

EXHIBIT A

INTERGOVERNMENTAL AGREEMENT FOR VEGETATION MONITORING ASSOCIATED WITH THE FLAGSTAFF WATERSHED PROTECTION PROJECT

Scope of Work

Vegetation Monitoring
to inform hazardous fuels reduction treatments
in Mexican spotted owl (MSO) Protected Activity Centers (PACs)

Ecological Restoration Institute, Northern Arizona University

Overview

The Flagstaff Watershed Protection Project (FWPP) aims to reduce hazardous forest fuels and potential for uncontrollable wildfire and flooding in the Dry Lake Hills and Mormon Mountain areas. Much of this land is characterized by steeper slopes and mixed conifer forests. The mixed conifer forests are complex ecosystems and function as critical habitat for the Mexican spotted owl (MSO), a federally threatened wildlife species. Two primary threats to sustainability of the species are timber harvest and stand-replacing wildfire.

The recently revised MSO Recovery Plan allows for hazardous fuels treatments to be conducted within Protected Activity Centers (PACs), i.e., designated protected sites where owls have been observed. However, there is presently much uncertainty regarding how various treatment types and intensities may affect owl populations. The Ecological Restoration Institute (ERI) at Northern Arizona University, in collaboration with the US Fish and Wildlife Service (FWS) and US Forest Service (FS), is engaging in a project to monitor changes in habitat characteristics and MSO population responses associated with FWPP hazardous fuels treatments. Findings from this work likely will serve as one benchmark for evaluating success of FWPP due to the importance of MSO conservation and public interest. In addition, detailed measurements taken as part of this effort will be useful for calibrating other fire behavior modeling that will be done to monitor FWPP treatments at the broad scale.

Scope of Work

In 2014-2015, the ERI will initiate forest structure, vegetation, and potential fire behavior monitoring of MSO PACs identified within the Dry Lake Hills area of the FWPP. Work during this period will focus on installing field plots and collecting pretreatment data related to forest structure and hazardous fuels loading. In particular, data collected will include tree size distribution, canopy cover, vertical canopy structure, log size distribution, density of large standing dead trees, and live and dead fuel loading. Data collected will be used to compare with post-treatment conditions and to explain MSO population responses. MSO responses, such as nest occupancy and fledgling success, will be monitored by FWS. As a study control, similar data will be collected in PACs that are not planned for hazardous fuels treatments.

Plots will be installed before treatment implementation and then resurveyed one year after completion of treatments as well as five years post-treatment. Field plots installed in 2014-2015 will represent a sampling intensity of one plot per 22 acres of treatment area.

As stated above, much of the area monitored will be mixed conifer forest. In terms of FWPP acreage monitored, this study will collect detailed forest data across 24% of the Dry Lake Hills project area.

Expected Benefits

- This project will generate new information on MSO population responses to forest treatments.
- This project develops an important new partnership between GFFP, NAU-ERI, and the City of Flagstaff.
- Findings will address public concerns regarding conservation of critical wildlife habitat.
- Detailed data generated in this project will augment and validate broad-scale fuel hazard reduction and potential fire behavior modeling.
- Monitoring will be focused on mixed conifer forests and will address public concern and uncertainty regarding treatment of this diverse forest type.
- Data from this effort will help to evaluate precision of treatment implementation in addition to ecological responses.

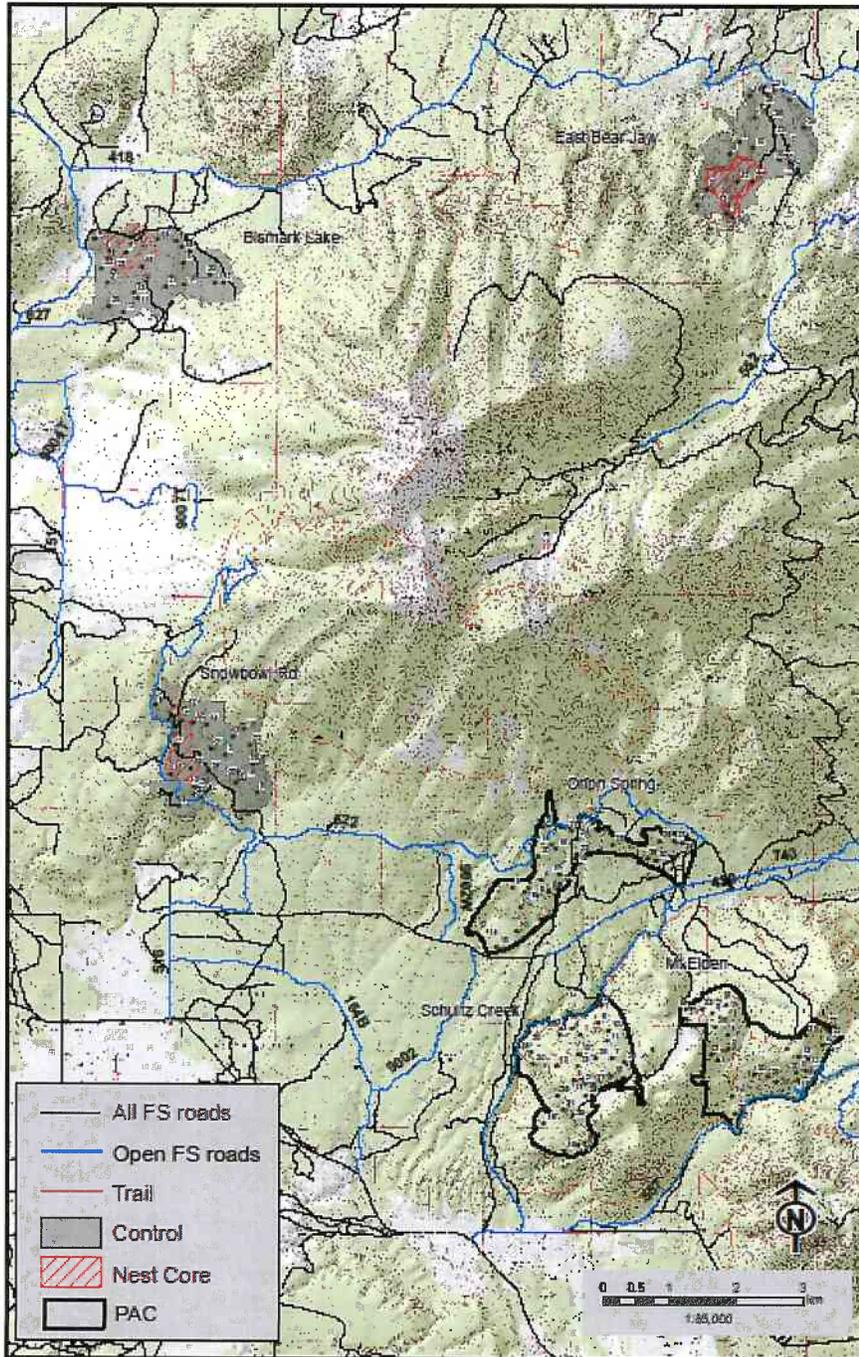
Objectives:

1. Quantify forest structure, vegetation, and fuels characteristics before and after hazardous fuels reduction treatments in PACs
2. Model changes in potential fire behavior resulting from fuels treatments in PACs
3. Interpret changes in forest structure and potential fire behavior in terms of conservation of MSO habitat
4. Provide data for analysis of MSO population responses to hazardous fuels treatments and forest structure.

Budget: The Ecological Restoration Institute at Northern Arizona University requests the amount of \$25,000 to initiate plot installation and pre-treatment data collection in the Dry Lake Hills (DLH) area of the FWPP

Dry Lake Hills Protected Activity Centers and Untreated Control Pairs

FWPP - Dry Lake Hills



Revised 4/21/2014