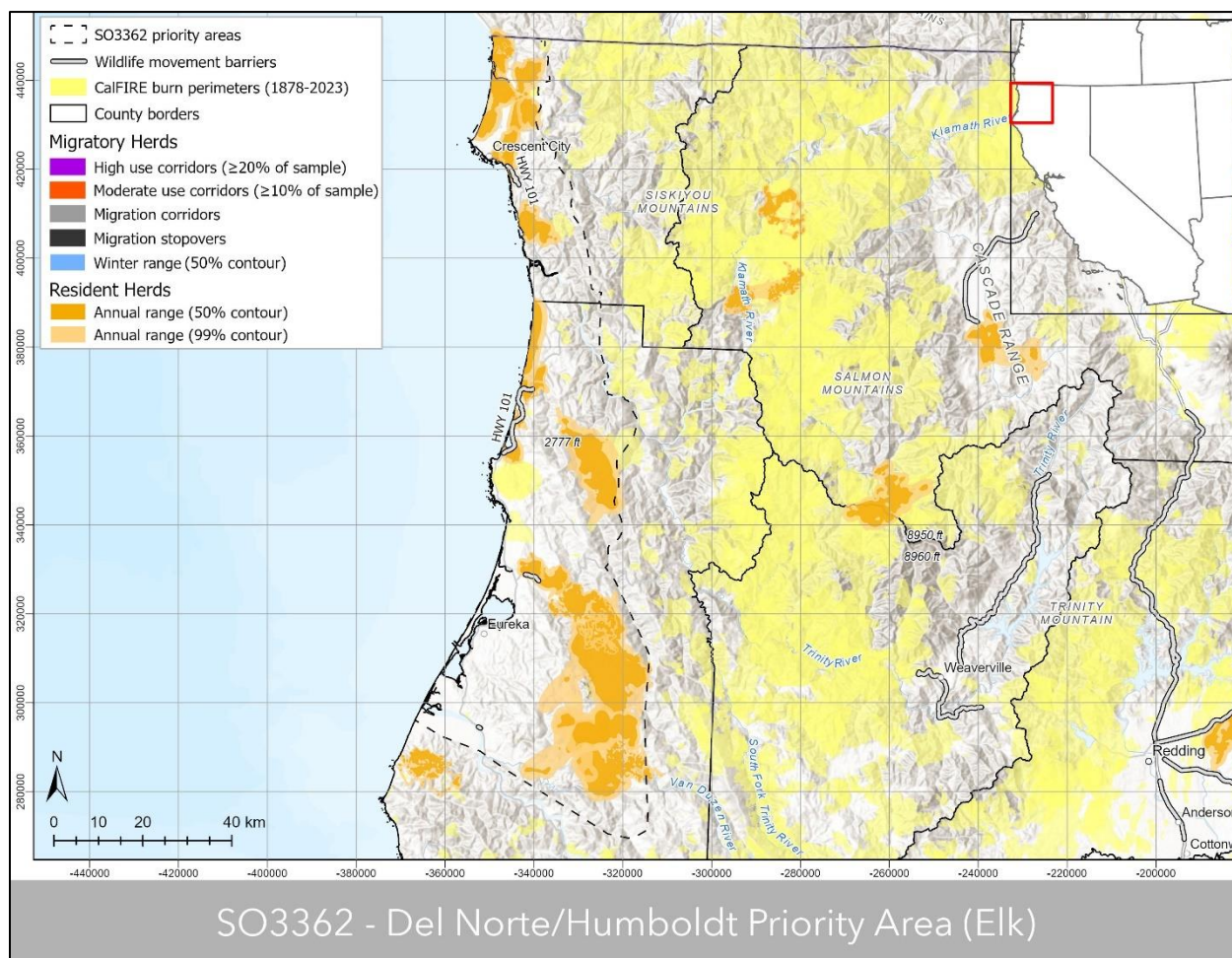


Figure 5. The Northern California Elk priority area, including burn perimeters and wildlife movement barriers.

Past and Current Efforts

- Forty-one elk were collared using free-range darting in Humboldt and Del Norte counties. Additional elk will be collared annually to achieve long-term monitoring of known herds and to collect information on new subgroups/herds of elk outside current home ranges. Ongoing research efforts on the North Coast are being accomplished through federal financial assistance made available through the Pittman-Robertson Wildlife Restoration Act, including information about elk population parameters for management and conservation planning. Knowledge about the relative abundance, distribution, and population trends is essential in assessing past management plans and practices and updating those plans.
- GPS collar data allows for sub-herd identification and analyses regarding habitat use and resource selection, movement patterns, population connectivity, recruitment estimates, calf survival, causes of mortality, and mark-resight estimates of abundance.

Over recent years, road surveys, remote cameras, and fecal DNA mark-recapture estimates have been employed to monitor elk populations and estimate population parameters.

- BLM completed ~200 acres of oak woodland and grassland restoration in the Lacks Creek Management Area. They also removed Douglas-fir and replanted with native grasses to improve forage for elk. Several prairie burns have also been conducted. These BLM actions have been undertaken thanks to contributions from the Rocky Mountain Elk Foundation (RMEF), Mule Deer Foundation, and the California Deer Association.

Increase highway safety by working with Caltrans by performing the following:

- Identify drivers of primary elk crossing zones to prioritize for increased connectivity across the landscape. Over 200,000 collar locations for 41 female elk in established groups have been collected to evaluate how various environmental and anthropogenic factors influence the probability of elk crossing locations across Highway 101.
- Provide locations and crossing frequency data to support improving signage and crossing systems for elk crossing locations.
- Provide support and collaborate with Caltrans to construct an elk detection system and wildlife overpass to increase habitat connectivity and improve highway safety at Stone Lagoon. The elk detection system uses elk collar locations to determine if elk are approaching or are near the highway, triggering a driver warning system through changeable message signs. This system is anticipated to be constructed in the spring or summer of 2025.
- Monitor 46 bridge and culvert sites along Highway 101 using game cameras to understand wildlife usage and inform future improvements to underpasses for increased elk and other wildlife usage.

Risks/Threats and Proposed Actions

1. Several herds of elk routinely cross Highway 101 and utilize areas adjacent to roadways to an extent that causes serious safety concerns for motorists. As population numbers increase along this section of highway, an increase in collisions is anticipated.
 - State Action: Identification of important highway crossing areas.
 - Collaborative Action: Funding and other support for installing passes and other crossing systems in areas with the greatest need to reduce collisions and provide safe passage to elk and other wildlife.

Proposed Efforts

Identify federal land projects with USFS, BLM, or USFWS to benefit elk within the North Coast.

CDFW will continue to work with Caltrans to improve habitat connectivity for wildlife

and highway safety, including testing the effectiveness of an elk detection system and installing and modifying wildlife crossing structures.

Tule Elk, San Luis Reservoir Elk Hunt Zone

This area contains the San Luis Reservoir Tule Elk population, estimated at 1,000 animals within the San Luis Reservoir Tule Elk Hunt Zone (Fig. 6). Located in Merced and Santa Clara County, the elk subpopulations are found near San Luis Reservoir and bisected by State Route 152, a high-priority barrier (CDFW 2022). Tule elk reside in the hillsides north of State Route 152 and south of Pacheco State Park.

Habitats vary depending upon elevation and aspect and include non-native annual grasslands and oak woodlands. Land Ownership is distributed between CDFW, the California Department of Parks and Recreation, the Bureau of Reclamation, and private lands (Supp. Fig 10). Land use in the area mainly comprises livestock grazing, agriculture, and recreation.

Tule elk, an endemic California species, were thought to have numbered as few as two individuals, of which all populations are descendants (McCullough et al. 1996). Although recovering in number, the inter-population demographic and genetic connectivity is believed to be low. (McCullough et al., 1996). The San Luis Reservoir population was established by reintroduction from elk outside neighboring populations (Sacks et al. 2024). Tule elk exhibit lower genetic heterozygosity than other California elk species, emphasizing the need for landscape-level conservation efforts (Sacks et al. 2024).

Tule elk require large tracts of land and the ability to navigate the landscape to support healthy populations, particularly as climate conditions change (Denryter and Fischer 2022). The San Luis Reservoir tule elk herd was rated as extremely vulnerable to climate change, higher than any other tule elk herds (Denryter and Fischer 2022). The removal of barriers (i.e. fences, roads, etc.) between currently occupied habitat and suitable future habitat is needed to maintain this population.

Past and Current Efforts

- Additional GPS collars will be deployed in 2024-25 in the San Luis Reservoir area. The collar data will supply detailed movement data to assess barriers to habitat usage and provide a robust population estimate model. A detailed analysis of road crossings and movements is needed once the data collection phase is completed. The final report of the 2017 Local Assistance Grant (LAG) study and CDFW tule elk radio collar study results documented six elk-vehicle collisions from August 2018 to July 2019. CDFW is coordinating with Caltrans and others (WCB and LAG grant recipients) to increase the planning and mitigation of road projects along Highway 152. CDFW is coordinating with California State Parks regarding habitat restoration projects on State Park lands.

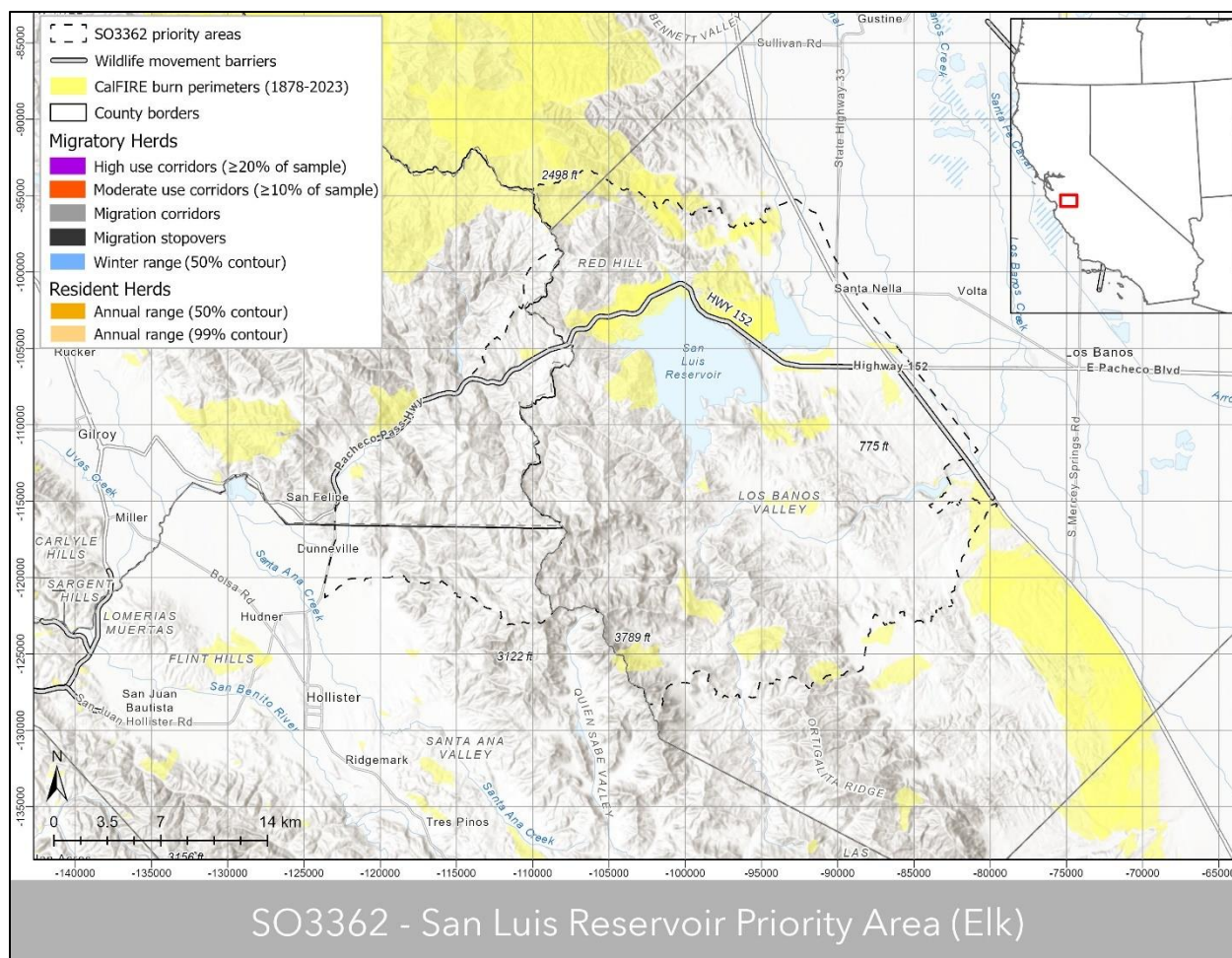


Figure 6. The San Luis Reservoir Elk priority area, including burn perimeters and wildlife movement barriers.

- CDFW will continue working with the Santa Clara Open Space Authority, Santa Clara Valley Habitat Agency, and Pathways for Wildlife to implement the State Route 152 permeability study, which assesses the impacts of the highway on wildlife species. Pathways for Wildlife produced a linkage analysis for focal species, including elk, in 2023 (Diamond and Sandoval, 2023a). Other studies include Wildlife Permeability and Hazards across State Route 152 Pacheco Pass (Diamond and Snyder 2019) conducted by Pathways for Wildlife (2018–2019), Pacheco Creek Wildlife Connectivity Study conducted by Pathways for Wildlife (2020–2021), State Route 152 Pacheco Creek Wildlife Connectivity and Corridor Enhancement Project conducted by Pathways for Wildlife (2021–2024), State Route 152 Pacheco Pass Wildlife Connectivity Study (Diamond and Sandoval 2023b) conducted by Pathways for Wildlife (2021–2023).

The Pacheco Pass Wildlife Crossing and Alternatives Analysis identified and studied eight undercrossing or overcrossing locations, leading to a 65% design of the chosen sites (Mark Thomas and Dudek for Santa Clara Valley Habitat Agency 2024).
- CDFW is providing information to the High-Speed Rail Authority on elk biology and

preliminary movement data to reduce or eliminate impacts on elk and improve public safety.

Risks/Threats and Proposed Actions

1. Development and overall fragmentation of habitats are significant issues. Elk-vehicle collision rates along highways need to be reduced. Transportation networks have caused issues for elk movements.
 - State Action: Delineation of important movement corridors and stopover locations to support empirically based decisions regarding prioritization of habitat conservation needs in those areas.
 - Collaborative Action: Funding and other support for installing passes and other crossing structures in areas with the greatest need to reduce collisions and provide safe passage to elk during migration and daily movements
2. High-speed Rail is planned for the area and could bisect and further fragment the landscape.
 - State Action: Identify important use areas, including calving grounds, home ranges, and crossing areas.
 - Collaborative Action: Funding and other support for installing passes and other crossing structures in areas with the greatest need to reduce collisions and provide safe passage to elk during migration and daily movements.
3. It is anticipated that conversion from native habitat to non-native invasive plant species will continue.
 - Collaborative Action: Large-scale habitat restoration is needed to restore the habitat to support a healthy ecosystem. Prescribed burns and noxious weed control, along with revegetation efforts, are needed.
4. Tule elk in this area suffer from low genetic diversity, further exacerbated by a lack of landscape permeability.
 - State Action: Delineation, preservation, and creation of essential movement corridors to maintain gene flow within the population.

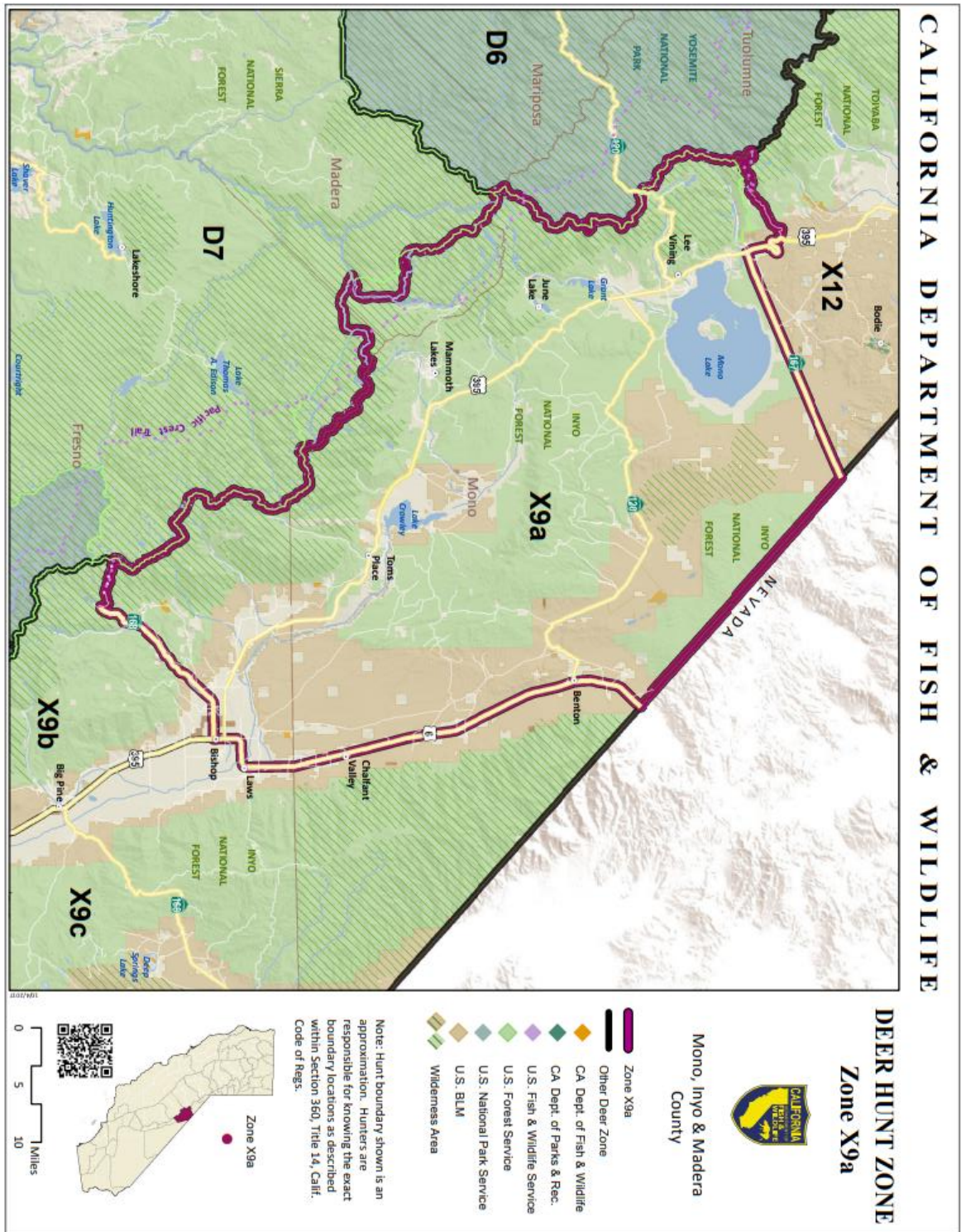
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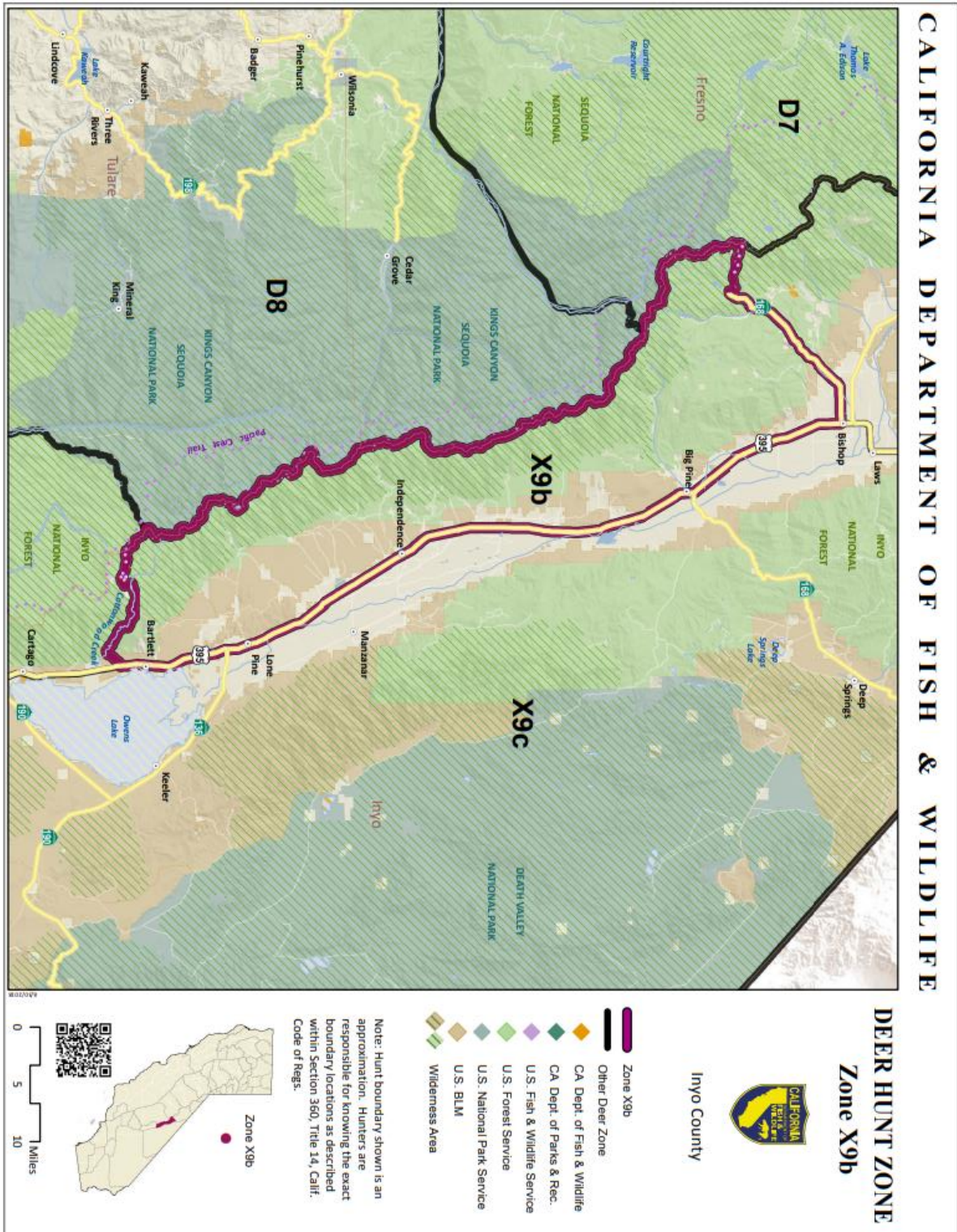
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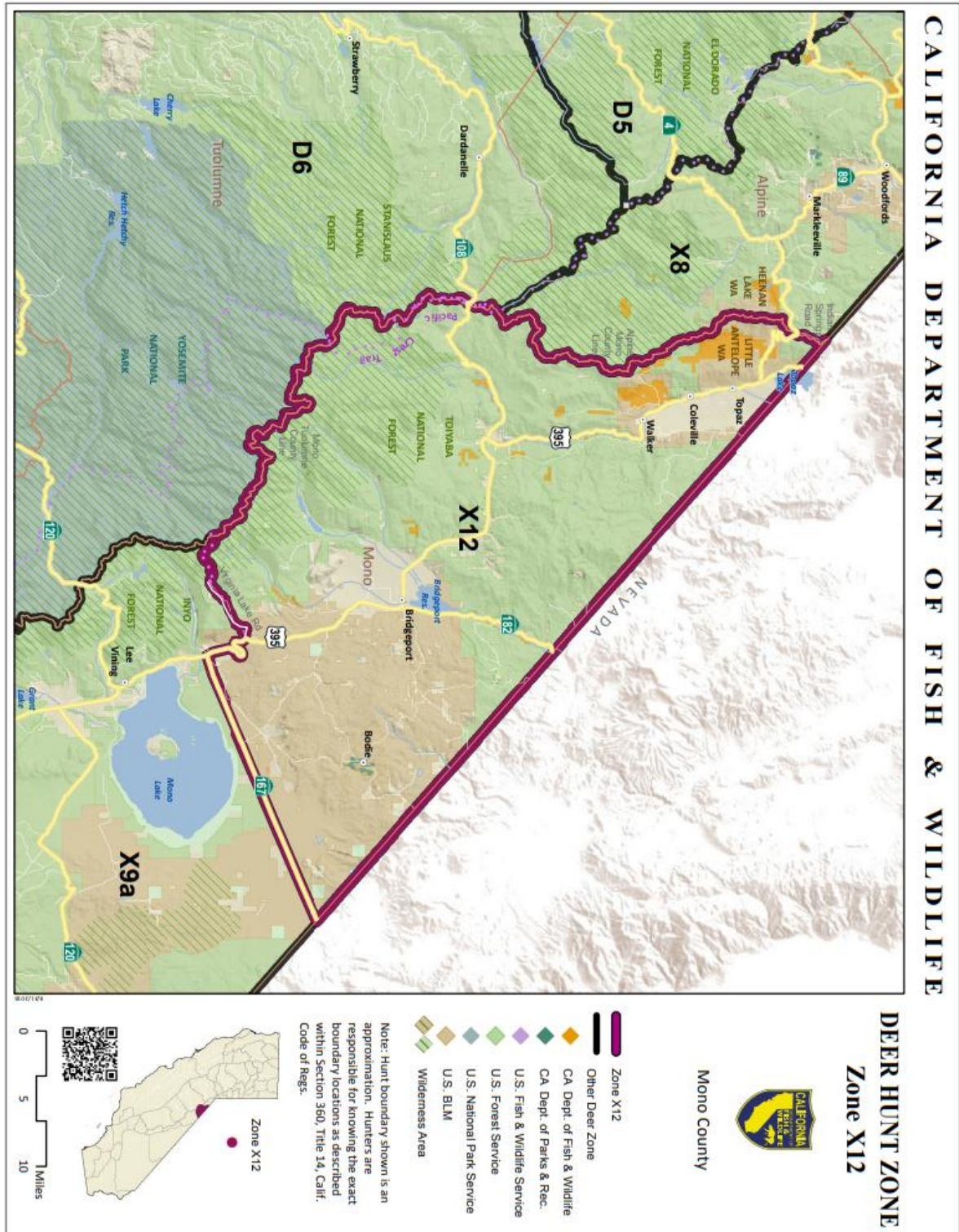
Appendix



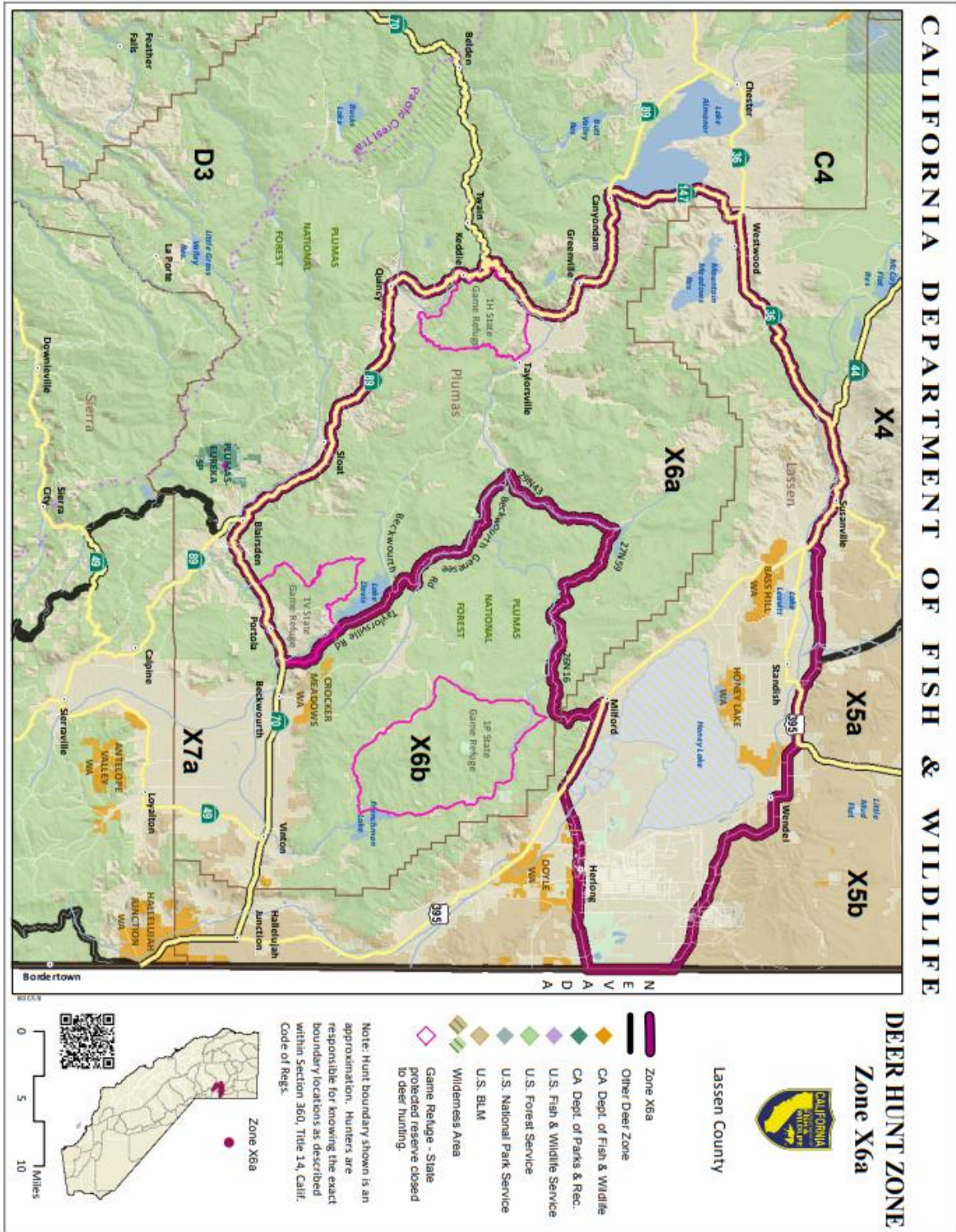
Supplementary Figure 1. CDFW deer hunt zone X9a boundary, within the Mono County state priority area.



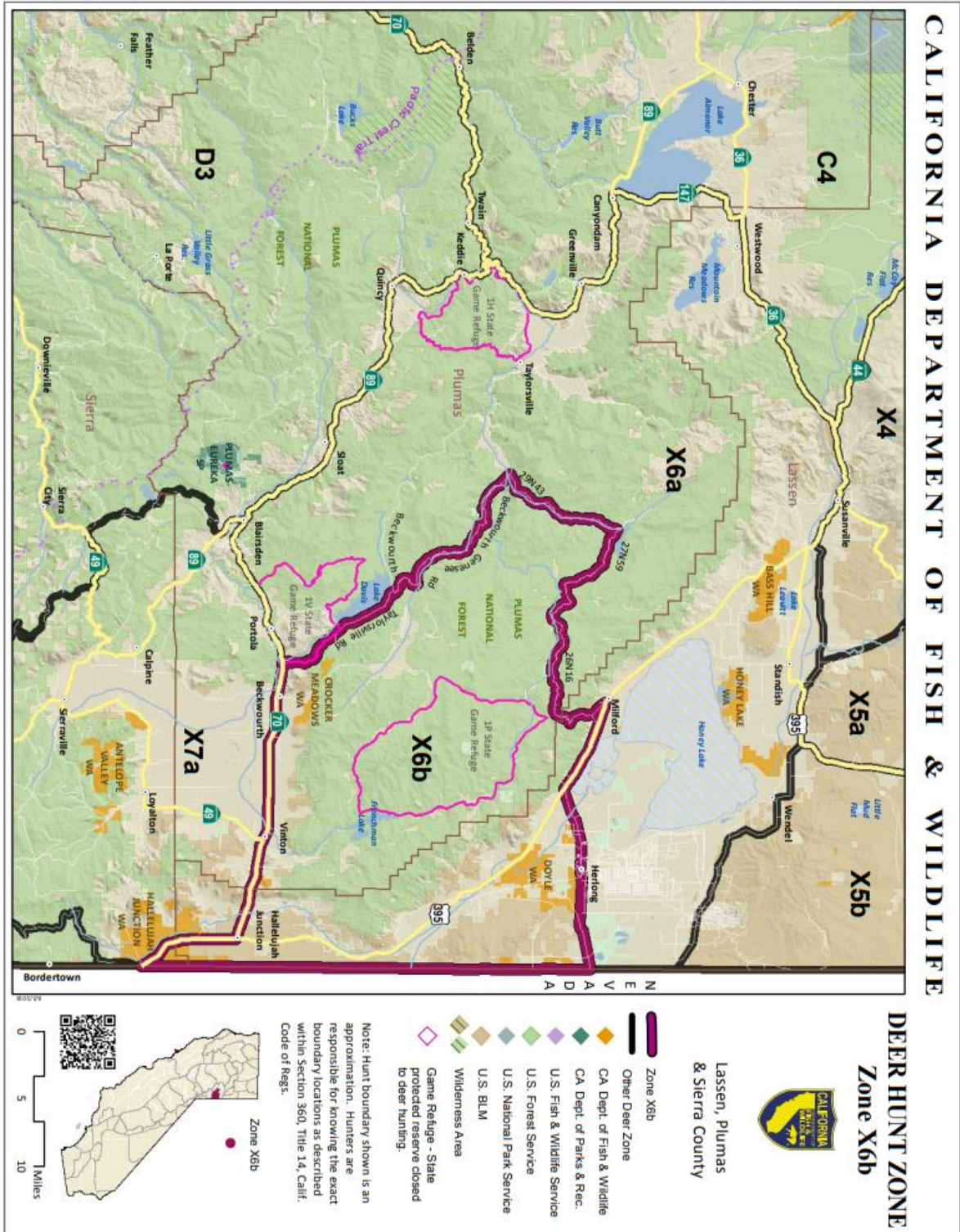
Supplementary Figure 2. CDFW deer hunt zone X9b boundary, within the Mono County state priority area.



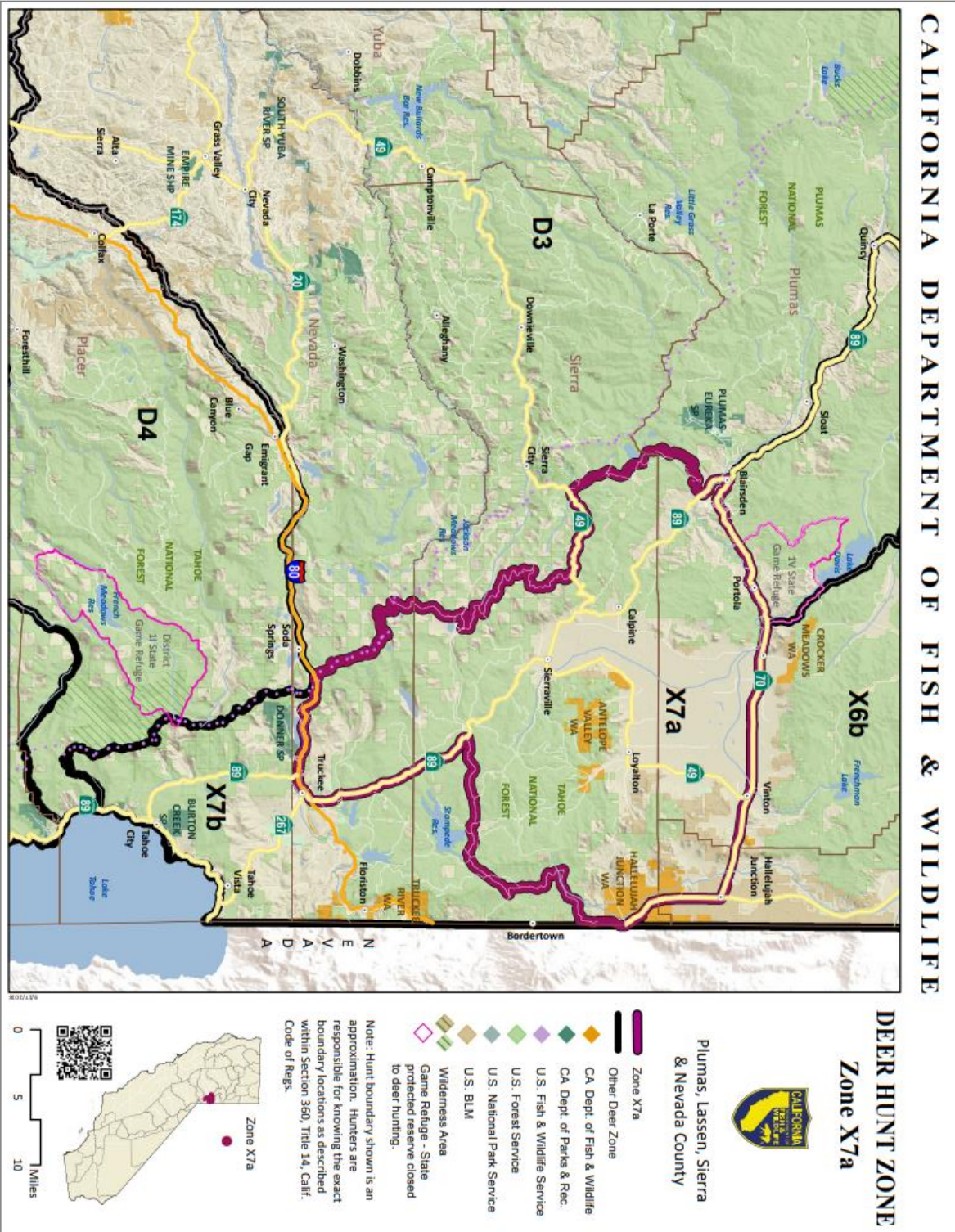
Supplementary Figure 3. CDFW deer hunt zone X12 boundary, within the Mono County state priority area.



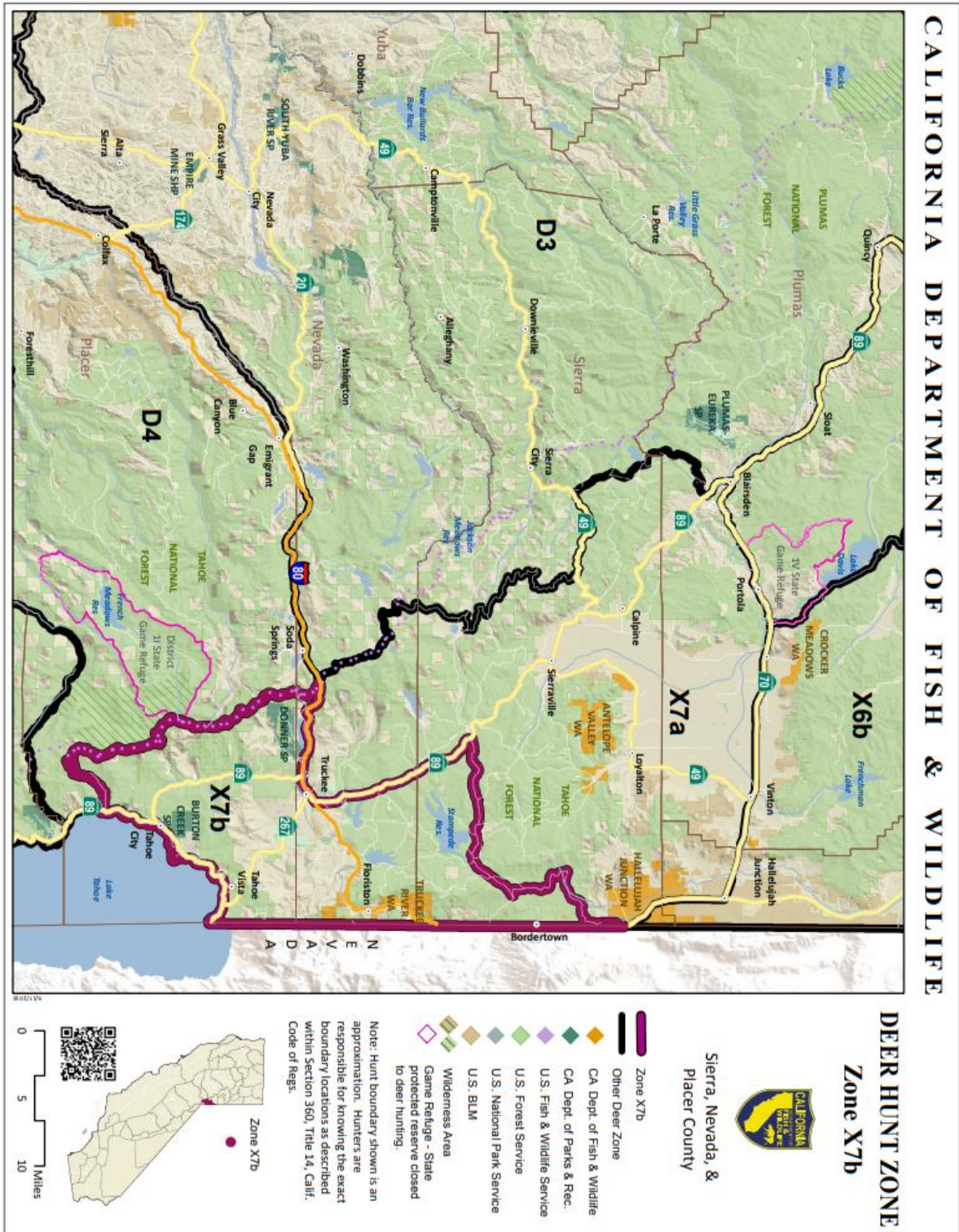
Supplementary Figure 4. CDFW deer hunt zone X6a boundary, within the northern Sierra Nevada state priority area.



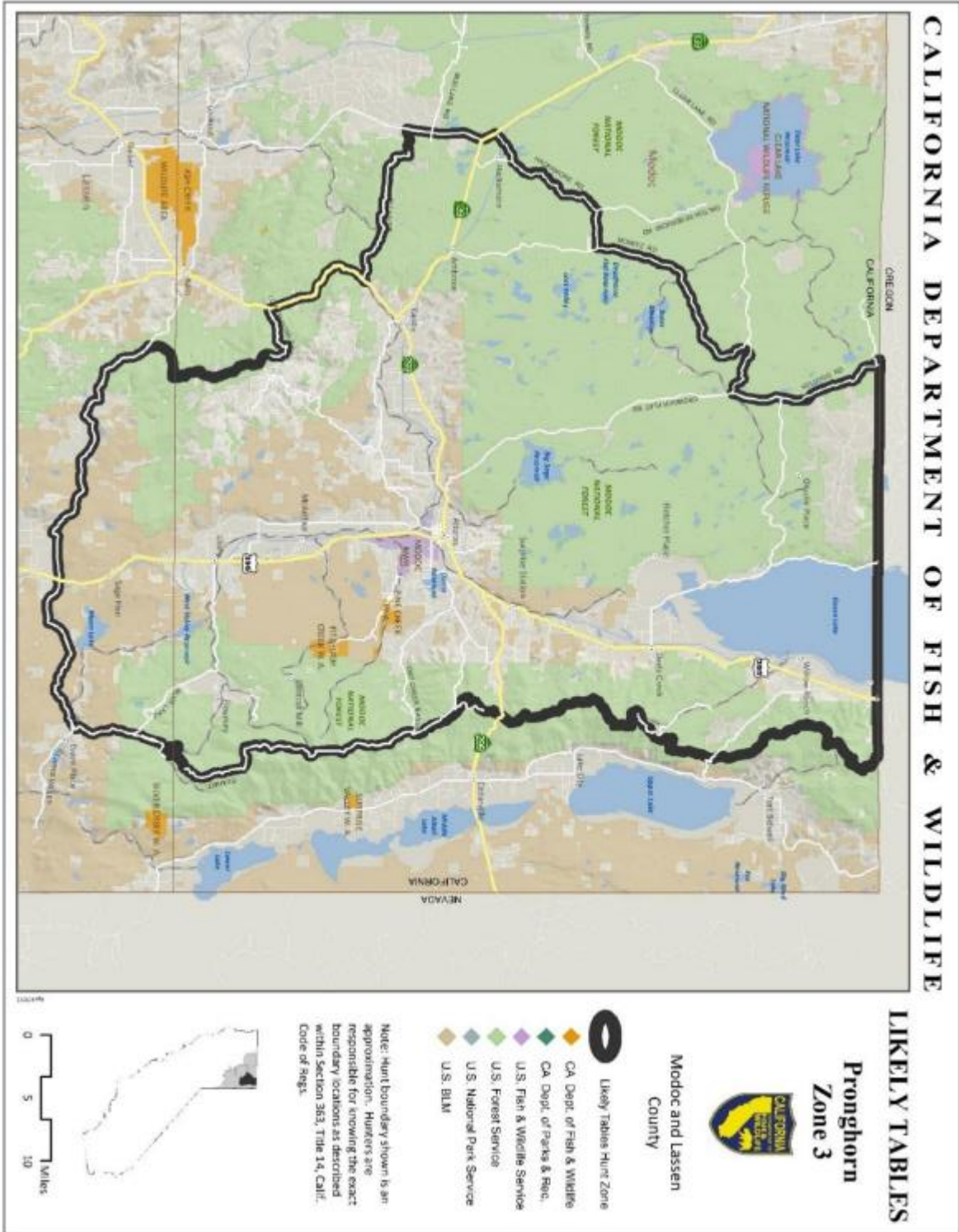
Supplementary Figure 5. CDFW deer hunt zone X6b boundary, within the northern Sierra Nevada state priority area.



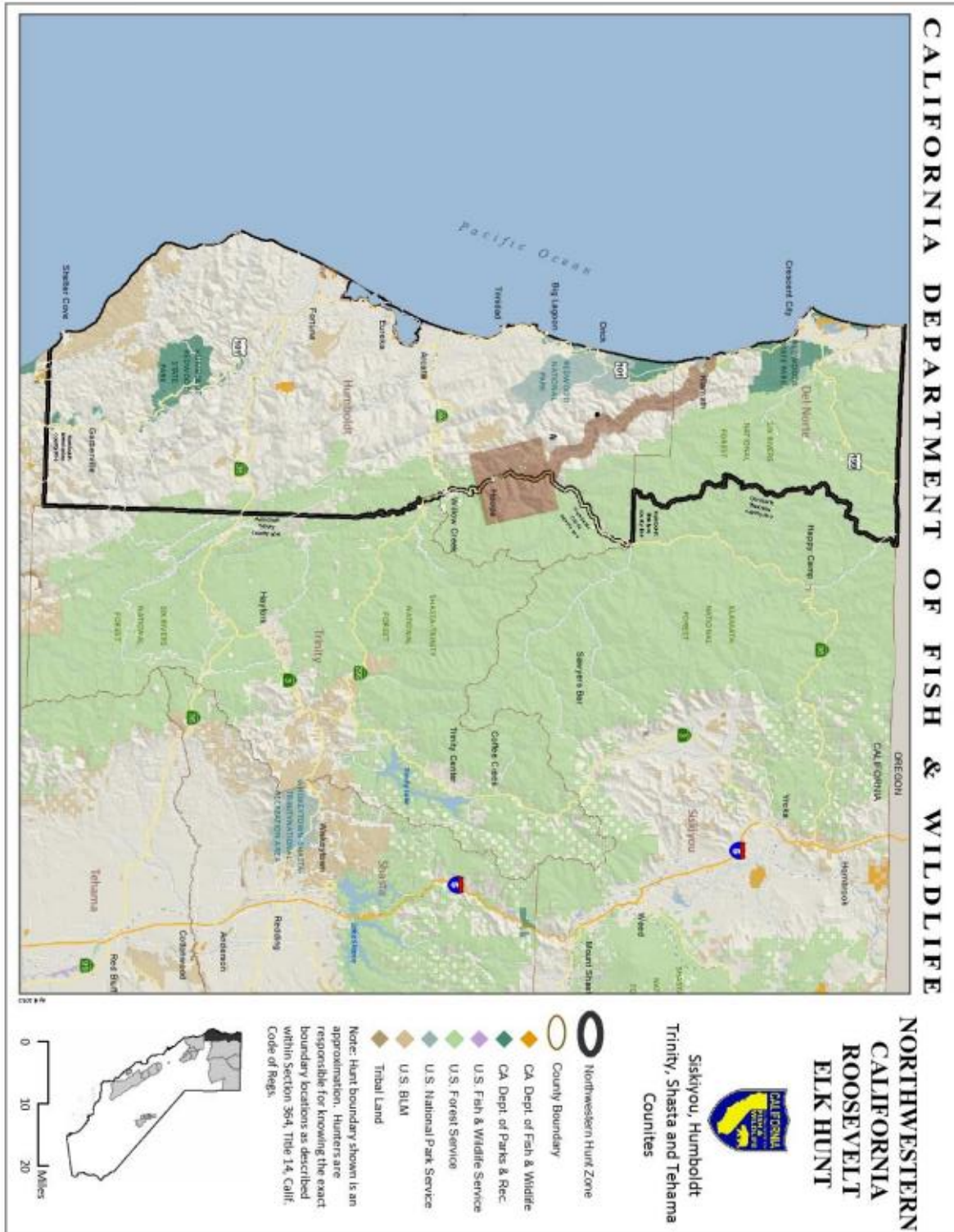
Supplementary Figure 6. CDFW deer hunt zone X7a boundary, within the northern Sierra Nevada state priority area.



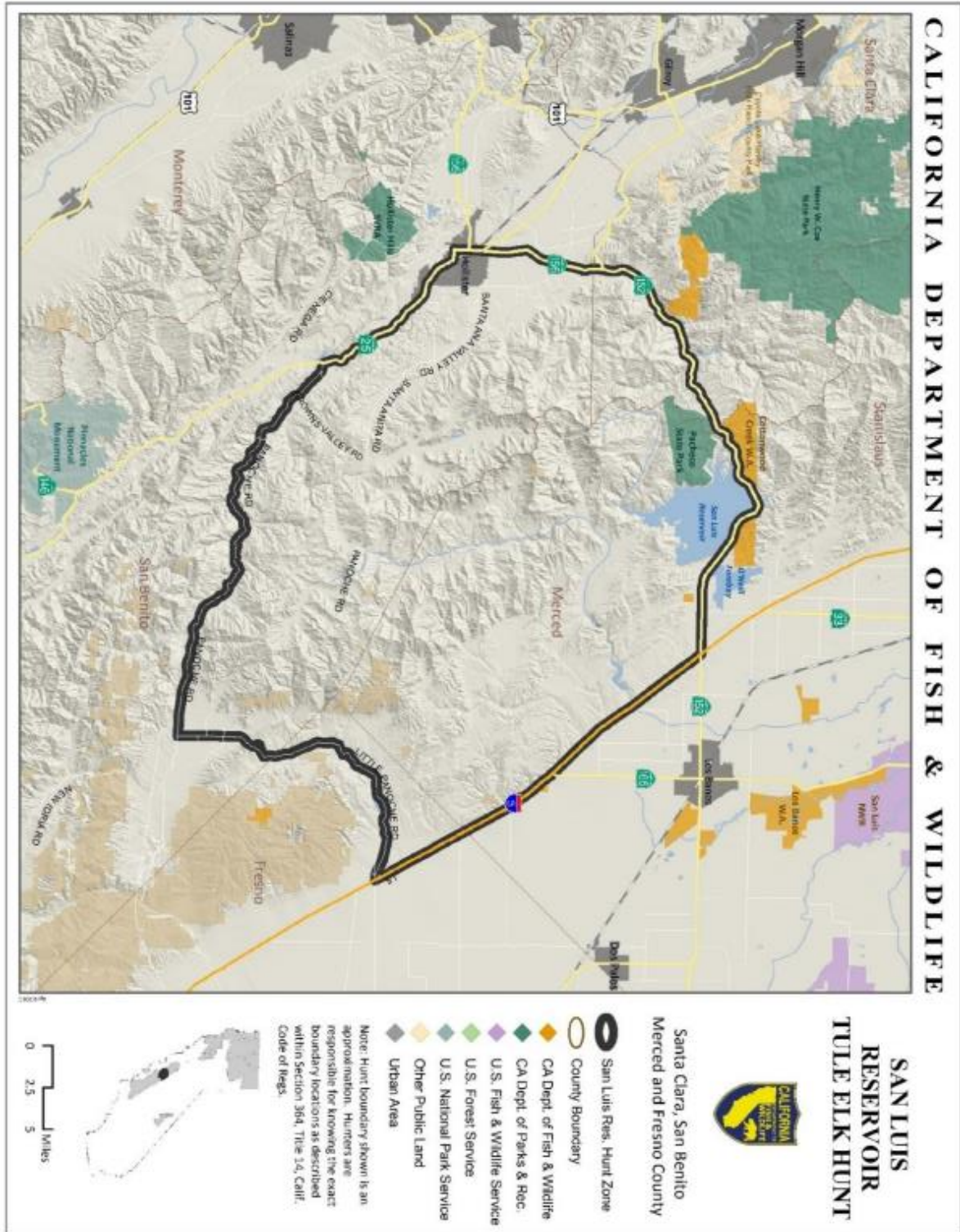
Supplementary Figure 7. CDFW deer hunt zone X7b boundary, within the northern Sierra Nevada state priority area.



Supplementary Figure 8. CDFW Likely Tables Pronghorn hunt zone.



Supplementary Figure 9. CDFW Northwestern California Roosevelt Elk hunt zone.



Supplementary Figure 10. CDFW San Luis Reservoir Tule Elk hunt zone.



THE SECRETARY OF THE INTERIOR
WASHINGTON

ORDER NO. 3362

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(v) Funding sources previously used and/or currently available to the

bureau for winter range and migration corridor conservation/restoration efforts.

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

- (i) Habitat management goals and associated actions as they are associated with big game winter range and migration corridors;
- (ii) Measurable outcomes; and
- (iii) Budgets necessary to complete respective action(s).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

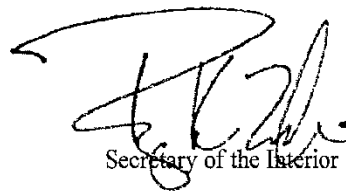
jurisdictional boundaries.

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

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

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

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



Secretary of the Interior

Date: FEB 09 2018