

Flagstaff Watershed Protection Project

Mexican Spotted Owl, *Strix occidentalis lucida*

Monitoring Report

USDA Forest Service-Coconino National Forest, Flagstaff Ranger District

2020



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 2020, we monitored eight PAC's in the Dry Lake Hills (Table 3). Surveys located owls in these PACs with three producing young. In addition, we informally monitored Peaks Crag PAC where 2 young fledged.

Table 3. Survey Results for the Dry Lake Hills PACs from 2014-2020

Dry Lake Hills PACs	2014	2015	2016	2017	2018	2019	2020
East Bear Jaw	A	S-NY	O-NK	O-NF	O-NN	O-NN	O-1YD
Little Spring	O-2Y	O-NN	O-NK	O-1Y	O-NN	O-2Y	O-2Y
Mt. Elden	O-NU	O-NY	O-NK	O-2Y	O-NN	O-2Y	O-NF
Oldham	-	-	-	-	O-NU	SM-NU	-- ¹
Orion Spring	O-NU	O-NY	O-NK	S-NK	O-NK	O-NU	O-NF
Schultz Creek	O-NU	O-NY	O-NN	O-2Y	O-NK	O-2Y	O-NN
Snowbowl Road	O-NU	O-NN	O-NK	O-NK	O-1Y	O-NU	O-2Y
Weatherford 2	O-NU	O-NN	O-NN	O-NF	O-NK	O-NN	O-1Y
Total Young Produced	2	0	0	5	1	6	5

¹ US Fish and Wildlife and Forest Service biologists analyzed the data we collected since 2013 in the Mt. Elden PAC and the information upon which we delineated the Oldham PAC. Based on the data, we determined that one pair of owls is using both areas. Biologists from the two agencies will work together during 2021 to re-delineate the Mt. Elden PAC to include the best habitat from both PACs.

With the potential for operations to occur in the Mormon Mountain project area in the next few years, the Forest Service formally monitored the eight PACs on Mormon Mountain (Table 4). There were five occupied PAC's with two producing young. We did not detect owls in three PACs.

Table 4. Survey Results for the Mormon Mountain PACs from 2014-2020

Mormon Mt. PACs	2014	2015	2016	2017	2018	2019	2020
Dairy Spring	SM-NU	M-NY	O-NK	IM-NR	S-NU	O-NU	O-2Y
De Toros	NI	NI	M-NK	IM-NR	O-NU	SU-NU	O-NU
Lockwood	O-NU	O-NN	O-1Y	O-2Y	O-NU	O-1Y	O-NK
Moore Well-Rock Dyke	O-2Y	O-1Y	O-NK	O-NU	M-NU	O-1Y	O-1Y
Mormon Mountain	NI	NI	A	M-NU	IM-NR	IM-NR	A
Mormon Mountain North	NI	O-NY	O-NK	O-1Y	O-NU	IM-NR	A
Red Raspberry	NI	O-NN	O-NK	O-1Y	O-NU	O-NU	O-NN
Weimer Springs	NI	NI	O-NK	IM-NR	O-NU	O-NU	A
Total Young Produced	2	1	1	4	0	2	3

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

Inventory Survey Results

In 2020, protocol-level inventory surveys were conducted in both the Dry Lake Hills and Mormon Mountain project areas. In the Dry Lake Hills, surveys focused on approximately 320 acres between Schultz Tank and the Weatherford 2 PAC where a single female was detected in July 2019. Inventory surveys on approximately 3,200 acres were completed to protocol on Mormon Mountain. This effort was focused on locating owls in potential habitat on the entire mountain. No owls were detected outside of currently delineated PAC boundaries in either project area.

Management Activities

Dry Lake Hills Phase 2 was completed in 2020, including both the helicopter and steep slope logging projects. Additionally, hand thinning and piling were conducted along Schultz Creek Road. Removal of logging slash out of the Dry Lake Hills project area to a staging area along Schultz Pass Road began in 2020 and will continue into 2021. The Schultz Tank timber sale was awarded in May 2020. Work is expected to begin in the summer or fall of 2021.

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.

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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.