Appendix B – Land Management Plan Amendment for the Tonto National Forest

Introduction

A project-specific amendment with three areas of exceptions to the Tonto National Forest Land Management Plan are evaluated in the Rim Country Final Environmental Impact Statement (FEIS). The proposed land management plan amendment is in accordance with 36 CFR 219, the Forest Service 2012 Planning Rule (USDA 2012c) and FSH 1909.12, Land Management Planning Handbook. This project-specific amendment is needed to except the Rim Country project from specific standards and guidelines in the current 1985 Tonto National Forest Land Management Plan. This amendment applies only to the Rim Country project for the area within the Tonto National Forest. There is no need for project-specific amendments to the Apache-Sitgreaves or Coconino National Forests (NF) because the Rim Country project was prepared to be consistent with their recently revised land management plans that reflect current science, policy and technology. This project-specific plan amendment would not be needed if the draft land management plan or other action alternatives for the revised Tonto Land Management Plan were in effect.

Exception 1 would except the Rim Country project from the current 1985 Land Management Plan (LMP) standards and guidelines for old growth and Vegetative Structural Stage (VSS) distribution. These prescriptive requirements are no longer supported by the best available science (for example, Reynolds et al. 2013) and are not included in the revised LMPs for the Apache-Sitgreaves or Coconino National Forests or in direction for the Tonto's proposed LMP. The Rim Country project meets the original intent of the standards and guidelines by protecting old growth and implementing treatments that make progress toward the desired conditions for fire-adapted forests in the Southwest.

Exception 2 would except the project from the Tonto National Forest land management plan direction that reiterates the outdated Mexican Spotted Owl Recovery Plan (1995) and would make it consistent with the current Mexican Spotted Owl Recovery Plan, First Revision (2012). Specifically, it would except the project from the monitoring requirement in the Tonto National Forest Land Management Plan and would instead implement the monitoring specified in the U.S. Fish and Wildlife Service (USFWS) biological opinion specific to this project.

Exception 3 would except the project from the Tonto National Forest Land Management Plan direction limiting the use of mechanical equipment to slopes less than 40 percent. The proposed amendment would allow the use of mechanized ground-based equipment to operate on slopes greater than 40 percent where it is not otherwise restricted and where it would not result in adverse effects on soil and water resources. This exception reflects that advances in technology allow for mechanical equipment to be used on steeper slopes without resulting in adverse resource impacts. This exception is needed to meet the purpose and need of the Rim Country project to restore these steeper slope areas, while meeting the original intent of the standard/guideline of protecting soils on steep slopes.

Exception 1. Ponderosa Pine Vegetation Treatment/Forest Cover Types

The Apache-Sitgreaves and Coconino National Forests revised land management plans reflect the change in conditions and ecological understanding that has occurred since the 1980s that acknowledge vegetation conditions (structure, composition, and function) are divergent from reference conditions and the natural fire regime. Because a final Tonto National Forest (hereafter referred to as Tonto National Forest) revised land management plan is not expected until Fall 2022, this project-specific land management plan amendment is needed to except the project from the following land management plan standards and guidelines for ponderosa pine/bunchgrass, ponderosa pine/Gambel oak, ponderosa pine/evergreen oak, dry mixed conifer, and old growth (Table B-1). Table B-2 provides terms that are not incorporated into the Rim Country project that provide added clarification for the analysis and implementation on how the project meets the canopy cover requirement.

Table B-1. Current 1985 Tonto Land Management Standards and Guidelines and amendment rationale for Exception 1

Tonto National Forest Land Management Plan Excepted Standards and Guidelines	Rationale for Amendment Exception
Until the land management plan is revised, allocate no less than 20 percent of each forested ecosystem management area to old growth as depicted in the table in Appendix L, page 271 (Tonto Land Management Plan, p. 40).	The Rim Country project would meet the intent of the standards/guidelines for providing for old growth by following the Large Tree Implementation Plan (LTIP) and Old Tree Implementation Plan (OTIP) found in Appendix D. Implementation Plan of the FEIS. Additionally, it would help to provide for old growth over time by making progress toward the following desired conditions that are based on the best available scientific information (such as Reynolds et al. 2013). **Desired Conditions for ponderosa pine-bunchgrass, ponderosa pine-Gambel oak, and dry mixed conifer forest types:** At the landscape-scale (10,000 acres and greater) the ponderosa pine/bunchgrass, ponderosa pine/Gambel oak and dry mixed conifer forest is a mosaic of structural states ranging from young to old trees in approximately balanced proportions. Forest structure is variable but uneven-aged and open in appearance. Sporadic areas of even-aged structure may be present on 10 percent or less of the landscape to provide structural diversity. Old growth occurs throughout the landscape, in small, discontinuous areas consisting of clumps of old trees, or occasionally individual old trees. Other old growth components are also present including dead trees (snags), downed wood (coarse woody debris), and/or structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). At the mid-scale (100 to 1,000 acres) the ponderosa pine/bunchgrass, ponderosa pine/Gambel oak and dry mixed conifer forest is characterized by variation in the size and number of tree groups depending on elevation, soil type, aspect, and site productivity. The more biologically productive sites contain more trees per group and more groups per area, resulting in less space between groups. Interspaces typically range from 10 percent in more biologically productive sites to 70 percent in the less productive sites. Tree density within forested areas ranges from 20 to 80 square feet basal area per acre. The tree group mosaic composes an uneven-aged forest with all age classes, size-classes, and structural stages present in approximately balanced proportions (area based). Occasionally, patches of even-aged forest structure are present (less than 50 acres). Disturbances sustain the overall age and structural distribution.

Tonto National Forest Land Management Plan Excepted Standards and Guidelines	Rationale for Amendment Exception
	Northern goshawk post-fledging family areas (PFAs) should have 10 to 20 percent higher basal area in mid-aged to old tree groups than northern goshawk foraging areas and the surrounding forest. Northern goshawk nest areas have forest conditions that are multi-aged and dominated by large trees with relatively denser canopies than the surrounding forest. At the fine scale (less than 10 acres), trees typically occur in irregularly-shaped groups and are variably spaced with some tight clumps. Crowns of trees within mature to old age groups are interlocking or nearly interlocking within portions of tree groups providing for species that require these forest structure conditions. Interspaces surrounding tree groups are variably shaped and composed of a grass, forb, and shrub mix. Some may contain individual trees or snags. **Desired conditions for ponderosa pine-evergreen oak forest type:** ***Landscape-scale (1,000 – 10,000 acres)*** The ponderosa pine-evergreen oak forest is composed of trees from structural stages ranging from young to old. Forest appearance is variable but generally uneven-aged and open at landscape-scales; areas of even-aged structure may be present. The forest arrangement is in individual trees, small clumps, and larger groups of trees interspersed within variably-sized openings of grass/forbs/shrub vegetation associations. Openness may range from 10 percent to 70 percent depending on site productivity. However, in the shrub subtype, the general trend would be toward less openness to maintain canopy cover and inhibit growth of the shrub component. Size, shape, number of trees per group, and number of groups per acre are variable across the landscape. All structural stages of oak are present, with old trees occurring as dominant individuals or in small groups. Denser tree conditions may exist in some locations, such as north facing slopes and canyon bottoms. Old growth occurs throughout the landscape, generally in small areas as individual old growth components, or as clumps of old growth. Old growth components include old trees, dead trees (snags), downed wood (coarse woody debris) and structural diversity. The location of old growth shifts on the landscape over time as a result of succession and disturbance (tree growth and mortality). The ponderosa pine-evergreen oak forest is composed predominantly of vigorous trees, but declining trees and shrubs may be a component. Declining trees provide for snags, top-killed, lightning – and fire-scarred trees, and coarse woody debris (> 3 inches diameter), all well-distributed throughout the landscape. Ponderosa pine snags are typically 18 inches or greater at d.b.h. and average 1 to 2 snags per acre; large oak snags (> 10 inches) are a well-distributed component. Downed logs (> 12 inch diameter at mid-point, >8 feet long) average 3 logs per acre within the forested area of the landscape. Coarse woody debris, including downed logs, ranges from 3 to 10 tons per acre. The composition, structure, and function of vegetative conditions are resilient to the frequency, extent and severity of disturbances and climate variability. The landscape is a functioning ecosystem that contains all its component, processes, and conditions that result from natural disturbances (insects, diseases, fire, and wind), including old growth. Dwarf mistletoe occurs in less than 15 percent of host trees in uneven-aged forest structures and less than 25 percent in even-aged forest structure. Limited grasses, forbs,

Tonto National Forest Land Management Plan Excepted Standards and Guidelines	Rationale for Amendment Exception
	and a low to moderate density of shrubs, needle cast, and small trees maintain the natural fire regime. Organic ground cover and herbaceous vegetation provide protection of soil, moisture infiltration, and contribute to plant and animal diversity and to ecosystem function. Shrubs may be a component of the ecosystem and may average 30 percent canopy cover. Low to mixed-severity fires (fire regimes I and III) are characteristic in this type, including throughout northern goshawk home ranges. Natural and anthropogenic disturbances are sufficient to maintain desired overall tree density, structure, species composition, coarse woody debris, and nutrient cycling. ***Mid-Scale Desired Conditions (100 - 1,000 acres)*** The ponderosa pine-evergreen oak forest is characterized by variation in the size and number of tree groups depending on elevation, soil type, aspect, and site productivity. Openness may range from 10 percent to 70 percent, depending on site productivity. However, in the shrub subtype, the general trend would be toward less openness to maintain canopy cover and inhibit growth of the shrub component. Tree density within forested areas generally ranges from 20 to 100 square foot basal area per acre. The mosaic of tree groups comprises a mix of even-aged and uneven-aged patches with all age classes and structural stages present. The mix of natural disturbances sustains the overall age and structural distribution. Patch sizes range from less than 1 acre to 10s of acres. Ground cover consists of shrubs, perennial grasses, and forbs with basal vegetation values ranging between about 5 and 15% depending on the TEUI unit (USDA Forest Service 1986). Fires are low to mixed-severity, depending upon the amount of shrubs in the understory. In areas dominated by perennial grasses, fires primarily burn on the forest floor. In areas dominated by shrubs, fires may burn on the forest floor as well as in the overstory. Crown fires occur in small patches. Forest conditions in northern goshawk post-fledging family areas (PFAs) are similar to general forest conditions except these forests contain 10 to 20 percent higher basal area in the mid- to old-age tree groups than northern goshawk foraging areas and the general forest. Northern goshawk nest areas have forest conditions that are multi-aged but are dominated by large trees with relatively denser canopies than other areas in the ponderosa pine-evergreen shrub type. ***Fine-Scale Desired Conditions (less than 10 acres)*** Trees may occur individually or in small to large groups in which they are variably-spaced with some tight clumps. Crown of trees within mature- to old- age groups are interlocking or nearly interlocking within portions of tree groups. Interspaces between tree groups are variably-shaped and comprised of shrubs and limited grass cover. Some natural openings may contain a high density of shrubs and/or individual trees, including large oaks. Trees within groups are of similar or variable ages and may contain species other than ponderosa pine. Size of tree groups typically is less than 2 acres, but occasional larger sized groups may occur.

Tonto National Forest Land Management Plan Excepted Standards and Guidelines	Rationale for Amendment Exception
All analyses should be at multiple scales - one scale above and one scale below the ecosystem management areas. The amount of old growth that can be provided and maintained will be evaluated at the ecosystem management area level and be based on forest type, site capability, and disturbance regimes (Tonto NF Land Management Plan, p. 40)	The intent of this requirement is met because the analysis addresses the desired conditions at the fine, mid, and landscape-scales.
Strive to create or sustain as much old growth compositional, structural, and functional flow as possible over time at multiple area scales. Seek to develop or retain old growth function on at least 20 percent of the naturally forested area by forest type in any landscape (Tonto NF Land Management Plan, p. 40).	Old growth is provided for though the Large Tree Implementation Plan (LTIP) and Old Tree Implementation Plan (OTIP) found in Appendix D. Implementation Plan of the FEIS. The intent of this requirement is met by the analysis because it addresses the desired conditions for old growth (listed in exception above) at multiple scales.
Forested sites should meet or exceed the structural attributes to be considered old growth in the five primary forest cover types in the southwest as depicted in the table in Appendix L, page 271 (Tonto NF Land Management Plan, p. 40).	The Rim Country project is excepted from the guideline specifics for meeting the old growth structural attributes in Appendix L. The intent of the standard/guideline is being met by using best available scientific information and the desired conditions for old growth (see above).
Inventory Guidelines	
For areas where complete inventories cannot be done, use aerial photographs to locate vegetative structural stages (VSS) 4-6 within the project area and inventory just those sites for northern goshawk nest areas using R3 inventory protocol. All uninventoried areas (VSS 1-3) would be managed to post-fledgling family area (PFA) specifications while in that stage. If while using this inventory option evidence suggests northern goshawks are present (such as finding plucking perches or molted northern goshawk feathers), conduct a complete inventory as outlined above (Tonto Land Management Plan, p. 40-9).	The Rim Country project is excepted from this guideline. The project meets the intent of this guideline by using the newer inventory protocols specified in GTR-071, Woodbridge and Hargis 2006 Inventory and Monitoring Guide (Woodbridge 2006) which is considered best available scientific information for inventory and monitoring of northern goshawks, meeting the standards of the Data Quality Act.
If forests have northern goshawks commonly nesting in stands classified as VSS 1-3, use the complete inventory methods for those areas. There may be situations where an area is classified as a VSS 3, based on the predominant VSS class, but in actuality a combination of VSS 4 & 5 predominate the area. For those situations, use the complete inventory methods (Tonto NF Land Management Plan, p. 40- 10).	The Rim Country project is excepted from this guideline. The project meets the intent of this guideline by using the newer inventory protocols specified in GTR-071, Woodbridge and Hargis 2006 Inventory and Monitoring Guide (Woodbridge 2006) which is considered best available scientific information for inventory and monitoring of northern goshawks, meeting the standards of the Data Quality Act.
Vegetation Management Direction - Landscapes Outside of Northern Goshawk Post-fledging Areas	
General: The distribution of vegetation structural stages for ponderosa pine, mixed conifer and spruce-fir forests is 10 percent grass/forb/shrub (VSS 1), 10 percent seedling-sapling (VSS 2), 20 percent young forest (VSS 3), 20 percent mid-aged forest (VSS 4), 20 percent mature forest (VSS 5), 20 percent old forest (VSS 6). NOTE: The specified percentages are a guide and actual percentages are expected to vary + or – up to 3 percent (Tonto Land Management Plan, p. 40-10).	The Rim Country project is excepted from this prescriptive standard/guideline as the best available scientific information derived desired conditions (see above) and project prescriptions meet the original intent of providing for a range of vegetative structural conditions needed for the northern goshawk and its prey.
The distribution of VSS, tree density, and tree age are a product of site quality in the ecosystem management area. Use site quality to guide in the distribution of VSS, tree density, and tree ages. Use site quality to identify and manage dispersal post-fledging family areas and nest habitat at 2 - 2.5 mile spacing across the landscape (Tonto Land Management Plan, p. 40-10).	The Rim Country project is excepted from this prescriptive standard/guideline as the best available scientific information derived desired conditions provide for the intent of providing for a range of vegetative structural conditions needed for the northern goshawk and its prey. See ponderosa pine/bunchgrass, ponderosa pine/Gambel oak, dry mixed conifer and ponderosa pine/evergreen oak desired conditions listed above.

Tonto National Forest Land Management Plan Excepted Standards and Guidelines	Rationale for Amendment Exception
Spruce-Fir: Canopy cover for mid-aged forest (VSS 4) should average 1/3 60 percent and 2/3 40 percent, mature forest (VSS 5) should average 60+ percent, and old forest (VSS 6) should average 60+ percent. Maximum opening size is 1 acre with a maximum width of 125 feet. Provide 2 groups of reserve trees per acre with 6 trees per group when opening size exceeds 0.5. Leave at least 3 snags, 5 downed logs, and 10–15 tons of woody debris per acre (Tonto Land Management Plan, p. 40-11).	The Rim Country project is excepted from this prescriptive standard/guideline as the best available scientific information derived desired conditions provide for the intent of managing for old and mature spruce-fir and associated snags, logs, and course woody debris. See spruce-fir desired conditions listed above.
Mixed Conifer: Canopy cover for mid-aged forest (VSS 4) should average 1/3 60+ percent and 2/3 40+ percent, mature forest (VSS 5) should average 50+ percent, and old forest (VSS 6) should average 60+ percent. Maximum opening size is up to 4 acres with a maximum width of up to 200 feet. Retain 1 group of reserve trees per acre of 3–5 trees per group for openings greater than 1 acre in size. Leave at least 3 snags, 5 downed logs, and 10–15 tons of woody debris per acre (Tonto Land Management Plan, p. 40-11).	The Rim Country project is excepted from this prescriptive standard/guideline as the best available scientific information derived desired conditions provide for the intent of managing for old and mature mixed conifer and associated snags, logs, and course woody debris. See mixed conifer desired conditions listed above.
Ponderosa Pine: Canopy Cover for mid-aged forest (VSS 4) should average 40+ percent, mature forest (VSS 5) should average 40+ percent, and old forest (VSS 6) should average 40+ percent. Opening size is up to 4 acres with a maximum width of up to 200 feet. One group of reserve trees, 3–5 trees per group, would be left if the opening is greater than an acre in size. Leave at least 2 snags per acre, 3 downed logs per acre, and 5–7 tons of woody debris per acre (Tonto Land Management Plan, p. 40-11).	The Rim Country project is excepted from this prescriptive standard/guideline as the best available scientific information derived desired conditions provide for the intent to manage for mature tree groups with interlocking or nearly interlocking crowns and associated snags, logs, and course woody debris. See ponderosa pine desired conditions listed above.
Within post fledging areas	
General: Provide for a healthy sustainable forest environment for the post-fledging family needs of northern goshawks. The principal difference between the post-fledging family area and outside the post-fledging family area is the higher canopy cover within the post-fledging family area and smaller opening size within the post-fledging family area. Vegetative Structural Stage distribution and structural conditions are the same within and outside the post-fledging family area (Tonto Land Management Plan, p. 40-11).	The Rim Country project is excepted from this standard/guideline as the best available scientific information derived desired conditions provide for the post-fledging family needs of northern goshawks.
Mixed Conifer: Canopy Cover for mid-aged (VSS 4) to old forest (VSS 6) should average 60+ percent (Tonto Land Management Plan, p. 40-11).	The Rim Country project is excepted from this prescriptive standard/guideline as the best available scientific information derived desired conditions provide for the intent of managing for mature tree groups with interlocking or nearly interlocking crowns. See mixed conifer desired conditions listed above.
Ponderosa Pine: Canopy Cover for mid-aged forest (VSS 4) should average 1/3 60+ percent and 2/3 50+ percent. Mature (VSS 5) and old forest (VSS 6) should average 50+ percent (Tonto Land Management Plan, p. 40-12).	The Rim Country project is excepted from this prescriptive standard/guideline as the best available scientific information derived desired conditions provide for the intent of managing for mature tree groups with interlocking or nearly interlocking crowns. See ponderosa pine desired conditions listed above.
Within Nesting Areas	
General: Provide unique nesting habitat conditions for northern goshawks. Important features include trees of mature to old age with high canopy cover (Tonto Land Management Plan, p. 40-12).	The Rim Country project is excepted from this standard/guideline as the best available scientific information derived desired conditions meet the intent of managing for unique nesting habitat conditions for northern goshawks. See the habitat desired conditions listed above.
When necessary, hand piling should be used to minimize compaction within piles and to minimize displacement and destruction of the forest floor and the herbaceous layer. Do not grapple or dozer pile debris. Manage road densities at the lowest level	The Rim Country project is excepted from this standard/guideline as the best available scientific information incorporated into the design features for the project provide for the intent to maintain desired structure within nesting areas.

Tonto National Forest Land Management Plan Excepted Standards and Guidelines	Rationale for Amendment Exception
possible to minimize disturbance in the nest area. Use small, permanent skid trails in lieu of roads for timber harvesting (Tonto Land Management Plan, p. 40-12).	This project is consistent with the Apache Sitgreaves and Coconino National Forests land management plan standards/guidelines which state: preferred treatments should be maintained to maintain and improve the desired nest structure. Lopping and scattering of thinning debris is preferred if prescribed fire cannot be used. Piling of debris should be limited. When necessary, hand piling should be used to minimize compaction within piles and to minimize displacement and destruction of the forest floor and the herbaceous layer. Manage road densities at the lowest level possible to minimize disturbance in the nest area. Designate skid trails in lieu of creating new roads for timber harvesting.
Spruce-fir, Mixed Conifer and Ponderosa Pine Cover Types: The nesting area contains only mature to old forest (VSS 5 & 6) having a canopy cover (measured vertically) between 50-70% with mid-aged VSS 6 trees 200-300 years old. Non-uniform spacing of trees and clumpiness is desirable (Tonto Land Management Plan, p. 40-12).	The Rim Country project is excepted from this prescriptive standard/guideline as the BASI desired conditions provide for the intent to manage for northern goshawk habitat and nesting sites. See ponderosa pine/bunchgrass, ponderosa pine/Gambel oak, dry mixed conifer and ponderosa pine/evergreen oak desired conditions listed above.

The following glossary definitions would be included to provide clarification for the analysis and implementation:

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 intermixed 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.

Exception 2. Align With Current Mexican Spotted Owl Recovery Plan

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 land management plans that are part of this project. This exception is needed because the 1985 Tonto National Land Management Plan includes direction from the former (1995) recovery plan. This land management plan amendment exception is needed to:

- Update definitions and management direction for protected activity centers (PACs), recovery habitat, and other forest and woodland types to be in alignment with the current recovery plan and best available scientific information.
- Except the Rim Country project for treatment diameters of 9 inches d.b.h. to 18 inches d.b.h. in Mexican spotted owl PACs and will allow the removal of larger trees (greater than 18 inches d.b.h. in PACs and 24 inches d.b.h. in recovery habitat).
- Except the Rim Country Project to allow the Mexican spotted owl nest roost recovery area identified within the project area to be treated to meet the minimum habitat requirements for Mexican spotted owl nest roost recovery habitat under the 2012 revised Mexican spotted owl Recovery Plan.

- Update language and management direction related to prescribed cutting and fire treatments in PACs to be consistent with the current recovery plan.
- Update survey information and except the project from the LMP requirements for population and habitat monitoring. The Mexican spotted owl monitoring plan from Coconino and Kaibab National Forest 4FRI decision would serve as a starting point for continuing monitoring across Mexican spotted owl habitat on Tonto National Forest, in consultation with the USFWS.
- Except the Rim Country project from the direction for treating habitat in incremental percentages. The Mexican spotted owl monitoring plan for the Coconino and Kaibab National Forests 4FRI decision would serve as a starting point for continuing monitoring across Mexican spotted owl habitat on Tonto National Forest, in consultation with the USFWS. The monitoring plan includes a phased implementation and monitoring strategy.

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 National Forest 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 National Forest land management 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 approximately 3 feet wide (hand line) to over 12 feet 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, and 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 (such as 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 would potentially minimize impacts to protected habitat.

A geographic layer for recovery habitat across the 4FRI Rim Country project area would be developed and would 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 Mexican spotted owl 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 Mexican spotted owl treatments with the monitoring results from the first 4FRI.

The Rim Country project would be excepted from the following standards and guidelines (Table B-2).

Table B-2. Current 1985 Tonto Land Management Standards and Guidelines and rationale for Exception 2

Current 1985 Tonto National Forest Land Management Standards and guidelines	Rationale for Amendment Exception
Provide three levels of habitat management - protected, restricted, and other forest and woodland types to achieve a diversity of habitat conditions across the landscape (Tonto NF Land Management Plan, page 40-1).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead use the newer definitions and management practices from the current 2012 Mexican Spotted Owl Recovery Plan.
Protected areas include delineated protected activity centers; mixed conifer and pine-oak forests with slopes greater than 40 percent where timber harvest has not occurred in the last 20 years; and reserved lands which include wilderness, research natural areas, wild and scenic rivers, and congressionally recognized wilderness study areas (Tonto NF Land Management Plan, page 40-2).	The Rim Country Project would be excepted from the outdated definitions found in the 1985 LMP and would instead use the newer definitions from the 2012 Mexican Spotted Owl Recovery Plan for protected areas. The revised Recovery Plan does not include direction for steep slopes (see direction for canyons) and reserved lands (below).
Restricted areas include all mixed-conifer, pine-oak, and riparian forests outside of protected areas (Tonto NF Land Management Plan, page 40-2).	The Rim Country Project would be excepted from the outdated definitions found in the 1985 LMP and would instead us the newer definitions from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. They include design features WL001-016, WL026, WL032, WL045-047, and WL050.
Other forest and woodland types include all ponderosa pine, spruce-fir, woodland, and aspen forests outside protected and restricted areas (Tonto NF Land Management Plan, page 40-2).	The Rim Country Project would be excepted from the outdated definitions found in the 1985 LMP and would instead us the newer definitions from the 2012 Mexican Spotted Owl Recovery Plan.
Survey all potential spotted owl areas including protected, restricted, and other forest and woodland types within an analysis area plus the area 1/2 mile beyond the perimeter of the treatment area (Tonto NF Land Management Plan, page 40-2).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. They include design features WL014, WL0145, and WL046.
Allow no timber harvest except for firewood and fire risk abatement in established protected activity centers. For protected activity centers destroyed by fire, windstorm, or other natural disaster, salvage timber harvest or declassification may be allowed after evaluation on a case-by-case basis in consultation with US Fish and Wildlife Service (Tonto NF Land Management Plan, page 40-2).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. They include design features WL001-016, WL026, WL032, WL045-047, and WL050. See page 268 of the 2012 Mexican Spotted Owl Recovery Plan (USFWS 2012) for guidance on forested Recovery Habitat managed for Nest/Roost and page 269 for guidance on Foraging/Non-breeding Habitat.
Allow no timber harvest except for fire risk abatement in mixed conifer and pine-oak forests on slopes greater than 40 percent where timber harvest has not occurred in the last 20 years (Tonto NF Land Management Plan, page 40-2).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. See amendment exception 3 for more information about slopes greater than 40 percent.
In protected and restricted areas, when activities conducted in conformance with these standards and guidelines may adversely affect other threatened, endangered, or sensitive species or may conflict with other established recovery plans or conservation agreements; consult with U.S. Fish and Wildlife Service to resolve the conflict (Tonto NF Land Management Plan, page 40-2).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. Coordination with USFWS on any action that effects threatened and endangered species will occur during implementation (see Appendix D).

Current 1985 Tonto National Forest Land Management Standards and guidelines	Rationale for Amendment Exception
Monitor changes in owl populations and habitat needed for delisting (Tonto NF Land Management Plan, page 40-2).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. They include survey available habitat, WL014 and New Mexican spotted owl PACs will be established as they are found (WL026) and yearly reporting of survey results to USFWS is done by districts.
General Guidelines	
Conduct surveys following Region 3 survey protocol (Tonto NF Land Management Plan, p. 40-2).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. They include survey available habitat (WL014) and new Mexican spotted owl PACs will be established as they are found (WL026) and yearly reporting of survey results to USFWS is done by districts.
Protected Area Guidelines	
Submit protected activity center maps and descriptions to the recovery unit working group for comment as soon as possible after completion of surveys (Tonto NF Land Management Plan, page 40-3).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. See above for the applicable design features.
Road or trail building in protected activity centers should be avoided but maybe permitted on a case-by-case basis for pressing management reasons (Tonto NF Land Management Plan, page 40-3).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. They include design features that call for breeding season restrictions and or ¼ mile buffer from noise as per the Revised Mexican Spotted Owl Recovery Plan (WL005, Wl006, and WL007).

Current 1985 Tonto National Forest Land Management Standards and guidelines	Rationale for Amendment Exception
Treat Fuel Accumulations to abate fire risk (Tonto Land Management Plan, page 40-3):	
--Select for treatment 10 percent of the protected activity centers where nest sites are known in each recovery unit having high fire risk conditions. Also select another 10 percent of the protected activity centers where nest sites are known as a paired sample to serve as control areas. -- Designate a 100-acre “no treatment” area around the known nest site of each selected protected activity center. Habitat in the no treatment area should be as similar as possible in structure and composition as that found in the activity center. --Use combinations of thinning trees less than 9 inches in diameter, mechanical fuel treatment and prescribed fire to abate fire risk in the remainder of the selected protected activity center outside the 100-acre "no treatment" area. --Retain woody debris larger than 12 inches in diameter, snags, clumps of broad-leafed woody vegetation, and hardwood trees larger than 10 inches in diameter at the root collar. --Select and treat additional protected activity centers in 10% increments if monitoring of the initial sample shows there were no negative impacts or there were negative impacts which can be mitigated by modifying treatment methods. --Use light prescribed burns in nonselected protected activity centers on a case-by-case basis. Burning should avoid a 100-acre "no treatment" area around the activity center. Large woody debris, snags, clumps of broad-leafed woody vegetation should be retained and hardwood trees larger than 10 inches diameter at the root collar. --Pre- and post-treatment monitoring should be conducted in all protected activity centers treated for fire risk abatement (see monitoring guidelines).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. They include design features WL001-016, WL026, WL032, WL045-047, and WL050.
C. Restricted Area Guidelines (Mixed conifer, pine-oak, riparian forests and rocky canyons) (Tonto NF Land Management Plan, p. 40-4)	The Rim country project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan.

Current 1985 Tonto National Forest Land Management Standards and guidelines	Rationale for Amendment Exception
Mixed Conifer and Pine-oak Forests (see glossary definition): Manage to ensure a sustained level of owl nest/roost habitat well distributed across the landscape. Create replacement owl nest/roost habitat where appropriate while providing a diversity of stand conditions across the landscape to ensure habitat for a diversity of prey species (Tonto Land Management Plan, page 40-5). The following table displays the minimum percentage of restricted area which should be managed to have nest/roost characteristics. The minimum mixed conifer restricted area includes 10% at 170 basal area and an additional amount of area at 150 basal area. The additional area of 150 basal area is +10%in BR-E and +15% in all other recovery units. The variables are for stand averages and are minimum threshold values and must be met simultaneously. In project design, no stands simultaneously meeting or exceeding the minimum threshold values should be reduced below the threshold values unless a district-wide or larger landscape analysis of restricted areas shows that there is a surplus of restricted area acres simultaneously meeting the threshold values (Tonto Land Management Plan, page 40-5). Management should be designed to create minimum threshold conditions on project areas where there is a deficit of stands simultaneously meeting minimum threshold conditions unless the district-wide or larger landscape analysis shows there is a surplus (Tonto Land Management Plan, page 40-4 to 40-6).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. They include design features WL001-016, WL026, WL032, WL045-047, and WL050. See page 268 of the 2012 Mexican Spotted Owl Recovery Plan (USFWS 2012) for guidance on forested Recovery Habitat managed for Nest/Roost and page 269 for guidance on Foraging/Non-breeding Habitat.
Allow natural canopy gap processes to occur, thus producing horizontal variation in stand structure (Tonto Land Management Plan, page 40-5).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. Design feature WL01-04 addresses 2012 Mexican Spotted Owl Recovery Plan recommendation.
Save all trees greater than 24 inches d.b.h. In pine-oak forests, retain existing large oaks and promote growth of additional large oaks (Tonto Land Management Plan, page 40-5).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead use the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan.
In pine-oak forests, retain existing large oaks and promote growth of additional large oaks (Tonto Land Management Plan, page 40-5).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead use the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan.
Emphasize uneven-aged management systems. However, both even-aged and uneven-aged systems may be used where appropriate to provide variation in existing stand structure and species diversity. Existing stand conditions will determine which system is appropriate (Tonto Land Management Plan, page 40-5).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. Treatment prescriptions in Mexican spotted owl habitat will promote large trees and snags with uneven management where applicable.

Current 1985 Tonto National Forest Land Management Standards and guidelines	Rationale for Amendment Exception
Retain substantive amounts of key habitat components: --Snags 18 inches in diameter and larger --Down logs over 12 inches midpoint diameter --Hardwoods for retention, recruitment, and replacement of large hardwoods (Tonto Land Management Plan, p. 40-6)	The Rim Country project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead use the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. See page 268 of the 2012 Mexican Spotted Owl Recovery Plan (USFWS 2012) for guidance on forested Recovery Habitat managed for Nest/Roost and page 269 for guidance on Foraging/Non-breeding Habitat.
Riparian Areas: Emphasize maintenance and restoration of healthy riparian ecosystems through conformance with land management plan riparian standards and guidelines. Management strategies should move degraded riparian vegetation toward good condition as soon as possible. Damage to riparian vegetation, streambanks, and channels should be prevented (Tonto Land Management Plan p. 40-6).	The Rim Country project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. One of the goals of the Rim Country project is to promote healthy riparian areas and stream channels and the overall project design features shape treatment prescriptions that meet the intent of the standard/guideline.
Monitoring Guidelines	
Monitoring and evaluation should be collaboratively planned and coordinated with involvement from each national forest, U.S. Fish and Wildlife Service Ecological Services Field Office, U.S. Fish and Wildlife Service Regional Office, Forest Service Regional Office, Rocky Mountain Research Station, recovery team, and recovery unit working groups (Tonto National Land Management Plan, p. 40-7).	The Rim country project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. The monitoring and evaluations are done yearly with coordination between the Forest Service and USFWS. Mexican spotted owl survey results are shared, and new PACs delineated where necessary each year. See Appendix E – Rim Country Monitoring and Adaptive Management Plan for more information.
Population monitoring should be a collaborative effort with participation of all appropriate resource agencies (Tonto National Land Management Plan, page 40-7).	The Rim country project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. Population Monitoring has been implemented through the R3 Wildlife Division and Bird Conservation of the Rockies, from 2014 to the present and is a collaborative effort. See Appendix E – Rim Country Monitoring and Adaptive Management Plan for more information.
Habitat monitoring of gross habitat changes should be a collaborative effort of all appropriate resource agencies. (Tonto National Land Management Plan, page 40-7).	The Rim country project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. Habitat monitoring is included in the R3 and BCOR monitoring mentioned above. See Appendix E – Rim Country Monitoring and Adaptive Management Plan for more information.
Habitat monitoring of treatment effects (pre- and post-treatment) should be done by the agency conducting the treatment (Tonto Land Management Plan, p. 40-7).	The Rim country project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. Species and habitat monitoring for the project will follow the Mexican Spotted Owl Recovery Plan for this project, which is being provided by USFWS with the BO which will concur with the effects determinations for the Mexican spotted owl and its critical habitat. See Appendix E – Rim Country Monitoring and Adaptive Management Plan for more information.

Current 1985 Tonto National Forest Land Management Standards and guidelines	Rationale for Amendment Exception
Prepare an annual monitoring and evaluation report covering all levels of monitoring done in the previous year. The annual report should be forwarded to the regional forester with copies provided to the recovery unit working groups, U.S. Fish and Wildlife Service Ecological Services field offices, and the U.S. Fish and Wildlife Service Regional Office (Tonto National Land Management Plan, page 40-7).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. See above. Annual reporting to USFWS will be included in the Mexican spotted owl monitoring plan for this project. See Appendix E – Rim Country Monitoring and Adaptive Management Plan for more information.
Rangewide: Track gross changes in acres of owl habitat resulting from natural and human-caused disturbances. Acreage changes in vegetation composition, structure, and density should be tracked, evaluated, and reported. Remote sensing techniques should provide an adequate level of accuracy. In protected and restricted areas where silvicultural or fire abatement treatments are planned, monitor treated stands pre- and post-treatment to determine changes and trajectories in fuel levels; snag basal areas; live tree basal areas; volume of down logs over 12 inches in diameter; and basal area of hardwood trees over 10 inches in diameter at the root crown (Tonto National Land Management Plan, page 40-7).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country Project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan. Range-wide tracking of Mexican spotted owl trends will occur at the regional level. Monitoring in Mexican spotted owl Protected and Recovery habitat will follow the Mexican Spotted Owl Monitoring Plan for this project as provided by USFWS with the BO. See Appendix E – Rim Country Monitoring and Adaptive Management Plan for more information.
Upper Gila Mountain, Basin and Range East, and Basin and Range West Recovery Units: Assist the recovery team and recovery unit working groups to establish sampling units consisting of 19 to 39 square mile quadrats randomly allocated to habitat strata. Quadrats should be defined based on ecological boundaries such as ridge lines and watersheds. Quadrat boundaries should not traverse owl territories. Twenty percent of the quadrats will be replaced each year at random. Using the sample quadrats, monitor the number of territorial individuals and pairs per quadrat; reproduction; apparent survival; recruitment; and age structure. Track population density both per quadrat and habitat stratum (Tonto National Land Management Plan, p. 40-7).	The Rim Country Project would be excepted from the outdated definitions and management practices found in the 1985 LMP and would instead us the newer definitions and management practices from the 2012 Mexican Spotted Owl Recovery Plan. The design features for the Rim Country project address the recovery plan requirements and meet the intent of the 1985 Tonto Plan.

Table B-3 provides details from the 2012 Mexican Spotted Owl Recovery Plan. It includes the minimum desired conditions for basal and standing live trees in ponderosa pine and mixed conifer. In ponderosa pine snags and coarse woody debris are well distributed throughout the landscape. Ponderosa pine snags are typically 18 inches or greater in diameter and average 1 to 2 per acre. Coarse woody debris, including logs, ranges from 3 to 10 tons per acre. Logs average 3 per acre within the forested area of the landscape. In dry mixed conifer snags and coarse woody debris are well distributed throughout the landscape. Snags are typically 18 inches in diameter or greater and average 3 per acre. Coarse woody debris, including logs, ranges from 5 to 15 tons per acre. Logs average 3 per acre within the forested area of the landscape.

Table B-3. Minimum desired conditions for the Basin and Range West (BRW) and Upper Gila Mountain (UGM) Ecological Management Unit (EMU) (2012 Mexican Spotted Owl Recovery Plan)

BRW and UGM EMU Forest Type	% of Area	% BA by Size Class-12 18 inch	% BA by Size Class->18 inch	Minimum Tree BA	Minimum Density of Large Trees (trees per acre)
Mixed Conifer	25	>30	>30	120	12
Pine-Oak	10	>30	>30	110	12

Exception 3. Mechanical Treatments on Steep Slopes

The current land management plan restricts the use of mechanical equipment to slopes less than 40 percent. Exception 3 would except the Rim Country project from the standards/guidelines related to 40 percent slopes and identifying slopes above 40 percent as inoperable. This exception would allow mechanical harvesting on slopes greater than 40 percent within the project area.

This exception is needed to allow for use of specialized mechanical equipment to cut and remove trees and to mechanically treat other vegetation on steep slopes to carry out restoration treatments in portions of the Rim Country project area on the Tonto National Forest. Advances in technology since the 1985 Tonto National Forest Land Management Plan was written allow for operations on steep slopes without adverse effects on soil resources (Holzfeind et al. 2020). This land management plan amendment exception is needed to implement the Rim County Project and to make progress toward desired conditions on these steeper slopes in the project area.

The Rim Country project would be excepted from the following standards and guidelines (Table B-4):

Table B-4. Current 1985 Tonto Land Management Standards and Guidelines and rationale for Exception 3

Current 1985 Tonto National Forest Land Management Standards and Guidelines	Rationale for Amendment Exception
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 (Tonto Land Management Plan, p. 40-2).	The Rim country project would be excepted from this Standard/Guideline to conduct needed restoration treatments in areas where adverse impacts to soils are not anticipated. Within the Rim Country project area, mechanical treatments may occur on slopes greater than 40% where mechanical treatments are not otherwise restricted and the use of modern mechanized ground-based equipment that 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 designed to protect soils and water quality.
Restrict tractor skidding to those areas that have sustained slopes of 40% or less (Tonto Land Management Plan, p.158).	The Rim country project would be excepted from this Standard/Guideline to conduct needed restoration treatments in areas where adverse impacts to soils are not anticipated. 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 designed to protect soils and water quality.