

Four Forest Restoration Initiative

Mexican Spotted Owl, *Strix occidentalis lucida*

Monitoring Report

USDA Forest Service-Coconino National Forest, Flagstaff Ranger District

2023



Introduction

The U.S. Forest Service Coconino National Forest is working with the U.S. Fish and Wildlife Service (USFWS) to implement the Mexican spotted owl (MSO) management experiment for the Four Forest Restoration Initiative (4FRI), Phase 1. 4FRI is a collaborative effort between the Coconino, Kaibab, Apache-Sitgreaves and Tonto National Forests intended initiate forest restoration within the ponderosa pine forests of northern Arizona.

The project proposes to conduct forest management activities (e.g., thinning, burning, etc.) that may affect designated MSO protected activity centers (PACs). For more information about the MSO and recommended management, please refer to the 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 2023 MSO PAC monitoring for the 4FRI 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).

4FRI PAC Monitoring

Of the 8 PACs monitored this season (Table 1), we detected owls in four PACs in 2023 (Tables 3 & 4). MSO in three PACs produced young and we detected one MSO pair in an additional PAC. We surveyed the remaining four PACs six times each but did not locate any MSO.

Monitoring of the Prescribed Burn Only Treatment PACs (Table 2) ended after 5 years of post-treatment surveys were completed in 2022. No further monitoring of these PACs will occur as part of this experiment.

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

Treatment PAC	Reference PAC	Requirement
Archies	Lake #1	Management Experiment Biological Opinion
Mayflower Tank	Lee Butte	Management Experiment Biological Opinion
Bonita Tank	Crawdad	Management Experiment Biological Opinion
Iris Tank	Bar M	Objection Resolution Agreement

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

Treatment PAC	Reference PAC	Requirement
Spruce Tank	Boondock	Management Experiment Biological Opinion
Roundup	Pierce	Management Experiment Biological Opinion
Gash Mountain	MB Smith	Management Experiment Biological Opinion
Mustang	Coulter Ridge	Management Experiment Biological Opinion
Coyote Park	Nestor	Management Experiment Biological Opinion
James Canyon*	Pumphouse Wash*	Objection Resolution Agreement

* We dropped James Canyon and Pumhouse Wash PACs from the monitoring plan due to the difficulties related to treating James Canyon. The District fire program does not intend to use prescribed fire in these PACs under the Proposed Action.

Table 3. Monitoring Results for 4FRI Treatment PACs

4FRI Mechanical Thin and Prescribed Burn (Group 1)						
PAC	2018	2019	2020	2021	2022	2023
Archies	A	A	A	A	A	A
Bonita Tank	O-NU	A	A	M-NU	A	A
Mayflower Tank	M-NU	O-NN	O-NN	O-1Y	O-NN	O-NN
Iris Tank	O-NU	O-NU	O-1Y	O-1Y	O-2Y	O-2Y

Table 4. Monitoring Results for 4FRI Reference PACs

4FRI Mechanical Thin and Prescribed Burn (Group 1)						
PAC	2018	2019	2020	2021	2022	2023
Lake #1	O-NN	A	O-2Y	O-NF	O-2Y	A
Bar M	A	M-NU	A	A	A	A
Crawdad	O-NN	O-NU	A	M-NU	O-NN	O-1Y
Lee Butte	O-NN	O-2Y	O-NN	O-NF	O-2Y	O-2Y
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 NR = No response (surveyed to protocol)			#Y = Number of young fledged NU = Nesting unknown NN = Non-nesting/non-reproduction confirmed NF = Nest failed IM-NR = Informal monitoring, no response (less than 4 surveys completed)			

Other PACs Monitored

Twenty-six additional PACs in the 4FRI footprint were informally monitored in 2023 (Table 5), with one to four visits to each PAC. MSO in five PACs successfully fledged young, nesting attempts by MSO in four PACs failed and MSO in one PAC were confirmed to be non-nesting. Surveys detected a MSO pairs in four PACs and a male MSO in one additional PAC. No MSO were detected in the other eleven PACs visited.

Table 5. Occupancy status for other 4FRI related PACs monitored in 2023

PAC Name	Occupancy Status	Reason for Monitoring
Abineau	O	Ongoing 4FRI timber project
Bootlegger	O-1Y	Future 4FRI timber project
Canyon Vista	O-NF	Potential climbing area effects
Casner	IM-NR	Future 4FRI timber project
Clark	O-1Y	Ongoing 4FRI timber project
Coulter Ridge	O-NN	Ongoing 4FRI timber project

PAC Name	Occupancy Status	Reason for Monitoring
Coyote Park	O-2Y	Ongoing 4FRI timber project
Crusher	O-1YD	Future 4FRI prescribed fire project
Fanny	O-1Y	Future 4FRI prescribed fire project
Foxhole	A	Future 4FRI prescribed fire project
Frank	A	Future 4FRI prescribed fire project
Girdner	A	Future 4FRI prescribed fire project
Hochderffer	O-2Y	Future 4FRI timber project
Howard Draw	IM-NR	Wildfire for resource benefit
Howard Mountain	IM-NR	Wildfire for resource benefit
James Canyon	O-NU	Future 4FRI timber project
Kelly Canyon	O	Future 4FRI timber project
Mooney Mountain	IM-NR	Wildfire for resource benefit
Mustang	A	Ongoing 4FRI timber project
Newman	O-NF	Future 4FRI timber project
Racetrack Tank	O-NF	Future 4FRI prescribed fire project
Rock Top	A	Future 4FRI prescribed fire project
T-Bird	M	Future 4FRI prescribed fire project
T Six Tank	A	Future 4FRI prescribed fire project
Whitehorse	IM-NR	Ongoing 4FRI timber project
Wing Mountain	O	Future 4FRI timber project

4FRI Inventories

We surveyed 11 inventory areas to protocol in 4FRI footprint in 2022 (Table 6). We detected two MSO pairs during these surveys, one of them produced one young.

Table 6. 4FRI Inventory Areas surveyed in 2023

Inventory	Detections	Reason for Survey	Detection Outcomes
Crackerbox	No response	Support Forest restoration activities – year 1	
Frank	No response	Support Forest restoration activities – year 1	
James Canyon	No response	Timber project; required an additional year of survey	
Kelly Canyon	O-2Y	Timber project; required an additional year of survey	LL Cool PAC created

Inventory	Detections	Reason for Survey	Detection Outcomes
Kendrick Hills	No response	Support Forest restoration activities – year 2	
NW of Lockett Meadow	No response	Support Forest restoration activities – year 2	
Racetrack	O-NF	Support Forest restoration activities – year 1	Pair associated with Racetrack Tank PAC
T-Bird	No response	Support Forest restoration activities – year 1	
T-Six Canyon	No response	Support Forest restoration activities – year 1	
Upper James Canyon	No response	Support Forest restoration activities – year 2	

Management Activities

Mechanical treatments in 4FRI Mechanical Thin & Prescribed Burn PACs facilitated by the National Forest Foundation began in Fall 2021. The remaining 375 acres of Bonita Tank PAC were completed in fall 2023 and the contract was closed out in November.

Literature Cited

- U.S. Department of Agriculture, Forest Service (USFS). 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.
- U.S. Department of Interior, Fish and Wildlife Service (USFWS 2012). [Recovery Plan for the Mexican spotted owl \(*Strix occidentalis lucida*\), First Revision](#). Albuquerque, NM. 413 pp.
- _____. 2014. Biological Opinion, Four Forest Restoration Initiative, Phase 1. Cons. #22140-2011-F-0145, October 20, 2014. Arizona Ecological Services Office, Phoenix, AZ. 49 pp.