

Four Forest Restoration Initiative

Mexican Spotted Owl, *Strix occidentalis lucida*

Monitoring Report

USDA Forest Service-Coconino National Forest, Flagstaff Ranger District

2021



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 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 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 2019 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 18 PACs monitored this season (Tables 1 & 2), we detected owls in 14 PACs in 2021 (Tables 3 & 4). Five PACs produced young, and we detected pairs in four additional PACs. We surveyed the remaining four PACs six times each, but no MSO were located.

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

Treatment PAC	Reference PAC	Requirement
Archies	Lake #1/Seruchos	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 Pumphouse 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	2017	2018	2019	2020	2021
Archies	A	A	A	A	A
Bonita Tank	O-2Y	O-NK	A	A	SM-NK
Mayflower Tank	O-NN	MS-NK	O-NN	O-NN	O-1Y
Iris Tank	O-1Y	O-NK	O-NK	O-1Y	O-1Y
4FRI Prescribed Burn Only (Group 2)					
PAC	2017	2018	2019	2020	2021
Coyote Park	O-NF	O-NK	O-1Y	O-NN	O-NF
Gash Mountain	O-NK	O-NK	S-NU	O-2Y	O-2Y
Mustang	O-NN	O-NK	O-NN	O-NK	SM-NK
Roundup	A	O-NU	S-NU	A	SM-NK
Spruce Tank	O-1Y	S-NK	S-NU	O-NN	O-1Y

Table 4. Monitoring Results for 4FRI Reference PACs

4FRI Mechanical Thin and Prescribed Burn (Group 1)					
PAC	2017	2018	2019	2020	2021
Lake #1/Seruchos	O-2Y	O-NN	A	O-2Y	O-NF
Bar M	A	A	SM-NU	A	A
Crawdad	O-1Y	O-NN	O-NU	A	SM-NK
Lee Butte	O-1Y	O-NN	O-2Y	O-NN	O-NF
4FRI Prescribed Burn Only (Group 2)					
PAC	2017	2018	2019	2020	2021
Boondock	MF-NK	O-NN	O-2Y	O-NN	O-NF
Coulter Ridge	O-1Y	O-NK	O-NN	O-2Y	O-NN
MB Smith	O-NN	O-NK	A	A	A
Nestor	O-NF	O-NK	A	A	A
Pierce Tank	O-1Y	O-NN	O-NU	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 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		

Other PACs Monitored

Eleven additional PACs in the 4FRI footprint were informally monitored in 2021 (Table 5), with one to two visits to each PAC. Three of the PAC's successfully fledged young, while we detected one dead fledging in another PAC. Surveys detected a pair of owls in three of the other eight PACs.

Table 5. Occupancy status for other 4FRI related PACs monitored in 2021

PAC Name	Occupancy Status	Reason for Monitoring
Blade Tank	SM-NU	Assist with monitoring of MB Smith
Canyon Vista	O-1YD	Potential climbing area effects
Clark	SM-NK	Ongoing 4FRI timber project
Fain Mountain	IM-NR	Assist with monitoring of Round-up & Gash Mountain PACs
Foxhole	O-2Y	Assist with monitoring of Bar-M PAC
Frank	IM-NR	Assist with monitoring of Round-up & Gash Mountain PACs
Howard Mountain	IM-NR	Assist with monitoring Lake #1 PAC
Iowa Camp	IM-NR	Prescribed burn planned in 2021
Meadow Tank	SM-NU	Assisted with monitoring Spruce Tank PAC
Mint Spring	O-1Y	Prescribed burn planned in 2021
Sin Agua	IM-NR	Assist with monitoring Boondock PAC

4FRI Inventories

We surveyed ten inventory areas to protocol in 4FRI footprint in 2021 (Table 6). We detected three pairs of owls during these surveys, one of them produced 2 young.

Table 6. 4FRI Inventory Areas surveyed in 2021

Inventory	Detections	Reason for Survey	Detection Outcomes
Broillar Park	No response	Support Forest restoration activities	
Coulter Park	No Response	Timber project year 2	
Hochderffer	No response	Support Forest restoration activities	
Hutch Mountain	No response	Timber project year 1	
Luke Mountain	No response	Support Forest restoration activities	
Mint West	No response	Support Forest restoration activities	

Inventory	Detections	Reason for Survey	Detection Outcomes
Newman	No response	Timber project renewal (5 years since last survey)	
Sheep Springs	O-2Y	Assist with monitoring Nestor PAC	
Wing Mountain	O-NN	Support Forest restoration activities	Wing Mountain PAC created
Woody Ridge	O-NU	Support Forest restoration activities	

Management Activities

In 2020, the Forest Service signed an agreement with the National Forest Foundation to facilitate mechanical treatments in 4FRI Mechanical Thin & Prescribed Burn PACs. Treatments are scheduled to occur in Fall/Winter 2021.

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.