Appendix B – Forest Plan Amendments

Three project-specific amendments for the Tonto NF are evaluated in the Rim Country DEIS. The forest plan amendments are authorized via 36 CFR 219, the Forest Service Planning Rule. Each amendment is a specific, one-time variance in the current Tonto Forest Plan direction for the Rim Country Project. The amendments would not apply to any other projects or areas outside of the Rim Country project area and any associated changes in forest plan language or direction would cease to be in effect upon completion of this project.

Both of the action alternatives (alternatives 2 and 3) would require these proposed amendments.

The purpose of Amendment 1 is to bring alternatives 2 and 3 into alignment with the revised Mexican Spotted Owl Recovery Plan and defer monitoring to the FWS biological opinion that is specific to this project. Amendment 2 clarifies existing direction related to managing canopy cover and interspace in the Forest Plan. The purpose of Amendment 2 is to bring the project into alignment with the best available science (Reynolds et al. 2013) that provides desired conditions for restoring fire-adapted ponderosa pine in the Southwest. Amendment 3 removes the restrictive language related to 40 percent slopes and the language identifying slopes above 40 percent as inoperable, to allow mechanical treatments with new methods and equipment on slopes greater than 40 percent without adverse environmental effects.

Amendment 1. Ponderosa pine vegetation/forest cover types

There is a need for the 4FRI Rim Country analysis to be in alignment with the Apache-Sitgreaves and Coconino NF revised forest plan management direction. The revised forest plans reflect a change in conditions since the 1980s including acknowledgement that vegetation conditions (structure, composition, and function) are divergent from reference conditions and forest conditions indicate a substantial departure from the natural fire regime. The revised plans use the latest best available science and information. Because a final Tonto National Forest (hereafter referred to as Tonto NF) revised forest plan is not expected until at least 2020, an amendment is needed to:

- Replace forest plan standards and guidelines for ponderosa pine/bunchgrass, ponderosa pine/Gambel oak, ponderosa pine/evergreen oak, dry mixed conifer and old growth with desired conditions and guidelines
- Add a desired condition for the percentage of interspaces within uneven-aged stands to facilitate restoration.
- Add the desired interspaces distance between tree groups.
- Add a definition to the forest plan glossary for the terms interspaces and openings.
- For the purposes of this amendment, the following definitions apply:

Interspaces as defined by RMRS-GTR-310 (Reynolds et al. 2013) are areas within a stand that are not currently under the vertical projection of the outermost perimeter of tree canopies (drip-line). They are generally composed of grass-forb-shrub cover but could also be areas with scattered rock or exposed mineral soil. As spaces between trees, tree groups and tree clumps, interspaces contribute to the “open canopy” character of frequent-fire forests. They often connect with other interspaces and thus are variably shaped and sized. Also see “openings”. Interspaces and tree group locations are dynamic and shift over time.

Openings may result from different causes. They may be defined as generally persistent treeless areas having a fairly distinct shape or size, occurring naturally due to differences in soil types as compared to

sites that support forests or woodlands. Openings include meadows, grasslands, rock outcroppings, and wetlands. They may also result from disturbances like severe fire or windthrow, or management activities to intentionally create space for new tree regeneration. Natural and created openings are not the same as interspaces found in the frequent-fire forests or woodlands. See "interspaces."

Uneven-aged forests are forests that comprise three or more distinct age classes of trees, either inter-mixed or in small groups.

Uneven-aged management is the application of combined actions needed to simultaneously maintain continuous forest cover, and support the recurring regeneration of desirable species and the orderly growth and development of trees through a range of diameter or age classes to provide a sustained yield of forest products. Cutting is usually regulated by specifying the number or proportion of trees of particular sizes to retain within each area, thereby maintaining a planned distribution of size-classes. Cutting methods that develop and maintain uneven-aged stands are single-tree selection and group selection. An uneven-aged, regulated forest is one which has a balanced progression of three or more age/size-classes, such that each younger/smaller class is advancing to replace the class above it on approximately the same acreage, until it is mature for harvest or other resource objectives. A regulated forest reaches sustained yield when the volume cut periodically equals the amount of net volume growth for that same period.

Amendment 2. Mexican spotted owl component

In 2012, the Mexican Spotted Owl Recovery Plan, First Revision, was published (USDI FWS 2012). There is a need for the 4FRI Rim Country analysis to be in alignment with the management direction provided in the revised Recovery Plan and the other forest plans that are part of this landscape EIS. A project-specific plan amendment is needed because the 1985 Tonto National Forest Plan, as amended, includes direction from the former (1995) recovery plan.

The plan amendment would:

- Update definitions and direction for protected (protected activity centers (PACs)), recovery habitat, and other forest and woodland types to be in alignment with the current recovery plan.
- Update language and direction related to prescribed cutting and fire treatments in PACs to be consistent with the current recovery plan.
- Add forest structure guidelines for recovery habitat.
- Update survey information and remove population and habitat monitoring direction. The MSO monitoring plan from Coconino and Kaibab NF 4FRI decision would serve as a starting point for continuing monitoring across MSO habitat on Tonto NF, in consultation with the USFWS.
- Remove the direction for treating habitat in incremental percentages. The MSO monitoring plan for the Coconino and Kaibab NF 4FRI decision would serve as a starting point for continuing monitoring across MSO habitat on Tonto NF, in consultation with the USFWS. The monitoring plan includes a phased implementation and monitoring strategy.

Background

At the request of the 4FRI planning team, Dr. Joseph Ganey and other Mexican spotted owl experts published the "Status and ecology of Mexican spotted owls in the Upper Gila Mountains Recovery Unit, Arizona and New Mexico" in 2011 (RMRS GTR-256). The intent of this report was to aid planners in

evaluating potential benefits or impacts of management actions for Mexican spotted owls and their habitat.

Each stand within PACs on the Tonto NF would be modeled to identify silvicultural and prescribed fire treatments that would yield the best existing and future Mexican spotted owl habitat conditions. Selecting trees for removal would prioritize the release of large and old trees including oak. The goal for PAC treatments would be to move existing owl habitat toward the desired conditions described in the 2012 Mexican spotted owl Recovery Plan, First Revision (USDI FWS 2012). Whether nesting and roosting habitat would benefit from selectively cutting trees greater than 9 inches diameter at breast height would be determined with the USFWS. Treatments up to 9 inches diameter at breast height are consistent with the current Tonto NF forest plan. The proposal would be in alignment with the revised Mexican spotted owl Recovery Plan (USDI FWS 2012).

Prescribed fire is an appropriate and effective tool for improving habitat conditions within most PACs, including core areas. Excluding PACs and/or core areas from prescribed fire is either done by drawing burn units that do not include the PAC/core area. This can result in thousands of additional acres outside of the PAC being excluded from prescribed fire. The other way PACs are excluded is by creating firelines. Firelines can range from a ~3 foot wide hand line to a ~12+ foot wide dozer line. The number of acres of potential ground disturbance needed to exclude PACs from burning could range from about ½ acre (hand line) to about 2.5 acres (dozer line), and would also include limbing, thinning, cutting, as needed along the lines, depending on site specific burning conditions (weather, fuel, topography). Additionally, burning off of firelines built through heavy fuels increases the risk to fire managers implementing proposed actions.

There is concern that constructed firelines could encourage recreation use in areas of spotted owl nesting and roosting, and increased human disturbance could lead to indirect effects, including removal of snags and logs inside PACs by firewood cutters and campers.

Burning in Mexican spotted owl PACs is difficult as there is a need to address the high fuel loadings while maintaining many of the habitat elements that contribute to fuel loading. There is often a short burn window available in order to avoid the breeding season (i.e., the nonbreeding season – September 1 to February 28). Lining numerous core areas greater than or equal to 100 acres would be expensive in terms of time, money, and other resource commitments. In many projects, PAC treatments have been eliminated for these reasons. Applying low-severity prescribed fire within the 100-acre core areas may eliminate the need for fireline construction and will potentially minimize impacts to protected habitat.

A geographic layer for recovery habitat across the 4FRI Rim Country project area will be developed and will merge all available pine-oak and mixed conifer data. A landscape-scale approach would meet the goal of providing continuous replacement nesting and roosting habitat over time at a landscape scale, as described in the revised Recovery Plan.

Recovery habitat would be managed to meet a 110 square feet basal area or greater for Mexican spotted owl nest and roost habitat as recommended in the revised Recovery Plan. The purpose is to allow more of the uncharacteristically dense in-growth in most diameter size classes in the Rim Country Project area to be removed while retaining nesting and roosting habitat components. The purpose is to improve forest health while retaining large trees and increasing large tree growth rates as described in the revised recovery plan. Based on a cursory review of existing condition data there will likely be a need to increase forest spatial heterogeneity and improve MSO prey habitat. Increasing the basal area range would provide opportunities to mimic canopy gap processes which produce horizontal variation in stand structure. These changes would both increase and retain nesting and roosting structure and increase understory cover.

Research suggests that small mammal biomass (including voles and mice) drives spotted owl reproductive output. Thinning smaller trees would also improve sub-canopy flight zone, thereby increasing Mexican spotted owl foraging effectiveness.

Monitoring assesses the effectiveness of management actions and provides the adaptive framework for more successful management guidelines. Monitoring habitat allows for modeling future forest conditions to determine if there will be adequate habitat to support Mexican spotted owl populations. Occupancy, reproduction and habitat monitoring and final project design for all activities in all Mexican spotted owl habitat was developed for the first 4FRI analysis in consultation with the U.S. Fish and Wildlife Service. While the monitoring plan from the first 4FRI analysis will be reviewed, a new monitoring plan that is specific to this landscape will be developed in coordination with the USFWS. The USFWS identifies the minimum monitoring requirements as part of their biological opinion. Adaptive management would also allow modifying Rim Country MSO treatments with the monitoring results from the first 4FRI.

Amendment 3. Mechanical treatments on steep slopes

The current Forest Plan restricts the use of mechanical equipment to slopes less than 40 percent. Amendment 3 would remove the restrictive language related to 40 percent slopes and also the language identifying slopes above 40 percent as inoperable in order to allow mechanical harvesting on slopes greater than 40 percent within the project area.

It would be necessary to allow for use of specialized mechanical equipment to cut and remove trees and also to mechanically treat other vegetation on steep slopes, in order to carry out restoration treatments in portions of the Rim Country project area on the Tonto Forest. Since the Tonto Forest Plan was written and amended, the design of mechanized ground-based equipment has progressed to allow operations on steep slopes more effectively and without adverse effects on soil resources. This forest plan amendment is needed in order to be able to utilize such equipment on slopes greater than 40 percent, to meet the purpose and need of the Rim Project, and to move toward desired conditions on these steeper slopes in the project area.

Current Tonto Forest Plan Direction

Chapter 4 Replacement Page 40-2:

> *Allow no timber harvest except for fire risk abatement in mixed conifer and pine-oak forests on slopes greater than 40% where timber harvest has not occurred in the last 20 years.*

Chapter 4_4A Replacement Page 135:

> *Restrict tractor skidding to those areas that have sustained slopes of 40% or less.*

Chapter4_5A Page 158:

> *Restrict tractor skidding to those areas that have sustained slopes of 40% or less.*

Proposed Language for Tonto Forest Plan Amendment

Within the Rim Country project area, mechanical treatments are allowed on slopes greater than 40% where mechanical treatments are not otherwise restricted and the use of mechanized ground-based equipment would not result in adverse effects on soil and water resources. Mechanical restoration treatments on slopes greater than 40% will adhere to the Rim Country Project design features and Best Management Practices (BMPs) designed to protect soils and water quality.