

Four Forest Restoration Initiative (Phase One)
Mexican Spotted Owl (*Strix occidentalis lucida*)
Monitoring Report

USDA Forest Service –Coconino National Forest

2015



*Picture courtesy of R. Greer

Introduction

Over the last several years the Coconino National Forest has been coordinating with the United States Fish and Wildlife Service (USFWS) to implement the Four Forest Restoration Initiative (4FRI) Phase One. 4FRI is a collaborative effort between the Coconino, Kaibab, Apache-Sitgreaves, and Tonto National Forests intended to restore the ponderosa pine forest ecosystems that stretch along the Mogollon Rim of northern Arizona. Unsustainable historical land use and fire exclusion have severely degraded the health of these forests. The goal of this project is to restore forest ecosystems that support natural fire regimes, functioning populations of native plants and animals, and forests that pose little threat of destructive wildfire to forest communities, as well as support sustainable forest industries that strengthen local economies while conserving natural resources and aesthetic values.

The project proposes landscape scale restoration that has the potential to affect more than 70 known Mexican Spotted Owl (MSO) protected activity centers (PACs). PACs are intended to sustain and enhance areas that are presently, recently or historically occupied by breeding MSOs, and must be at least 600 acres (USFWS 2012). A PAC is not intended to encompass the entire home range of an owl (USFWS 2012). For more information about the MSO, please refer to the 2012 Recovery plan for the Mexican Spotted Owl (*Strix occidentalis lucida*), First Revision, (USFWS 2012).

The effects of forest treatments on owls and their habitat are not fully known, but in Attachment 1 of Appendix E. of the 4FRI Environmental Impact Statement (4FRI EIS) (USFS 2015) it was recognized that a “hands-off” approach within PACs may be more detrimental to the owl habitat than the treatments themselves, which could allow the PAC to better withstand a severe wildfire. Therefore, during consultation with the USFWS and later resolutions, the Coconino NF agreed to a monitoring plan involving 18 to 20 MSO PACs. As stated in Attachment 1 of Appendix E, the plan will pair treated and reference PACs within the project area to compare occupancy, reproductive success, and habitat changes. There will be two groups of study PACs. The first group will consist of PACs receiving thinning and burning treatments and corresponding paired reference PACs (Group 1) and the second group of PACs will consist of PACs receiving prescribed fire-only treatments and their corresponding paired reference PACs (Group 2). The USFS had consulted on a total of 18 potential PACs for use in Group 1 and 51 PACs for use in Group 2 for a total of 69 PACs. During consultation with the USFWS, the USFS agreed to monitor three treatment and three reference PACs for Group 1 and six treatment and six reference PACs for Group 2. During later resolution the USFS agreed to add an additional pair of PACs to Group 1. In 2015 the wildlife crew monitored approximately 30 of the 69 MSO PACs that were most likely to have occupancy in order to identify which would best meet the requirements for the monitoring plan.

Included in this report are the results of the 2015 MSO monitoring for the 4FRI project.

Methods

All surveys were conducted according to the USFWS Mexican Spotted Owl Protocol (2012). These surveys allow us to determine the presence or absence of MSO and to determine

reproductive status. Calling points were positioned along roads and walking routes to ensure complete coverage of the survey areas. If calling points existed from previous years, they were retained for consistency. Call points were placed approximately 0.30 – 0.50 miles apart, and a minimum of 4 complete surveys were conducted at appropriate times during the breeding season (March 1 to August 31). Nighttime surveys were conducted and any detections were followed up within 48 hours by a daytime follow-up survey. Mousing was used to determine the reproductive status when an owl was located. For the complete protocol, please refer to the 2012 Recovery Plan mentioned above.

2015 4FRI PAC Monitoring Results

In July of 2015, after the reproductive status of many of the PACs was known, a group of Coconino NF biologists coordinated with Shaula Hedwall of the USFWS to determine which PACs to use for the monitoring plan. Many variables had to be taken in to consideration when determining which PACs to use, including occupancy, habitat similarity, fire history and percentage of planned treatments. While coordinating with USFWS, it became apparent that an additional pair of PACs for Group 1, as required by the resolution, was problematic. Of the 18 PACs consulted on for Group 1, six were already committed for the monitoring program; five PACs (Foxhole, Frank, Knob, Rock Top, T-Six Tank) were not monitored, as the habitat quality was considered so poor that they were highly unlikely to have occupancy; one PAC (Holdup) was surveyed, but found to have no occupancy; one PAC (Sawmill Springs) was affected by the Camillo Fire; and three additional PACs (Red Raspberry, Bear Seep and Red Hill) did not have comparable habitat to the 6 that were already committed, or to the ponderosa pine forest type that 4FRI is affecting. While the two remaining PACs (Iris Tank and Bar M) may provide additional information to the Forest Service when answering questions dealing with the effects of restoration treatments on MSO and their habitat, the FWS noted that these two PACs were not ideal for their study design. Both PACs had recent fires (2014) that altered the habitat and created notable differences from the remaining 6 PACs in the study.

Table 1. 4FRI Mechanical Thinning and Prescribed Burn Treatment PACs (Group 1)

Treatment	Reference	Requirement
Archies	Lake #1/Seruchos	Biological Opinion
Mayflower Tank	Lee Butte	Biological Opinion
Bonita Tank	Crawdad	Biological Opinion
Iris Tank	Bar M	Resolution Agreement

Table 2. 4FRI Prescribed Burn Only Treatment PACs (Group 2)

Treatment	Reference	Requirement
Spruce Tank	Boondock	Biological Opinion
Roundup	Pierce	Biological Opinion
Gash Mountain	MB Smith	Biological Opinion
Mustang	Coulter Ridge	Biological Opinion
Coyote Park	Nestor	Biological Opinion
James Canyon	Pumphouse Wash	Biological Opinion

Table 3. Survey results for PACs monitored in 2015 for 4FRI.

PACs	2015 Survey Results
Archies	Male occupancy, No Young Produced, Nesting status unknown
Bar M	Male occupancy, No Young Produced, Nesting status Unknown
Bear Seep	Pair Occupancy, No Young Produced, Nesting status Unknown
Bear Tank	Pair Occupancy, No Young Produced, Nesting status Unknown
Blade Tank	Pair Occupancy, No Young Produced, Nesting status Unknown
Bonita Tank	Single Male & Female, No Young Produced, Nesting status Unknown
Boondock	Not Surveyed
Bristow Tank/ Limpios	Absent or Unoccupied
Casner	Absent or Unoccupied
Coulter Ridge	Pair Occupancy, No Young Produced, Nesting status Unknown
Coyote Park	Pair Occupancy, No Young Produced, Nesting status Unknown
Crawdad	Pair Occupancy, No Young Produced, Nesting status Unknown
Fisher Canyon (New 2015)	Pair Occupancy, No Young Produced, Nesting status Unknown
Fisher Point	Pair Occupancy, No Young Produced, Nesting status Unknown
Frog Tank	Absent or Unoccupied
Gash Mountain	Pair Occupancy, No Young Produced, Nesting status Unknown
Girdner	Pair Occupancy, 2 Young Produced, Nesting
Holdup	Absent or Unoccupied
Howard Mountain	Absent or Unoccupied
Iris Tank	Pair Occupancy, Unknown # Young Produced, Nesting
James Canyon	Not Surveyed
Lake # 1 / Seruchos	Pair Occupancy, No Young Produced, Nesting status Unknown
Lee Butte	Pair Occupancy, No Young Produced, Nesting status Unknown

Mayflower Tank	Pair Occupancy, 2 Young Produced, Nesting
MB Smith	Pair Occupancy, No Young Produced, Nesting status Unknown
Milos Butte	Female Occupancy, No Young Produced, Nesting status Unknown
Mormon Mountain North	Pair Occupancy, No Young Produced, Nesting status Unknown
Mustang	Pair Occupancy, 2 Young Produced, Nesting
Nestor	Pair Occupancy, 1 Young Produced, Nesting
Pierce	Male Occupancy, survey not done to protocol
Pumphouse Wash	Not Surveyed
Racetrack Tank	Pair Occupancy, No Young Produced, Nesting status Unknown
Red Hill	Pair Occupancy, No Young Produced, Non-nesting
Red Raspberry	Pair Occupancy, No Young Produced, Non-nesting
Roundup	Pair Occupancy, No Young Produced, Nesting status Unknown
Sawmill Springs	Pair Occupancy, No Young Produced, Non-nesting
Spruce Tank	Pair Occupancy, No Young Produced, Nesting status Unknown
Two Holes	Male Occupancy, No Young Produced, Nesting status Unknown
Woods	Absent or Unoccupied

2015 4FRI Project Inventories

As agreed in the 4FRI Environmental Impact Statement (USFS 2015), MSO surveys will be conducted in MSO habitat within implementation areas (Task Order or Timber Sale) plus a half mile beyond the perimeter the year of implementation or one year prior to determine occupancy in new areas. These are referred to as inventory areas and are surveyed according to the MSO Survey protocol (USFWS 2012). Detections of previously unknown breeding MSOs will likely result in the establishment of a new PAC.

Table 4. Inventory areas and acres that were surveyed in 2015 for the 4FRI project area.

Inventory Acres

Inventory Name	Acres
Little Springs	910
Marshall	2,782
McCracken (Kaibab NF)	3,202
Munds Park West	1,422
Upper Lake Mary	1,619
Wing West	325
Total:	10,260

Literature Cited

U.S. Department of Agriculture, Forest Service. 2015. Final Environmental Impact Statement for the Four Forest Restoration Initiative with Errata and Objection Resolution Modifications Volume 1. MB-R3-04-23. Coconino and Kaibab National Forests. Updated April 2015. 575 pp plus Appendices. Available online at www.fs.usda.gov/4fri.

U.S. Department of Interior, Fish and Wildlife Service. 2012. Recovery plan for the Mexican spotted owl (*Strix occidentalis lucida*), First Revision. Albuquerque, NM. 413 pp. Available online at http://ecos.fws.gov/docs/recovery_plan/MSO_Recovery_Plan_First_Revision_Dec2012.pdf.