

2012 T&E Species Report  
Guadalupe Ranger District  
Lincoln National Forest

Prepared by:

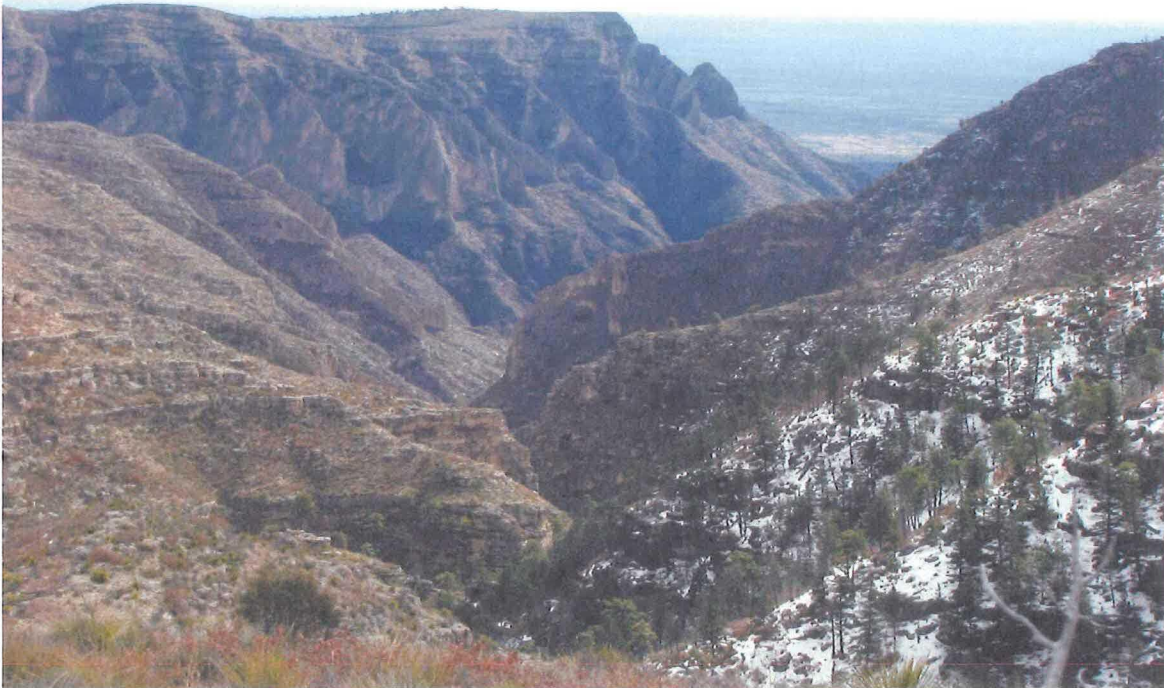
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## Mexican Spotted Owls

### Habitat Description

On the Guadalupe Ranger District, MSO's occupy cool rock structures within caves, on cliff faces and canyon bottoms. Tree roost habitat preference is based on cool microclimate where sunlight penetration is limited and moisture can be retained. Owls in this habitat roost on shaded tree species such as maples, oaks and dogwoods that are often found only in cooler, more moist areas. Unlike spotted owls in mixed conifer forests, MSO's in the Guadalupe Mountains nest within isolated crevices inside caves rather than trees. Canyon and cave owls within the Guadalupe RD have not been documented to nest in trees. Ambient temperatures above cave and canyon areas are relatively hot in comparison to cool caves. Cave temperatures in this region are estimated to be around (53-56° F) and maintain consistent microclimate throughout the year. At night, owls may forage along ridge tops where their calls can often be heard. One specific difficulty in locating owls within rocky substrate can be bounced echoes that can mislead surveyors in determining location. Another major difficulty is the extremely steep and rocky slopes covered with cat claw and other heavy brush where survey actions must occur.

In addition to cool habitat, slope structure is the most important component to habitat preference. MSO's have been observed occupying narrow and vertical slopes primarily north facing aspects with an elevation range of 4200-7300 feet. However within caves, owls tend to nest and occupy the "twilight zone" where sunlight penetrates portions of the cave.



Black River Canyon, Prime MSO and Cave Habitat

## Current Information

Within the Guadalupe Mountains, MSO formal surveys began in 1996 and ended in 2004 due to lack of funding. Currently there are 10 Protected Activity Center's (P.A.C) on the Guadalupe District that provide suitable MSO habitat and at some point showed owl activity (Figure 1). These areas include Big # 1, Middle Fork, North Fork, Upper Big, Black Canyon # 1, Black Canyon # 2, Double Canyon, Gunsight, Lonesome, McKittrick, (Figure 2).

Many of these P.A.C's are in close proximity despite owls being territorial. The P.A.C's were designed to cover potential MSO habitat based on suitable habitat.

Generally the only data collected during surveys has been owl presence due to the extreme hazards associated with such steep and rough terrain. Occupancy within territories has been determined by compass triangulation. Contractors have developed a successful method wherein they distanced themselves along opposite ridgelines and used coordinated 4-note calls to determine owl presence. Often this technique enabled surveyors to determine overlapping pairs. Rarely is moussing used to help determine reproduction on D3. Moussing is a technique used to help determine reproduction by feeding mice to owls and observing their behavior with it. Reproduction is almost impossible to determine due to severely steep and rough terrain with the inability to follow the owls. Maple trees within shaded areas are indicative to potential owl presence. The following territories have had documented owl pairs or reproduction.

### *Big #1*

As of 1998, this P.A.C. was considered occupied by at least 1 confirmed owl. Due to funding limitations, no monitoring occurred in this PAC in FY12.

### *Big #2*

As of 1998, this P.A.C. was considered occupied by at least 1 confirmed owl. Due to funding limitations, no monitoring occurred in this PAC in FY12.

### *Black Canyon*

Black Canyon has had confirmed nesting in the past. As of 1998, from a historical report, three owl pairs were confirmed within other areas of this canyon but it was not possible to track down their exact roost or nest locations within the extreme canyon habitat. Due to funding limitations, no monitoring occurred in this PAC in FY12.

### *Gunsight*

Historically the Gunsight P.A.C. had MSO detection in spring of 1999. In one instance, a male owl was located outside the cave and moussing was conducted to determine reproduction. The owl took a mouse into the cave and disappeared into a crevice and came out another crevice. Due to this behavior, reproduction was concluded for this PAC. In addition to spotted owls, a horned owl was also documented to inhabit this territory on occasion. A historic nest was found in Gunsight in 1995 within a crevice high up on the wall. In FY12 one overnight monitoring trip occurred within this cave. No MSO were detected. One trip is not considered conclusive.

*Lonesome*

A male was found outside the cave in 1997 sitting atop a maple tree. The male was hooting loud in the tree and a 1 note return call was heard inside the cave indicating a female. A pair was confirmed within this cave territory. Due to funding limitations, no monitoring occurred in this PAC in FY12.

*McKittrick*

Owls have been documented in this territory. A mouse was taken by an owl in the territory however reproduction was never confirmed because surveyors were unable to follow the owl. Due to funding limitations, no monitoring occurred in this PAC in FY12.

*Middle Fork*

As of 1998, an owl pair was observed within this P.A.C. Due to funding limitations, no monitoring occurred in this PAC in FY12.

*North Fork*

As of 1998, this P.A.C. was considered occupied by at least 1 confirmed owl. Due to funding limitations, no monitoring occurred in this PAC in FY12.

## Kuenzler's Cactus (*Echinocereus fendleri* var. *kuenzleri*)

### Introduction

The Kuenzler's cactus is an endangered species that occurs in New Mexico, within the counties of Chaves, Eddy, Lincoln and Otero. In the Guadalupe Mountains this species occurs in patches and can be consistently found year to year in each documented area. Within the Guadalupe Mountains suitable habitat contains a rocky specific limestone substrate and savanna like woodland attributes. Suitable habitat is restricted to the limestone substrate vegetated with desert scrub with the presence of Muhlenbergia, drop seeds, blue gramma, Spanish dagger and yucca. When in bloom, Kuenzler's is distinguished by its deep violet/pink flower. Babies are less than 3 years old and adults between 6-8 years old with an average life span of up to 10 years.

### Habitat Description

Within the Guadalupes, Kuenzler's has been found only on the tops and upper areas of the eastern ridge line of south-facing slopes. Limited areas of cactus occur on the northeast part of the district (Figure 3). This cactus has never been documented on the western ridge line or at the southern portion of the district. The range of the Kuenzler's cactus on the Guadalupe Ranger District is within the eastern 3 miles of the district and northern 3 miles from the boundary of the district. Surveys began in 1993 when this cactus was first spotted by fire personnel that identified the cactus as a Kuenzler's. Prior to this revelation, the cactus was predicted to not occur on this District because habitat was compared to populated areas on Fort Stanton, NM. The surveys continued for 6 years until all populated areas were mapped and population boundaries were established.

### Current Information

Currently the lack of funding restricts surveys to project sites only. Site surveys are conducted using the spot survey technique which determined the presence or absence of the cactus. A specific protocol is not used however surveys are largely based on the presence or absence of sandstone or the specific limestone substrates present, shrub-density and type of ground cover. Usually, the begin survey time is determined by the visibility of the flower bloom. The most successful way to locate a Kuenzler's cactus is during the blooming period which usually takes place between May-June depending on the amount of winter moisture received. Its distinctive violet/pink flower can be easily identified during the bloom season. Surveyors would typically walk in a line with locally appropriate spacing in between and the line would meander following the ridge line.

In 1993 a wildfire struck within a Kuenzler's cactus population. Subsequent survey found that the all cactus in the burned area perished as a result of the fire. The burned area population was monitored and compared to the surrounding, unburned population that was located outside the burn perimeter. Bob Sivinsky, NM State Botanist, found that seven years post-fire, developing baby Kuenzler's cactus took growth at the size of golf balls and smaller. A subsequent survey by Dr. Mark Baker 15 years after the fire, found that after 15 years the cactus populations found

both inside and outside the burn area showed no difference; that the population structures inside the fire and outside the fire were “in equilibrium”.

### Fire

In 2012, 2 fires were documented in the Guadalupe Ranger District. Fire size was anywhere between ¼ acres and 7,200 acres with a total of 7,200.25 acres in fire damage. The following information shows the fire name and acreage size.

Table 2. 2012 fires on the Guadalupe Ranger District

<u>Fire Name</u>	<u>Acreage</u>
Horse Canyon	7,200
Road Tank	.25
<b>Total</b>	<b>7,200.25</b>

#### Emergency Consultations:

<u>Fire Name</u>	<u>Date</u>	<u>Species</u>	<u>Consultation Number</u>
No emergency consultations in FY12			

Unless an extreme fire occurs, fires typically do not have long-term effects and unless otherwise noted, the fire effects are identical to the effects of a prescribed fire. The Horse Canyon fire occurred within an area that this District has been trying (unsuccessfully) to put Rx fire into for decades. The main hold up through the years has been that the Carlsbad National Park had to be participant as there is no secure place or way to construct a fire line to keep such fire out of the Caverns Park land. This situation requires the Caverns Park to agree to the need and Rx and to participate. Through the decades I have been here, the dominant voices within the Caverns Park have stated that they do not see any benefit to implementing Rx fire into the Chihuahuan Desert ecosystem and in fact have stated that fire has no place in the Chihuahuan Desert ecosystem. These are positions that are not supportable by fact, science, or history. As the Horse Canyon area was in extreme need of the effects of a moderate fire (which the Horse Canyon fire provided), this lightning caused fire could not have happened in a better place. Subsequent on site review of the fire impacts throughout the burned area have revealed that the overall effects of this fire were very beneficial. The area has received some rain and is in the recovery stages and doing very well at this time.

The Road Tank fire produced no significant impacts what-so-ever.

## **Recommendations**

Calling and listening from the ridge tops is essential for locating and separating owl territories. Owls are more apt to respond to calls from above, as is evident from comparing the Guadalupe surveys of 1997 and 1998.

Wind, water noise, and echoing may be a problem for survey work in the canyon bottoms. It has proven very difficult to hear any bird calls at any distance when surveying in the deep, narrow, and twisting canyon bottoms. Most of the canyons will require at least two simultaneous call points to maintain full coverage, and to differentiate one owl from another within a canyon.

Expect several nights of camping within multiple surveyors distributed throughout the ridge tops to perform accurate surveys.

The following information includes proposed projects that would strengthen the wildlife management on the Guadalupe Ranger District.

### **Proposed Projects**

1. Perform surveys of the peregrine falcons on the district to determine occupancy, population, location and suitable habitat
2. Perform comprehensive bat surveys within caves to determine species composition, type of use, and location of use
3. Survey bats for white nose syndrome
4. Perform surveys on current fish species on the district
5. Test Kuenzler's cactus response to fire comparing burned and non-burned areas
6. Conduct formal owl surveys in territories and determine reproduction where possible
7. Survey owl populations after fire
8. Survey golden eagles and compare them to the introduction of wind farms
9. Wild turkey re-introduction and population monitoring
10. Continue to construct Wildlife Trick Tanks
11. Continue to implement Rx fire throughout the District
12. Continue to develop thinning areas projects within PJ infestations
13. Locate and monitor bat species, use, and health throughout the caves
14. Continue project monitoring
15. Construct monitoring enclosures

**Figure 1.** Historical MSO locations and established P.A.C's in the Lincoln National Forest on the Guadalupe District.

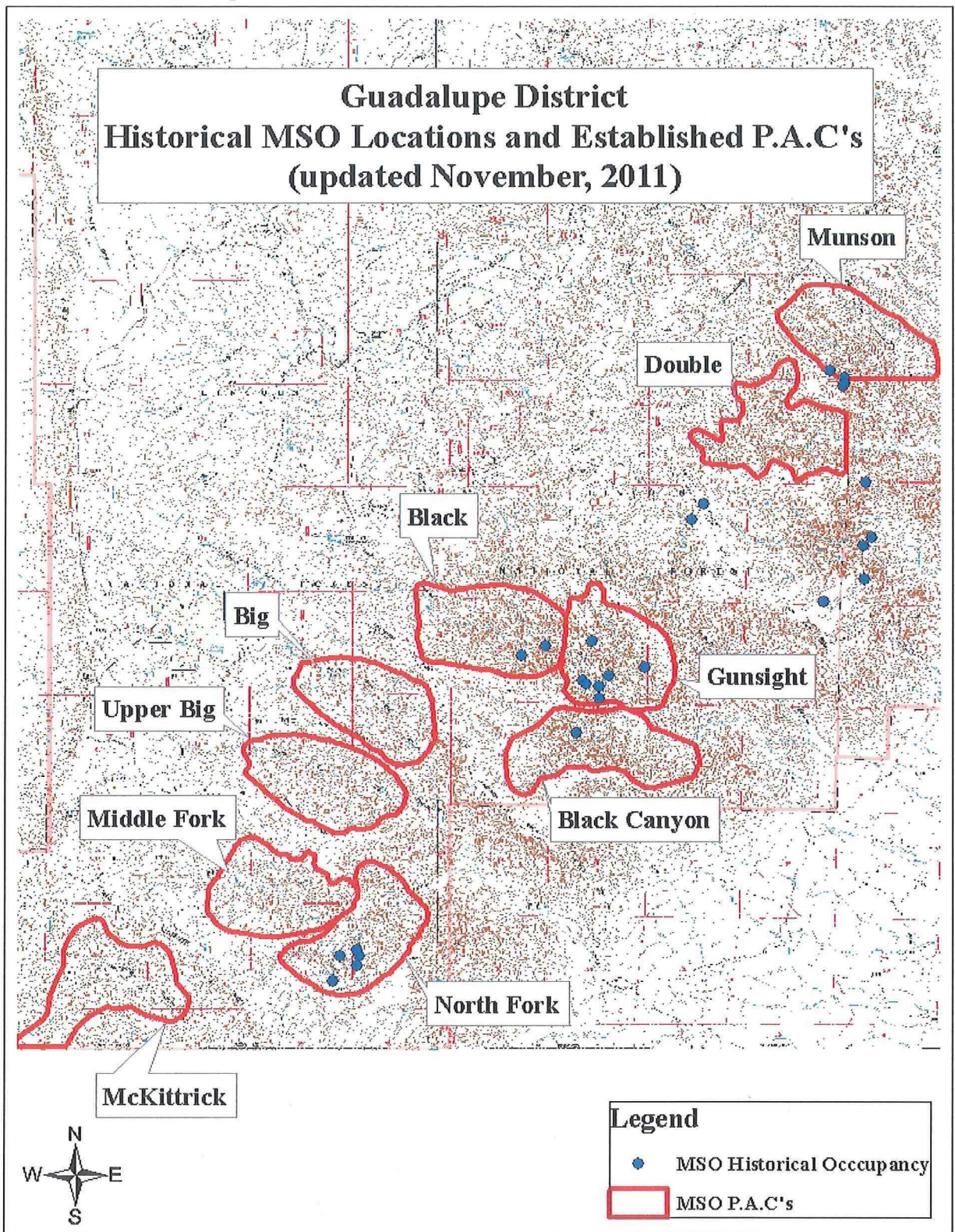




Figure 3. Kuenzler's range in the Lincoln National Forest on the Guadalupe Ranger District.

