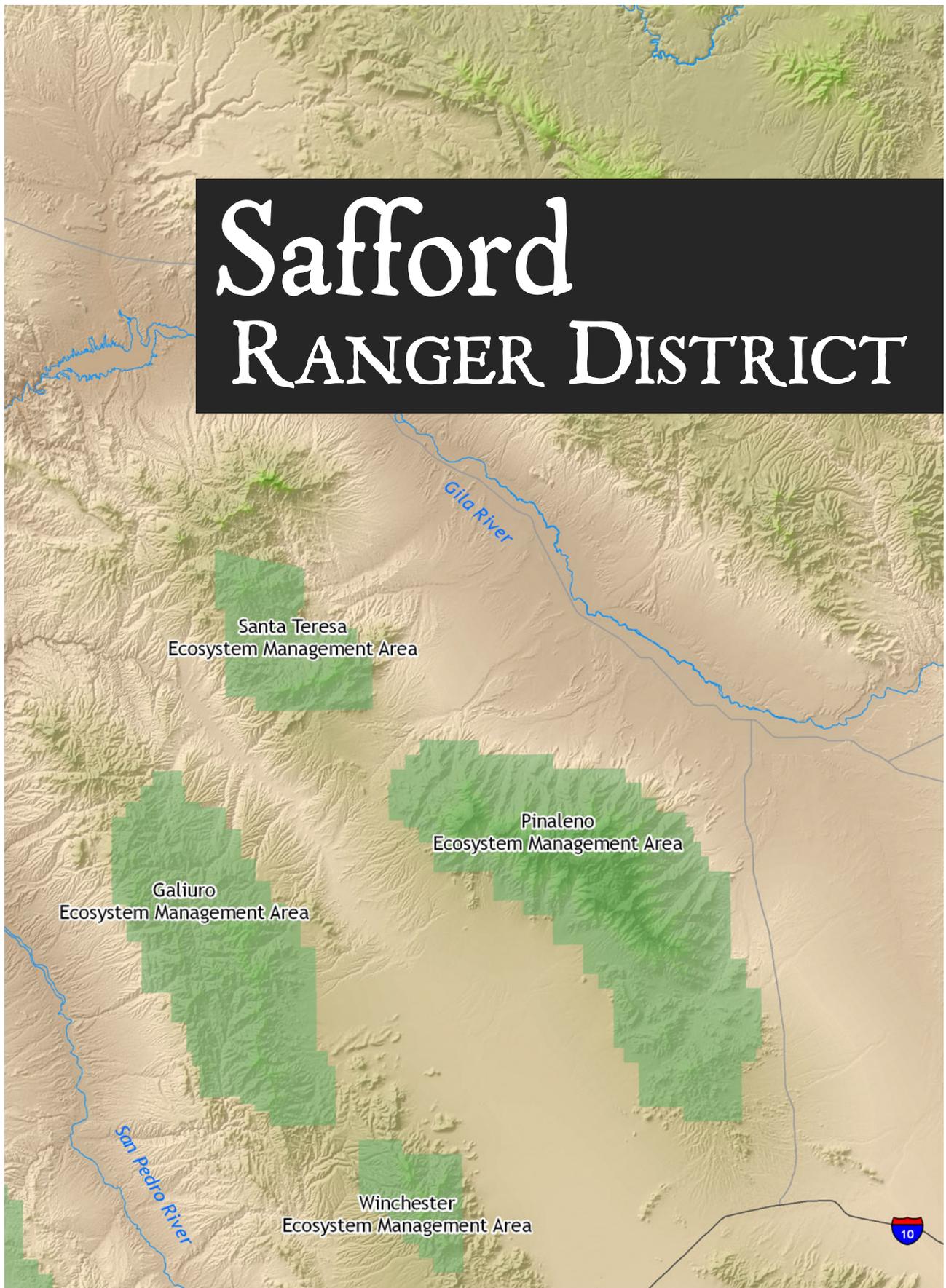


# Safford RANGER DISTRICT







## CHAPTER 10 **Winchester Ecosystem Management Area**

The Winchester Mountain Range is encompassed in the smallest Ecosystem Management Area (EMA) on the Coronado National Forest. Its 27,981 acres are located in the northern part of the forest, north of the Interstate 10 corridor. Elevations in the Winchesters range from approximately 4,720 feet in Rose Canyon to 7,631 feet at the summit of Reiley Peak. The Winchester Management Area is located about 16 miles to the northwest of Willcox, AZ and about 60 miles east of Tucson, AZ. Along with the Galiuro Mountains, the Winchester Mountains form the eastern boundary of the San Pedro River Valley in this area. Pine Canyon and Caruthers Canyon on the western side of the range carry water across the Teran Basin to the river. Major drainages such as Reiley Canyon and Wood Canyon on the eastern flank of the range feed the aquifer under the highly developed agricultural lands and growing population of Sulphur Springs Valley northwest of Willcox. The Winchesters are located in very close proximity to the Galiuro EMA to the north, and to the Santa Teresa and Pinalaño EMAs to the east across the Sulphur Springs Valley (Figure 10.1).

Access to the Winchester EMA is limited to several dirt roads and the area does not get a large amount of use. Access to the west side of the range is via Muleshoe Road and access to the east and north side of the range is currently limited by private property.

The Management Area offers high quality primitive recreation with opportunities for solitude and quiet. These opportunities are becoming increasingly rare in the face of continued population growth and should be given special consideration in the Forest Service's mosaic of multiple-use management.

### **Natural History**

The Winchesters are one of the least-visited sky islands of the Coronado National Forest due in part to difficult access via long dirt roads. Hunters are one of the main recreational users of the area. Despite the small size and relatively low elevation of the Winchesters, as compared to the neighboring Galiuros and Pinalaños, its deepest canyons harbor black bears. Desert bighorn sheep used to roam the range until they were eradicated in the 1930s due to a combination of hunting, poaching and the introduction of disease. The west side of the Winchesters is known for good javelina hunting and receives a spike in visitor use during the archery season. Coues' whitetail deer and mule deer also bring hunters to the area. High-elevation forest and canyon habitat harbor Mexican spotted owl and Peregrine falcon.

Hot Springs Creek headwaters in the Winchester Mountains and flows in a northwesterly direction to the southern tip of the nearby Galiuro Mountains. The creek eventually turns to the west through Hot

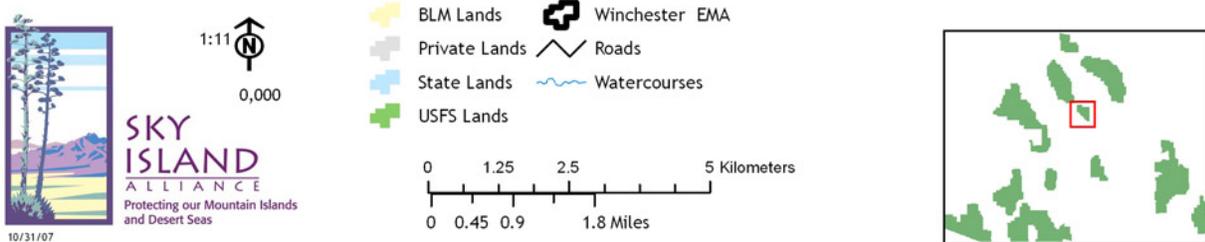
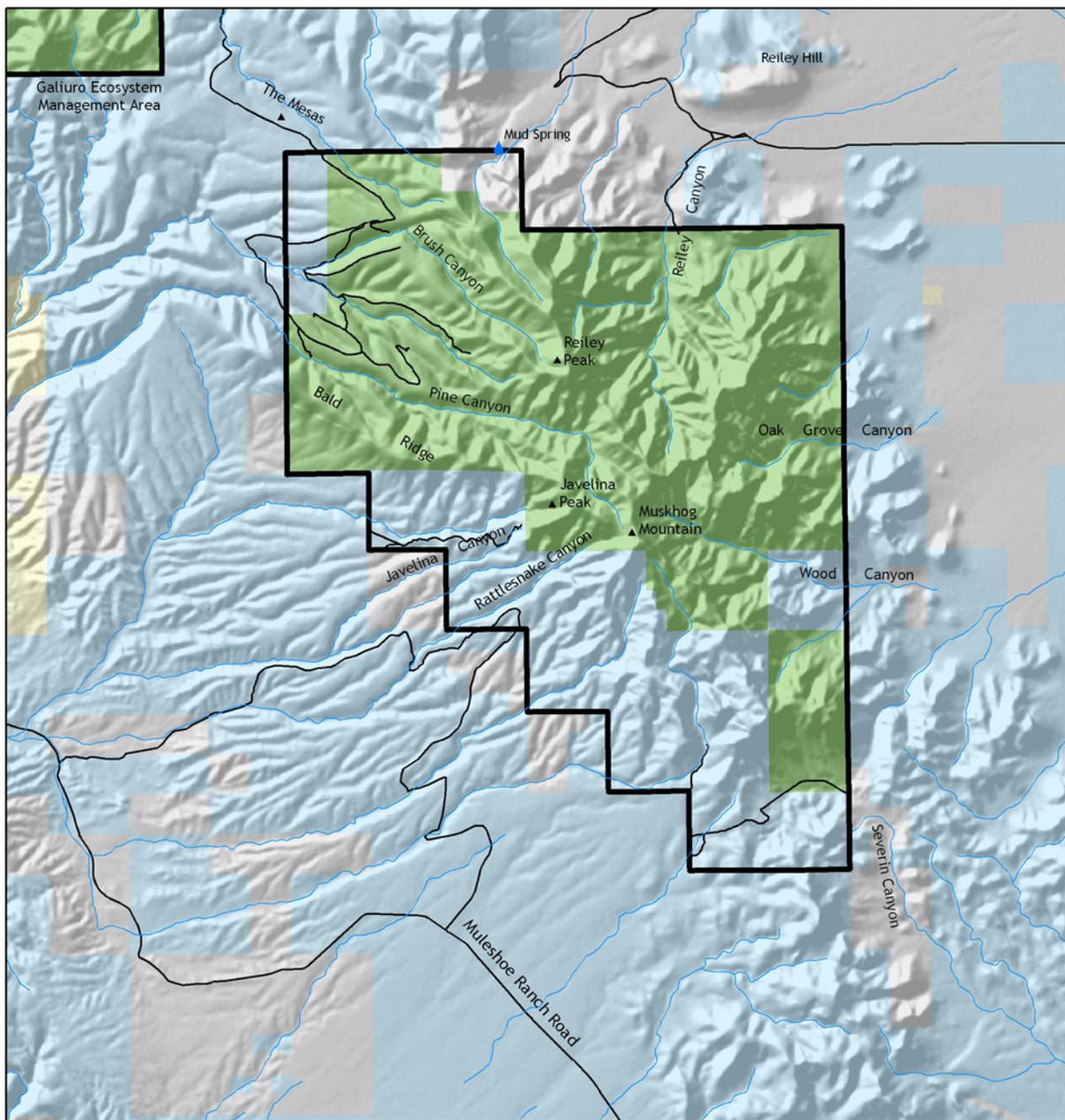


Figure 10.1 Overview of the Winchester EMA

Springs Canyon, a riparian area known to support a rich diversity of birds and other wildlife.

Madrean oak-pine woodland dominates the mid-elevations of the Winchester Ecosystem Management Area covering nearly 60% of the land. Higher elevations along the northern slopes of Reiley Peak, Muskhog Mountain and Javelina Peak are covered with Madrean montane coniferous forest characterized by a mix of Apache, Arizona, white and ponderosa pines. The lower reaches of the area along Mud Springs Canyon and Bald Ridge consist of semi-desert grasslands and mixed scrub. Reiley Canyon, running through the heart of the area, is lined with patches of common riparian species such as sycamores, cottonwood, and willows. Much of the low elevations in the Winchester range are covered with semi-desert grasslands. The southern tip of the Ecosystem Management Area is primarily semi-desert grassland that is dominated by native species and has a very low density of shrub encroachment. Lands along the western boundary of the Management Area are mostly covered with grasslands dominated by native species with a moderate amount of shrub encroachment.<sup>1</sup> The desert grasslands of the Winchester EMA stand to be some of the best intact grasslands on the Coronado National Forest if managed properly.

### **Human Prehistory and History**

While the Winchesters are one of the least visited ranges on the Coronado National Forest today, they were well-visited and well-known by Apache. These mountains form the western boundary of Western Apache territory. Western Apache is a modern term used to refer to the collective group of White Mountains Apaches, San Carlos Apaches, Cibecue

Apaches and Southern Tonto Apaches. Archeological evidence from the 15th century indicates that Apache moved into the area from the north and east prior to the Spanish period and gradually displaced the pre-historic inhabitants. In the area of the Pinaleño, Winchester, Rincon and Santa Catalina Mountains the Sobaipuri Indians were forced out by Apache in the mid 1700s, leaving the Apache free to hunt and gather wild food in these ranges.<sup>2</sup> Multiple Apache artifacts have been found in or near the Winchesters including yucca sandals and clay objects thought to have ceremonial significance.<sup>3</sup> Apache chiefs Geronimo and Cochise utilized the Winchesters in their travels. The Winchester Mountains along with the nearby Santa Teresa, Pinaleño and Galiuro Mountains remain an important part of Western Apache life today.

The name Winchester is thought to be from miner and prospector Josiah Winchester, who hunted gold in southern Arizona. It is also possible that the range was named for Lieutenant Winchester who served in Arizona.<sup>4</sup> It may also derive from the Winchester Mining District and a small community called Winchester.

Winchester Mining District centers in Severin Canyon in the southern part of the range. Some minimal mining took place in the 1890s and again in the mid-1930s when some silver and copper was recovered. Nugent Pass, immediately south of the Winchester Mountains, was a prominent feature on the southern overland route named for John Nugent, a Forty-niner.<sup>5</sup> Reminders of human pre-history and history are found throughout the Winchester range in the form of traditional place names, historical place names, built structures and in other less tangible ways.

## **Elements of Biological Diversity and Cultural Heritage**

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The Winchester Ecosystem Management Area harbors a unique combination of vegetation types and species that contribute to the biological diversity of the Coronado National Forest. The Forest Service recognizes that building a framework for ecological sustainability, will require management of entire biological communities combined with special management for particular species. For revision of the Forest Plan the Forest Service identified species that will be the focus of planning efforts. Species and

vegetation types of management interest found across the Coronado National Forest were described and listed in the Forest Overview (Table 1.1, page 1-11). Described here are species and vegetation types specifically found on the Winchester Ecosystem Management Area. The Forest Service identified 33 species of plants and animals including three Threatened or Endangered species, along with other species determined to be Species of Concern or Species of Interest due to management issues (Table

10.1).

Ecological systems and the processes that sustain them are the foundations of native biological diversity. Vegetation communities and aquatic habitats that are especially species rich, diverse, or threatened; or are endemic to the region or locality are of particular management concern. To evaluate the current conditions and management prescriptions for ecological systems, the Forest Service is using the framework of Potential Natural Vegetation Types. Potential Natural Vegetation Types are defined as the vegetation that would dominate a site under natural disturbance regimes and biological processes. Using this classification allows current vegetation to be compared to vegetation under historic conditions. Because Potential Natural Vegetation Types are relatively broad groupings, and because the Forest contains a high diversity of vegetation types, we use ecological systems as a focus for management direction. These ecological systems are cross-walked with the Potential Natural Vegetation Types used by the Forest Service (Table 10.2). Although there are many fine variations in plant communities on the Winchester Ecosystem Management Area, ecological

systems classify communities into broader groups so as to be most useful for management actions such as mapping, land management, and monitoring. Plant communities were grouped into ecological systems based on shared characteristics such as natural processes (e.g. fire and flood), substrates (e.g. shallow soils, limestone outcroppings), and local climate.<sup>6</sup> Figure 10.2 shows the distribution of ecological systems in the Winchester. Through, scientific literature, and contact with regional scientists, experts, and other people familiar with the Winchester, we identified ecological systems, additional species and cultural resources that should also be considered in the Forest Plan revision.

Species that will need special management attention include species that are endemic to the region or locality, species that have a restricted distribution within the region, and species dependent on specialized habitat. Other species that will need special consideration are species that are rare, vulnerable or declining throughout their ranges; are rare, imperiled or vulnerable in the U.S. portion of their ranges that overlap the Coronado National Forest; or are harvested for economic interests. These

**Table 10.1 Species Identified by the Forest Service to Guide Management Decisions**

<b>Insects</b>	
<i>Melanoplus desultorius</i>	Red Whiskers Grasshopper
<b>Mammals</b>	
<i>Lasiurus xanthinus</i>	Western Yellow Bat
<b>Reptiles</b>	
<i>Aspidoscelis burti stictogramma</i>	Canyon Spotted Whiptail
<b>Plants</b>	
<i>Acacia millefolia</i>	Milfoil Acacia
<i>Bouteloua parryi</i>	Parry's Gramma
<i>Erigeron arisolius</i>	Arid Throne Fleabane
<i>Eriogonum arizonicum</i>	Arizona Wild-buckwheat
<i>Hexalectris spicata</i> var. <i>arizonica</i>	Crested Coralroot
<i>Penstemon discolor</i>	Catalina Beardtongue
<i>Perityle dissecta</i>	Slimlobe Rockdaisy
<i>Phoradendron bolleanum</i> ssp. <i>pauciflorum</i>	Rough Mistletoe
<i>Plagiobothrys pringlei</i>	Pringle's Popcorn-flower
<i>Rhamnus crocea</i> ssp. <i>pilosa</i>	Redberry Buckthorn
<i>Salvia amissa</i>	Catalina Mountain Sage
<i>Scutellaria tessellata</i>	Huachuca Mountains Skullcap

**Table 10.2 Foundations of Native Biological Diversity**

<b>"Potential Natural Vegetation Types" (bold) as they correspond with The Nature Conservancy's "Ecological Systems"</b>
<b>Interior Chaparral</b> Interior Chaparral
<b>Madrean Encinal Woodland</b> Madrean Encinal
<b>Madrean Pine-Oak Woodland</b> Madrean Pine-Oak Woodland
<b>Ponderosa Pine</b> Ponderosa Pine Forest and Woodland
<b>Semi-Desert Grassland</b> Apachean Shrubland

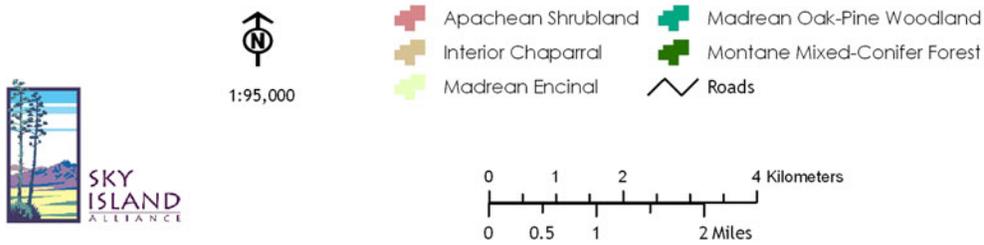
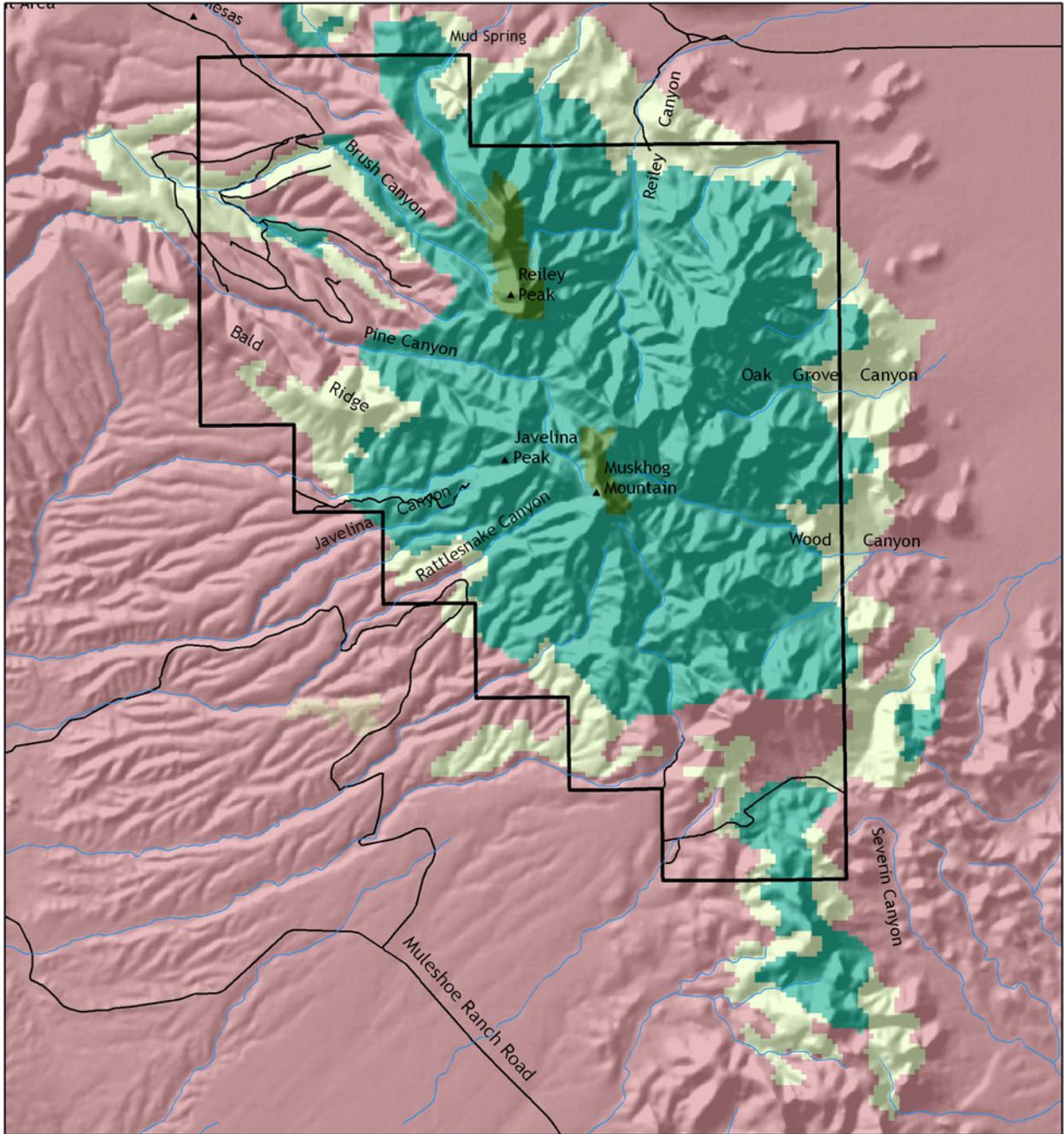


Figure 10.2 Ecological Systems of the Winchester EMA

**Table 10.3 Additional Species that Require Special Management Consideration**

<b>Amphibians</b>	
<i>Rana yavapaiensis</i>	Lowland Leopard Frog
<b>Birds</b>	
<i>Aimophila carpalis</i>	Rufous-winged Sparrow
<i>Asturina nitida maxima</i>	Northern Gray Hawk
<i>Athene cunicularia hypugaea</i>	Western Burrowing Owl
<i>Buteo albonotatus</i>	Zone-Tailed Hawk
<i>Buteogallus anthracinus</i>	Common Black-Hawk
<i>Callipepla squamata</i>	Scaled Quail
<b>Mammals</b>	
<i>Myotis velifer</i>	Cave Myotis Bat
<i>Sigmodon ochrognathus</i>	Yellow-Nosed Cotton Rat
<b>Plants</b>	
<i>Lupinus lemmonii</i>	Lemmon's Lupine
<i>Samolus vagans</i>	Chiricahua Mountain Brookweed
<b>Reptiles</b>	
<i>Phrynosoma cornutum</i>	Texas Horned Lizard

species may not be adequately protected by managing for ecological systems and may require specific management actions or monitoring. Table 10.3 lists additional species whose needs should be assessed during plan revision.

The Winchesters contain a wealth of prehistoric and historic values. Visible and physical remnants of previous human habitation of the area include built structures, physical sites, or objects or assemblages of material culture. Human uses of the land compatible with the protection of biological diversity are also an important part of the cultural heritage of the area (Table 10.4).

**Table 10.4 Elements of Cultural Heritage**

<b>Human Pre-History</b>
Ceremonial sites in caves
<b>Other Values</b>
Opportunities for quiet and solitude
Opportunities for primitive recreation

## Desired Conditions

★ The Winchester Ecosystem Management Area (EMA) remains situated in a landscape in which wide-ranging species (black bear, mountain lion, deer, pronghorn, Mexican gray wolf, jaguar, coati, and others) are able to move between the Winchester EMA and the following: Santa Teresa EMA, Galiuro EMA, Aravaipa Canyon Wilderness, Santa Catalina EMA and wildlands to the north.

★ Development in lands surrounding the Winchester EMA does not prevent the continued use of prescribed fire and wildland fire as management tools.

★ Vegetative communities in the Winchester EMA experience pre-fire suppression burn cycles. Burn cycles restore a broad mosaic pattern of different habitat types, as well as historical plant diversity. High-intensity stand-replacing fires occur only at pre-fire suppression intervals because the composition of fire-adapted vegetation types.

★ Scenic resources, including geological features and viewsheds, do not lose value from their current classifications.

★ Native species persist over large scales of time and space. Viable populations of all native species are restored to natural patterns of abundance. Extirpated and imperiled native species return to their historical ranges.

★ Human uses on the Winchester EMA are in both short- and long-term harmony with the ecological health of the land.

★ The Winchester EMA continues to be a high quality location for primitive recreation with opportunities to experience quiet and solitude. Wildlife and human visitors are free from direct disturbance and noise.

## Conservation Assets

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Conservation assets work on behalf of Forest health in the Winchester Mountains. They will contribute to the Forest Service's ability to maintain ecological sustainability on the Management Area. The following emerged as strengths and opportunities for conservation on the Winchester Ecosystem Management Area.

### **Location of Winchester Ecosystem Management Area**

The Winchester Ecosystem Management Area is located in close proximity to the neighboring Galiuro, Santa Teresa, and Pinaleño Ecosystem Management Areas of the Coronado National Forest. It is also in close proximity to Aravaipa Wilderness. Currently, these segments of public land reside in a relatively natural landscape that allows species to move between

them. The Winchester Mountains, along with the Galiuros divide the San Pedro River Valley and San Simon Valley.

### **Significant Opportunity for Wildland Fire Use**

The remote nature of the Winchester Management Area along with the rural character of the surrounding landscape, offers significant opportunity for wildland fire use. Managing naturally-ignited fire to burn in so that it fulfills its natural role in the ecosystem will benefit ecological systems and the species that depend on them. Natural fire occurring at regular intervals creates a mosaic of different vegetation types, cycles nutrients into the soil, helps control insect and disease levels in plants, and reduces heavy fuel accumulation.

## Threats to the Forest: A Need for Change

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The Coronado National Forest and surrounding lands have experienced a variety of changes in the twenty years since the current Forest Plan was written. Management concerns and threats exist in the Winchesters that are either not addressed in the Forest Plan, or have not been adequately dealt with through management. The plan revision will update existing management direction and add new management direction, both of which can address these concerns. The following issues present challenges to ecological sustainability on the Winchester Ecosystem Management Area and need to be addressed in the revised plan and subsequent project level activities.

### **ADJACENT LAND USES**

Although the Winchester Ecosystem Management Area is currently located in a relatively natural landscaped, the potential exists for exurban and/or road development in the surrounding valleys. This would disrupt wildlife linkages that allow wildlife to move between the Winchesters and surrounding Ecosystem Management Areas and wildlands. Other impacts of increased development would include:

- ★ Increased visitation
- ★ Increased potential for spread of invasive species

★ Changes in disturbance regimes (e.g., fire)

★ Restrictions on prescribed burning and wildland fire use

Resources likely affected by land development adjacent to the Forest include: springs, ephemeral watercourses, seeps, scenic resources, all ecological systems, all native vegetation types and their associated flora and fauna; species particularly sensitive to direct human disturbance (e.g., bats, lizards, desert box turtle, Coues' white-tailed deer); wide-ranging species of terrestrial animals: mountain lion, black bear, coati, pronghorn, deer; and prehistoric and historical sites, structures, and artifacts.

### **EXTRACTIVE USES**

Illegal poaching of game species may be an issue in the area. This leads to the depletion of species populations. Particularly affected by this are Coues' white-tailed deer, mule deer, and black bear.

### **ROADS/TRANSPORTATION SYSTEM**

The Winchester Ecosystem Management Area is currently located in a relatively remote area of southern Arizona which has prevented heavy recreational use of the area by motorized vehicles.

However, proliferation of motorized recreation combined with rapidly growing population in the state of Arizona will likely change that over the next 15 years. Potential future threats include creation of new non-system roads combined with a lack of enforcement of the legal transportation system. Affected resources include: springs; ephemeral

watercourses; seeps; scenic resources, all ecological systems, all native vegetation types and their associated flora and fauna, riparian plant and animal species, species especially sensitive to direct disturbance, Wide-ranging species of terrestrial animals, game species; prehistoric and historical sites, structures, and artifacts.

## Recommended Objectives and Management Actions

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The Winchester Ecosystem Management Area (EMA) offers great opportunities for primitive recreation where quiet and solitude can be experienced. This should be a major focus and driver for future management of this area. New management direction with foresight that proactively addresses threats will create a long-term framework for

ecological health and sustainability in the Winchester EMA. To confront threats and capitalize on conservation assets, we recommend the following objectives and management actions that should be incorporated into the revision of the Coronado National Forest Plan.

## Adjacent Land Uses

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### Objectives

Maintain wildlife corridors and connectivity between the Winchester EMA and the Pinalaño EMA, the Santa Teresa EMA, the Galiuro EMA, Santa Catalina EMA and other surrounding natural areas.

### Actions

*Foster public-private partnerships that will lead to landscape-level conservation through coordination of land use across Forest boundaries.*

*Work in partnership with affected communities and landowners adjacent to forest boundaries and promote the efforts of county and city land use planners to institute sustainable regional approaches to development and resource conservation.*

## Ecological Restoration

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### Objectives

Continue to maintain a resilient forest that tolerates wildfire, flood, and insect infestation and contains a mosaic of diverse settings for human and natural uses in the Winchester EMA.

### Actions

*Utilize wildland fire use throughout the Winchester EMA.*

## Roads/Transportation System

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### Objectives

Maintain the rugged nature and wilderness characteristics of the Winchester EMA.

Maintain opportunities for low-density, high-quality primitive outdoor experiences.

### Actions

*Close redundant and illegal roads. See Figure 10.3 for the proposed transportation system for the Winchester EMA.*

*Do not allow any further creation of roads in the Winchester EMA.*

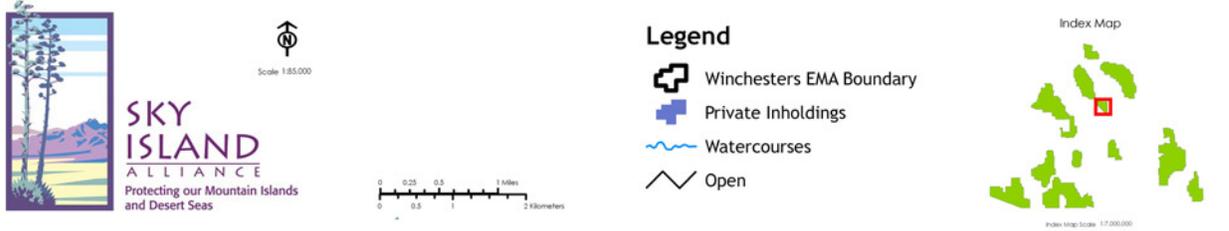
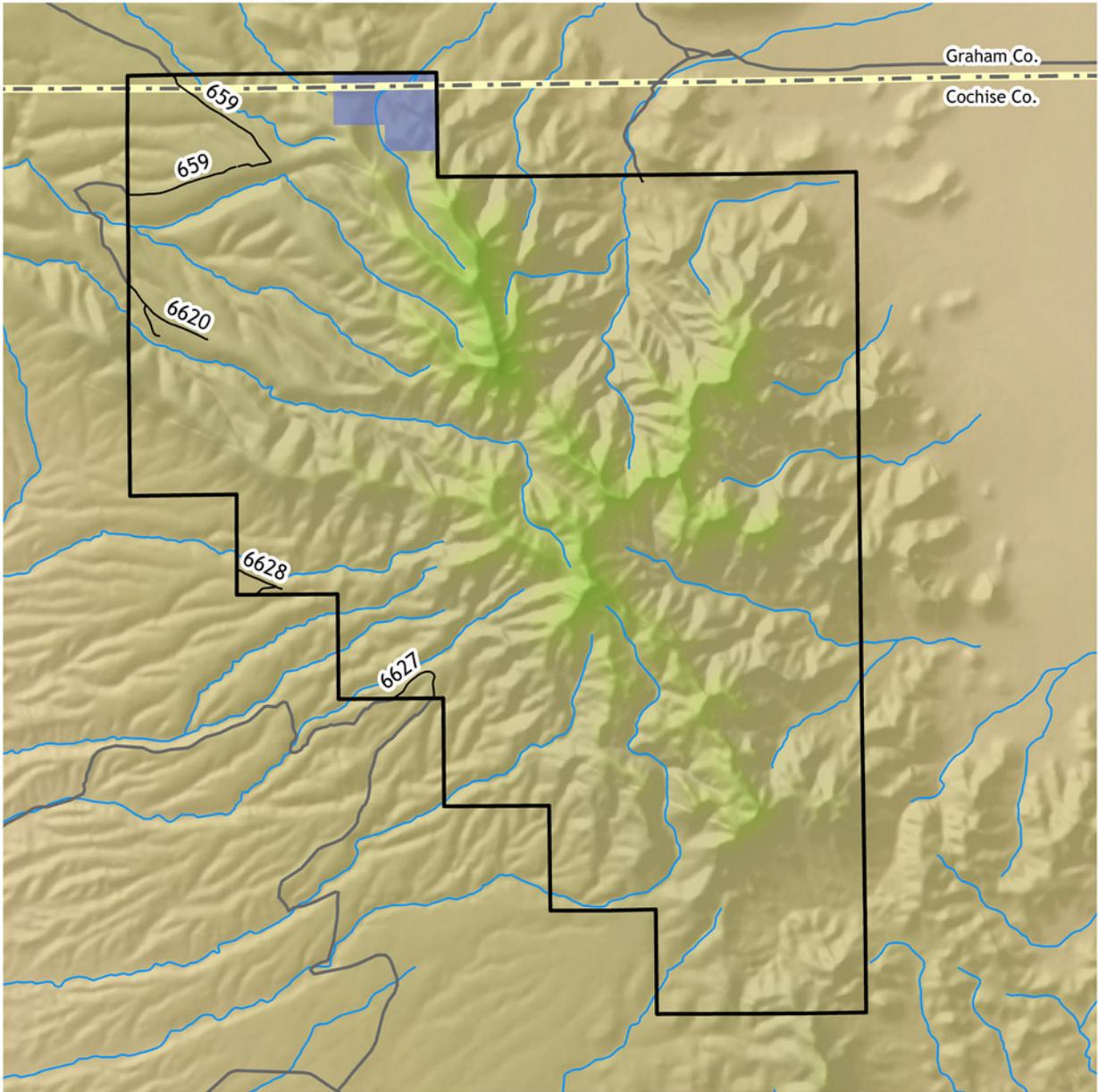


Figure 10.3 Travel Management Plan and Route Recommendations for the Winchester EMA

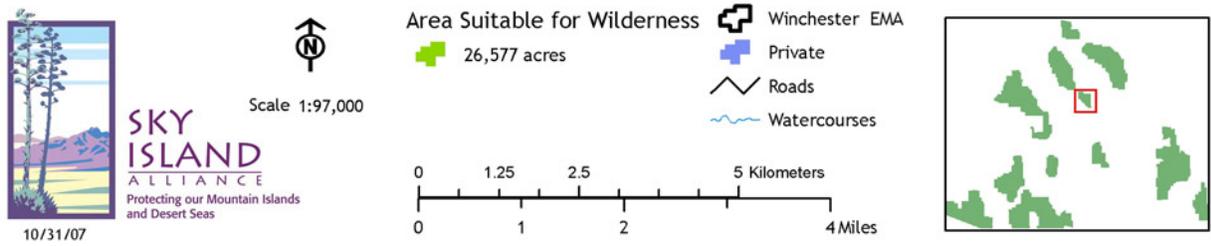
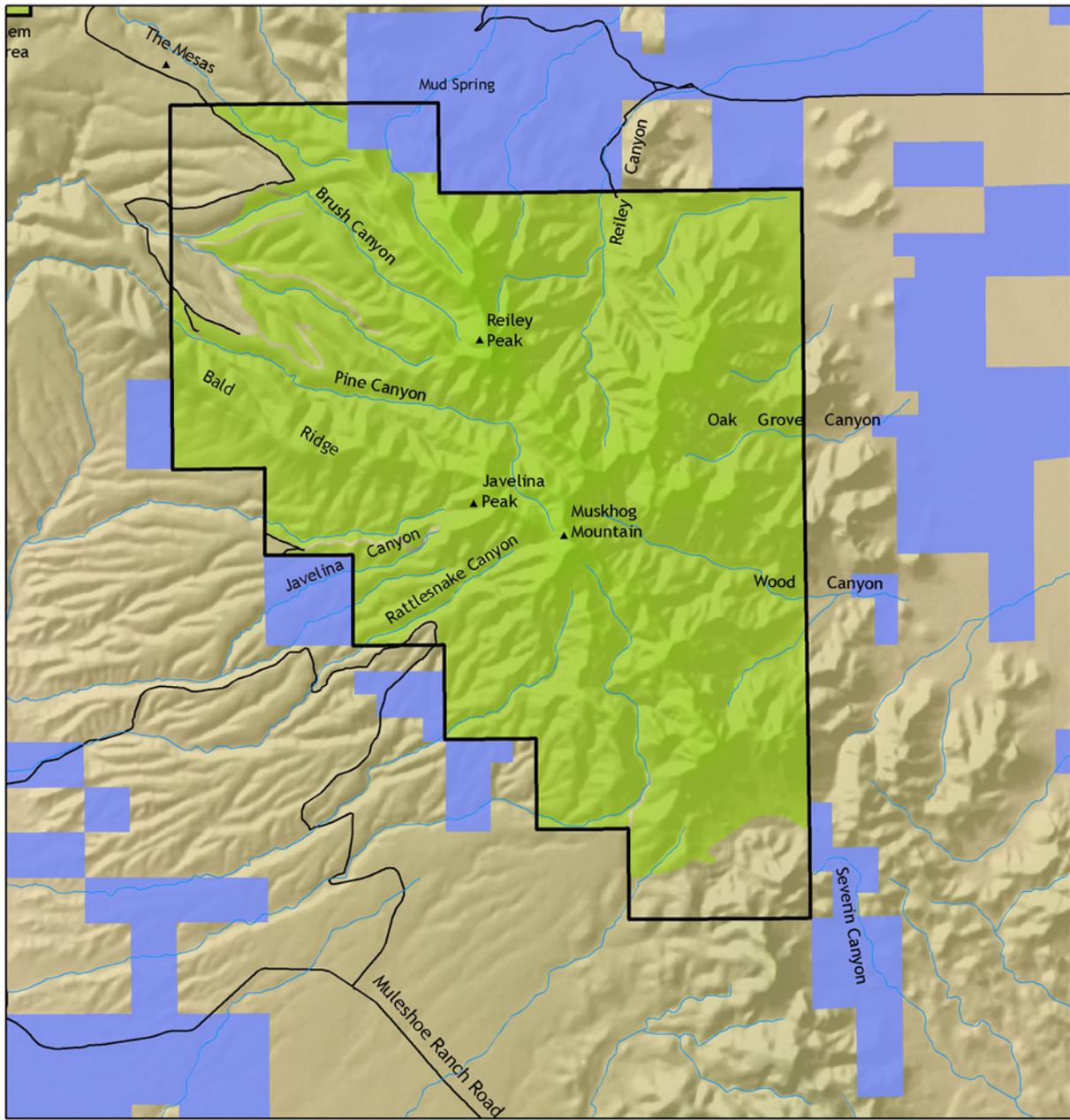


Figure 10.4 Area Suitable for Wilderness and to be Managed for Wilderness Characteristics

## Special Management Areas

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### Objectives

Maintain the intact nature, and unfragmented habitat, of the Winchester EMA.

### Actions

*Manage 26,577 acres to maintain their wilderness characteristics. (See Figure 10.4 for a map of the area proposed to be managed for wilderness characteristics.)*

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<sup>1</sup> Gori, D. F., and A. F. Enquist. 2003. An Assessment of the Spatial Extent and Condition of Grasslands in Central and Southern Arizona, Southwestern New Mexico and Northern Mexico. Prepared by The Nature Conservancy, Arizona Chapter. 28 pp.

<sup>2</sup> San Carlos Apache Tribe vs. U.S. 21 Ind. Cl. Comm. 189 (1969)

<sup>3</sup> Salwen, B. 1960. The Introduction of Leather Footgear in the Pueblo Area. *Ethnohistory* 7: 206-238.

<sup>4</sup> Barnes, W.C. 1997. *Arizona Place Names*. The University of Arizona Press, Tucson.

<sup>5</sup> Wilson, John P. 1955. *Islands in the Desert A History of the Uplands of Southeastern Arizona*. University of New Mexico Press, Albuquerque.

<sup>6</sup> Marshall, R.M., D. Turner, A. Gondor, D. Gori, C. Enquist, G. Luna, R. Paredes Aguilar, S. Anderson, S. Schwartz, C. Watts, E. Lopez, P. Comer. 2004. *An Ecological Analysis of Conservation Priorities in the Apache Highlands Ecoregion*. Prepared by The Nature Conservancy of Arizona, Instituto del Medio Ambiente y el Desarrollo Sustentable del Estado de Sonora, agency and institutional partners. 152 pp.