

# Flagstaff Watershed Protection Project

## Mexican Spotted Owl, *Strix occidentalis lucida*

### Monitoring Report

USDA Forest Service-Coconino National Forest, Flagstaff Ranger District

2019



## Introduction

Since 2015, the U.S. Forest Service Coconino National Forest and U.S. Fish and Wildlife Service (USFWS) are monitoring Mexican spotted owls as part of 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 (City) to fund fuels reduction work on National Forest System lands within the Coconino National Forest and Arizona State trust lands. The project involves work in the Rio de Flag watershed, north 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 for post-fire sedimentation within the Lake Mary watershed. Project activities will occur over the next five to ten years.

The project proposes to conduct forest management activities (e.g., thinning, burning, etc.) that may affect up to nine designated Mexican Spotted Owl (MSO) protected activity centers (PACs). For more information about the MSO and recommended management, please refer to the 2012 Recovery plan for the Mexican Spotted Owl (*Strix occidentalis lucida*), First Revision (USFWS 2012, Recovery Plan). Included in this report are the results of the required 2018 MSO PAC monitoring for the FWPP MSO Management Experiment (USFWS 2015) and recovery habitat (inventory) surveys.

## Methods

We used the USFWS 2012 Mexican Spotted Owl Survey Protocol (USFWS 2012, Appendix D).

## PAC Monitoring Results

Per the FWPP Management Experiment, we are monitoring 12 PACs: six treatment and six reference in the Dry Lake Hills and Mormon Mountain project areas (Tables 1 & 2). Through the objection resolution process, the Forest Service also agreed to monitor three additional PACs. More information is in the FWPP Biological Opinion (USFWS 2015) and the FWPP Record of Decision (USFS 2015a). Due to the uncertainty of timing of treatments, we may monitor PACs annually until they occur.

**Table 1. FWPP - Mormon Mountain Treatment and Reference PACs**

Treatment	Reference	Requirement
Mormon Mountain North	Moore Well-Rock Dyke	Management Experiment
De Toros	Dairy Springs	Management Experiment
Weimer Spring	Red Raspberry	Management Experiment
Lockwood		Objection Resolution Agreement
Mormon Mountain		Objection Resolution Agreement

**Table 2. FWPP- Dry Lake Hills Treatment and Reference PACs**

Treatment	Reference	Requirement
Mt. Elden	Little Spring	Management Experiment
Orion Spring	Snowbowl Road	Management Experiment
Schultz Creek	East Bear Jaw	Management Experiment
Weatherford 2		Objection Resolution Agreement

In 2019, we monitored eight PAC's in the Dry Lake Hills (Table 3). Surveys located owls in all eight PACs and the owls in the Little Spring, Mt. Elden, and Schultz Creek PACs produced two young each. East Bear Jaw and Weatherford 2 were non-nesting. We found the Snowbowl Road and Orion Spring pairs later in the season and we were unable to determine nesting status. We detected a male within the Oldham PAC during the first Dry Lake Hills inventory survey. During three subsequent visits, we moused an unknown sub-adult (silent, with the exception of one bark). In addition to these PAC's, we informally monitored Aspen Springs and Peaks Crag PACs. Of these two PAC's, Peaks Crag was the only one to produce a fledgling (one).

**Table 3. Survey Results for the Dry Lake Hills PACs from 2013-2019**

Dry Lake Hills PACs	2013	2014	2015	2016	2017	2018	2019
East Bear Jaw	A	A	S-NY	O-NK	O-NF	O-NN	O-NN
Little Spring	O-2Y	O-2Y	O-NN	O-NK	O-1Y	O-NN	O-2Y
Mt. Elden	O-NN	O-NU	O-NY	O-NK	O-2Y	O-NN	O-2Y
Oldham	NA	NA	NA	NA	NA	O-NU	SM-NU
Orion Spring	O-NU	O-NU	O-NY	O-NK	S-NK	O-NK	O-NU
Schultz Creek	O-NU	O-NU	O-NY	O-NN	O-2Y	O-NK	O-2Y
Snowbowl Road	O-NN	O-NU	O-NN	O-NK	O-NK	O-1Y	O-NU
Weatherford 2	O-2Y	O-NU	O-NN	O-NN	O-NF	O-NK	O-NN
<b>Total Young Produced</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>6</b>

It is unknown when operations will begin in the Mormon Mountain portion of the FWWP project, but it is likely to be more than two years out. Therefore, the Forest Service is not formally monitoring the PACs on Mormon Mountain. This year, we made one to two brief visits to each PAC. Eight PAC's were informally monitored (Table 4). There were six occupied PAC's. Of these occupied PACs, the Lockwood and Moore Well-Rock Dike owls produced young. We did not detect owls in the Mormon Mountain and Mormon Mountain North.

**Table 4. Survey Results for the Mormon Mt. PACs from 2013-2019**

Mormon Mt. PACs	2013	2014	2015	2016	2017	2018	2019
Dairy Spring	O-NN	SM-NU	M-NY	O-NK	IM-NR	S-NU	O-NU
De Toros	F-NN	NI	NI	M-NK	IM-NR	O-NU	SU-NU
Lockwood	O-NU	O-NU	O-NN	O-1Y	O-2Y	O-NU	O-1Y
Moore Well-Rock Dike	O-NU	O-2Y	O-1Y	O-NK	O-NU	M-NU	O-1Y
Mormon Mt	A	NI	NI	A	M-NU	IM-NR	IM-NR
Mormon Mt North	A	NI	O-NY	O-NK	O-1Y	O-NU	IM-NR
Red Raspberry	A	NI	O-NN	O-NK	O-1Y	O-NU	O-NU
Weimer Spring	O-NU	NI	NI	O-NK	IM-NR	O-NU	O-NU
<b>Total Young Produced</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>2</b>

Occupancy:	Reproductive Status:
A = Absent O = Pair Occupancy inferred or confirmed M = Male inferred or confirmed F = Female inferred or confirmed S = Single (sex unknown) inferred or confirmed NI = No Information (PAC not monitored) IM-NR = Informally Monitored, No Response	#Y = Number of young fledged NU = Nesting Unknown (NOT done to protocol) NK = Nesting Unknown (done to protocol) NY = No Young produced nesting status undetermined NN = Non-nesting/Non-reproduction confirmed NF = Nest Failed

## **Inventory Survey Results**

We surveyed 1,984 acres of recovery habitat within the Dry Lake Hills. We completed three complete surveys prior to the Museum Fire in July. As previously mentioned, a single male was detected during the first survey in the Oldham PAC in late April. A single female was detected in early June between the Weatherford 2 and Mt. Elden PACs. Neither bird was detected on subsequent surveys.

## **Management Activities**

Dry Lake Hills Phase 2 began in 2019. It includes two projects: helicopter and steep slope logging. Treatments were implemented in the Mt. Elden PAC during the breeding season. Prior to the Museum Fire, contractors completed most of the helicopter logging and finished about half of the steep slope work. Work will continue on both projects in 2020.

## **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.

\_\_\_\_\_. 2015b. [Final Environmental Impact Statement for the Flagstaff Watershed Protection Project](#). MB-R3-04-27. Coconino National Forests. June 2015. Available online at

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.

\_\_\_\_\_. 2015. [Biological Opinion-Flagstaff Watershed Protection Project](#). Consultation # 02EAAZ00-2013-F-0190. June 5, 2015. Arizona Ecological Services Office, Phoenix, AZ. 50 pp.