

**Flagstaff Watershed Protection Project**  
Mexican Spotted Owl (*Strix occidentalis lucida*)  
Monitoring Report

USDA Forest Service –Coconino NF, Flagstaff Ranger District

**2016**



\*Picture courtesy of C. Szydlo

## **Introduction**

Over the last several years the Coconino National Forest has been coordinating with the City of Flagstaff and United States Fish and Wildlife Service personnel (USFWS) to move forward with the Flagstaff Watershed Protection Project (FWPP). FWPP is the result of the 2012 passage of a bond measure by the voters of the City of Flagstaff to fund work on Coconino National Forest and Arizona State lands. The project involves work in the Rio de Flag watershed above the city of Flagstaff to reduce the risk of post-wildfire flooding into the City, as well as work in the Mormon Mountain area to reduce the potential sedimentation of Lake Mary, an important water supply for the City of Flagstaff and State land parcels within the City. The work is expected to be ongoing for the next five to ten years. A complete description of the project can be found online at [www.fs.usda.gov/goto/FWPP](http://www.fs.usda.gov/goto/FWPP).

The project proposes landscape scale restoration that has the potential to affect more than 15 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).

Included in this report are the results of the Flagstaff Ranger District 2015 and 2016 MSO monitoring and inventory for the FWPP project area.

## **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. Known PACs received an initial daytime visit at the beginning of the season in an attempt to locate and mouse the owls without conducting nighttime calling surveys. Mousing was used to determine the reproductive status when an owl was located. If owls were not located in the PAC or there was an area of suitable habitat that needed to be surveyed, than nighttime surveys were conducted and any detections were followed up within 48 hours by a daytime follow-up survey. Night time surveys began by establishing calling points along roads and walking routes to ensure complete coverage of the PACs and 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). Each call point takes a minimum of 15 minutes. For the complete protocol, please refer to the 2012 Recovery Plan (USFWS 2012).

## **2016 FWPP PAC Monitoring Results**

During consultation with the USFWS and later resolutions, the Coconino NF agreed to a monitoring plan involving 15 MSO PACs. PACs were designated as treatment and reference.

Through consultation with USFWS, it was decided that the treatment PACs; Mt. Elden, Shultz Creek, Orion Spring, Mormon Mountain North, DeToros, and Weimer Spring, as well as the reference PACs; Little Springs, Snowbowl Road, East Bear Jaw, Dairy Spring, Red Raspberry and Moore Well-Rock Dike would be monitored one year prior to treatment, during treatment and one, three and five years post treatment, in an effort to help understand the effects of thinning and burning on Mexican spotted owls and their habitat. Through the resolution it was also agreed that (given acceptable weather and crew availability) the Lockwood, Mormon Mountain, and Weatherford 2 PACs would be monitored the year prior to treatment, the year of treatment, and one year post treatment. More information can be found in the FWPP Biological Opinion (USFWS 2015) and the FWPP Record of Decision (USFS 2015a). Due to the uncertainty of treatment year, some PACs may be monitored annually until treatment occurs.

Table 1. FWPP- Mormon Mountain Treatment and Reference PACs to be monitored

Treatment	Reference	Requirement
Mormon Mountain North	Moore Well-Rock Dike	Biological Opinion
DeToros	Dairy Springs	Biological Opinion
Weimer Springs	Red Raspberry	Biological Opinion
Lockwood (partial treatment)		Resolution Agreement
Mormon Mountain (partial treatment)		Resolution Agreement

Table 2. FWPP- Dry Lake Hills Treatment and Reference PACs to be monitored

Treatment	Reference	Requirement
Mt. Elden	Little Springs	Biological Opinion
Orion Spring	Snowbowl Road	Biological Opinion
Shultz Creek	East Bear Jaw	Biological Opinion
Weatherford 2 (partial treatment)		Resolution Agreement

Table 3. Survey results for PACs monitored in 2015 and 2016 for FWPP

Mormon Mountain PACs	2015 Survey Results Pre-Treatment	2016 Survey Results Pre-Treatment
Dairy Spring	Male, Nesting-unknown	Pair, Nesting-unknown
DeToros	Not Surveyed	Single unknown
Lockwood	Pair , Non-nesting	Pair, 1 Fledgling
Moore Well-Rock Dike	Pair, 1 Fledgling	Pair, Nesting-unknown
Mormon Mountain	Not Surveyed	Absent
Mormon Mt. North	Pair, Nesting-unknown	Pair, Nesting-unknown
Red Raspberry	Pair, Non-nesting	Pair, Nesting-unknown
Weimer Spring	Not Surveyed	Pair, Nesting-unknown

Dry Lake Hills PACs	2015 Survey Results Pre-Treatment	2016 Survey Results Pre-Treatment
East Bear Jaw	Absent	Pair, Nesting-unknown
Little Spring	Pair, Non-nesting	Pair, Nesting-unknown
Mt. Elden	Pair, Nesting-unknown	Pair, Nesting-unknown
Orion Spring	Pair, Nesting-unknown	Pair, Nesting-unknown
Schultz Creek	Pair, Nesting-unknown	Pair, Non-nesting
Snowbowl Road	Pair, Non-nesting	Pair, Nesting-unknown
Weatherford 2	Pair, Non-nesting	Pair, Non-nesting

In 2016 we monitored 15 PACs for the FWPP project. Of those we had pairs in 13 PACs, one PAC with no detections, therefore presumed absent, and one additional PAC with a single unknown Mexican spotted owl detection. Only one fledgling was produced this year in the FWPP monitored PACs. This is the same number as last year, but in a different PAC. Based on protocol, nesting status for 11 of the pairs could not be determined (nesting-unknown). A non-nesting determination can only be made when a female is seen roosting for at least 60 minutes between April 1 and 30, or one or both members of the pair are offered a minimum of 2 mice, which they cache, sit with for 30-60 minutes, or refuse to take. The non-nesting determination must then be verified with one additional visit between May 15 and July 15. Often times this protocol can be very difficult to meet due to limited owl responses and daylight constraints. The non-nesting determination also includes owls that may have nested and failed prior to the first surveys.

In 2015, three of the PACs (DeToros, Mormon Mountain, and Weimer Spring) were not surveyed, due to higher priority locations, and the fact that implementation was still several years out.

### **2016 FWPP Project Inventory**

As stated in the FWPP EIS (USFS 2015b), MSO surveys will be conducted in MSO habitat within implementation areas (Task Order (TO)/Timber Sale (TS) or prescribed burn (Rx burn)) 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 MSO will likely result in the establishment of a new PAC.

The Dry Lake Hills area has been surveyed since 2014, with slight yearly modifications to ensure all habitat is covered.

Table 4. Approximate acreage that was inventoried in 2014, 2015 and 2016 for the FWPP project

Inventory Name	Acres
Dry Lake Hills	5,177

While surveying the Dry Lake Hills inventory area, there were several owl detections outside of established PACs. Follow up visits resulted in two daytime locations adjacent to the Schultz Creek PAC. We worked with USFWS to adjust the Schultz Creek PAC to include these locations.

## **Literature Cited**

U.S. Department of Agriculture, Forest Service. 2015a. Record of Decision for the Flagstaff Watershed Protection Project. MB-R3-04-29. Coconino National Forests. October 2015. Available online at [www.fs.usda.gov/goto/FWPP](http://www.fs.usda.gov/goto/FWPP).

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