

Four Forest Restoration Initiative

Mexican Spotted Owl, *Strix occidentalis lucida*

Monitoring Report

USDA Forest Service-Coconino National Forest, Flagstaff Ranger District

2019



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 13 (Tables 3 & 4).

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 from the monitoring plan. Fire staff is not intending to use prescribed fire in these PACs under the Proposed Action.

Table 3. Monitoring Results for 4FRI Treatment PACs

4FRI Prescribed Burn Only (Group 1)				
PAC	2016	2017	2018	2019
Archies	A	A	A	A
Bonita Tank	O-NK	O-2Y	O-NK	A
Mayflower Tank	O-NK	O-NN	MS-NK	O-NN
Iris Tank	O-2Y	O-1Y	O-NK	O-NK
4FRI Prescribed Burn Only (Group 2)				
PAC	2016	2017	2018	2019
Coyote Park	O-1Y	O-NF	O-NK	O-1Y
Gash Mountain	F-NK	O-NK	O-NK	S-NU
Mustang	O-NK	O-NN	O-NK	O-NN
Roundup	A	A	O-NU	S-NU
Spruce Tank	O-NK	O-1Y	S-NK	S-NU

Table 4. Monitoring Results for 4FRI Reference PACs

4FRI Mechanical Thin and Prescribed Burn (Group 1)				
PAC	2016	2017	2018	2019
Lake #1/Seruchos	O-1Y	O-2Y	O-NN	A
Bar M	A	A	A	SM-NU
Crawdad	O-NK	O-1Y	O-NN	O-NU
Lee Butte	O-NN	O-1Y	O-NN	O-2Y
4FRI Prescribed Burn Only (Group 2)				
PAC	2016	2017	2018	2019
Boondock	O-NK	MF-NK	O-NN	O-2Y
Coulter Ridge	O-NK	O-1Y	O-NK	O-NN
MB Smith	O-NN	O-NN	O-NK	A
Nestor	O-NK	O-NF	O-NK	A
Pierce Tank	O-NK	O-1Y	O-NN	O-NU
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 PAC Monitored

We monitored 19 PACs this season in 4FRI (Table 5). Nesting status was not determined for 13 of these PACs. We found the birds too late in the season or there were not enough surveys completed to determine status. Owls in the Hochderffer PAC failed. Surveyors thought owls in Powerline Tank may have nested, but no nestlings were located on later surveys.

We worked with USFWS to adjust the Volunteer PAC and Casner Cabin PAC boundaries to accommodate new MSO observations and to designate a new PAC, Mooney Mountain, next to Volunteer in part of the LO Pocket Inventory Area.

We have monitored the Knob and T-6 Tank PACs since 2017. Per the Objection Resolution, if they are found to be unoccupied for three consecutive years, they can be mechanically treated and prescribed burned in order to retain and improve owl habitat. This season both PACs had owl detections that are most likely from the adjacent occupied Foxhole PAC. Crews make numerous daytime pre-call visits to both of these PACs and never detect physical sign. We will continue to work with the USFWS to determine future survey needs.

Table 5. Occupancy status for other 4FRI related PACs monitored in 2019

PAC Name	Occupancy Status	Reason for Monitoring
Bear Seep	O-2Y	To clarify detections from nearby inventory & PACs
Canyon Vista	O-NU	Climbing and Marshall timber project
Casner Cabin	O-NU	Future timber project
Clark	O-2Y	Ongoing 4FRI timber project
Fisher Canyon	SU-NU	Marshall timber project
Foxhole	O-NU	Clarify detections from Bar M Rocky inventory
Hochderffer	O-NF	Refresh 4FRI Task Order
Howard Draw	IM-NR	Follow up to a 2014 sighting outside of PAC
Iowa Camp	IM-NR	Prescribed burn planned in 2021
Knob	SU-NU	Future timber project
Pipeline	IM-NR	Schultz fire and bark beetles
Powerline Tank	O-NK	4FRI Biological Opinion
Red Hill	IM-NR	Future timber project
Sawmill Spring	A	4FRI Biological Opinion
T-Six Tank	SM-NU	4FRI Biological Opinion
Upper West Fork	O-NU	Future timber project
Volunteer	O-NU	Future timber project
Whitehorse	IM-NR	Future timber project

4FRI Inventories

The inventory areas with detections included Coulter Park, Howard Pocket, LO Pocket, Red Hill, and West Fork (Table 6). The Coulter Park detection was near the Mustang PAC. We did not locate an MSO on the follow-up survey. New PACs were created from the LO Pocket, Red Hill, and West Fork inventories. Surveys detected a pair in LO Pocket. Since we detected owls in Volunteer PAC this year, this prompted the formation of the new Mooney Mountain PAC. We adjusted the Volunteer PAC boundary to accommodate part of Mooney Mountain. Red Hill and West Fork detections of a single male lead to the creation of the Sinkhole PAC.

Table 6. 4FRI Inventory Areas surveyed in 2019

Inventory	Detections	Reason for Survey	Detection Outcomes
Bar M Rocky	Audio detection of single female	Fire project year 2	No MSO found on daytime follow-up
Bootleg Antelope	No response	Timber project year 2	
Coulter Park	Audio, visual detections of single male	Timber project year 1	Detections attributed to Mustang PAC
Crazy Park	No response	Fire project year 2	
Dutton Hill	No response	Timber project year 2	
Fox	No response	Fire project year 2	
Frog Tank	No response	Timber project year 1	
Horse Park	Audio detection of pair	Timber project year 2	Detections attributed to Coyote Park PAC
Howard Pocket	Audio detection of pair	Timber project year 1	Detection led to revision of Casner Cabin PAC boundary
Lake Mary	No response	Fire project year 2	
Little Horse	Audio detection of single male	Timber project year 1	Detections attributed to Moore Well – Rock Dyke PAC
LO Pocket	Audio, visual detections of pair	Timber project year 2	Detections led to designation of new Mooney Mountain PAC
Mint East	Audio detection of single male	Fire project year 1	Detection attributed to Mint Springs PAC
Red Hill	Audio, visual detection of single male	Timber project year 2	Detection led to designation of new Sinkhole PAC
Ritter	No response	Fire project year 1	
West Fork	Audio, visual detections of single male & pair	Timber project year 2	Detection led to designation of new Sinkhole PAC

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.