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Record of Decision and Finding of Nonsignificant Forest Plan Amendment for the Pinaleño Ecosystem Restoration Project

Coronado National Forest, Graham
County, Arizona



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Record of Decision and Finding of Nonsignificant Amendment

Introduction

The Pinaleño Ecosystem Restoration Project is designed to improve forest health and improve or protect red squirrel habitat. It also includes administrative actions to incorporate amendments to the “Coronado National Forest Land and Resource Management Plan” (referred to as the “forest plan”), which will allow on-the-ground treatments to be implemented. An environmental impact statement (EIS) was developed to analyze the potential effects of the Pinaleño Ecosystem Restoration Project. Three alternatives were considered and analyzed. The EIS was finalized in March of 2010 and made available to the public on April 28, 2010, on the Coronado National Forest Web site. This record of decision documents the alternative I have selected and the rationale for my decision.

Background of the Project

The Pinaleño Ecosystem Restoration Project area is approximately 5,754 acres located in Graham County, in Townships 8 and 9 South, Ranges 23 and 24 East (figure 1). The project area is in the Pinaleño Ecosystem Management Area and contains lands that fall within Management Area 2 (dispersed recreation, mixed-conifer), Management Area 2a (wilderness values, enhanced wildlife), and Management Area 8 (research) of the Coronado forest plan. The forest plan states that management for the Mount Graham red squirrel (*Tamiasciurus hudsonicus grahamensis*) is a primary objective. This direction is reinforced in the “Record of Decision for Amendment of Forest Plans, Arizona and New Mexico” (USDA Forest Service 1996).

The project area lies within the Pinaleño Mountains, a massive mountain range of over 300 square miles. Rising from the surrounding semidesert grasslands to the forest’s only subalpine forest, the mountain range includes the highest cross section of ecological communities found in the Southwest. It is home to numerous endemic or rare wildlife and plant species including the endangered Mount Graham red squirrel and the threatened Mexican spotted owl (*Strix occidentalis lucida*).

Its highest point, 10,720-foot Mount Graham (known by local tribes as *Dzil Nchaa Si’an*), has been formally recognized, along with the entire Pinaleño Ecosystem Management Area, as a traditional cultural property important to the Western Apache and has been determined eligible for listing on the National Register of Historic Places. Many other residents of southeastern Arizona also consider Mount Graham a special place, often retreating to the mountain for relief from summer heat. Because of this, the Forest Service has principally managed the mountain for its recreational and scenic values.

Active fire suppression and other factors in the Pinaleño Mountains over the past 100 years have drastically reduced the role of natural fire, causing the forests there to become dense and filled with dead and down trees. These conditions have led to a high potential for severe wildfires. In 1996 and 2004, large wildfires burned with active crown-consuming fire, which reduced red squirrel population numbers directly by killing some of them, and indirectly by burning through their habitat.

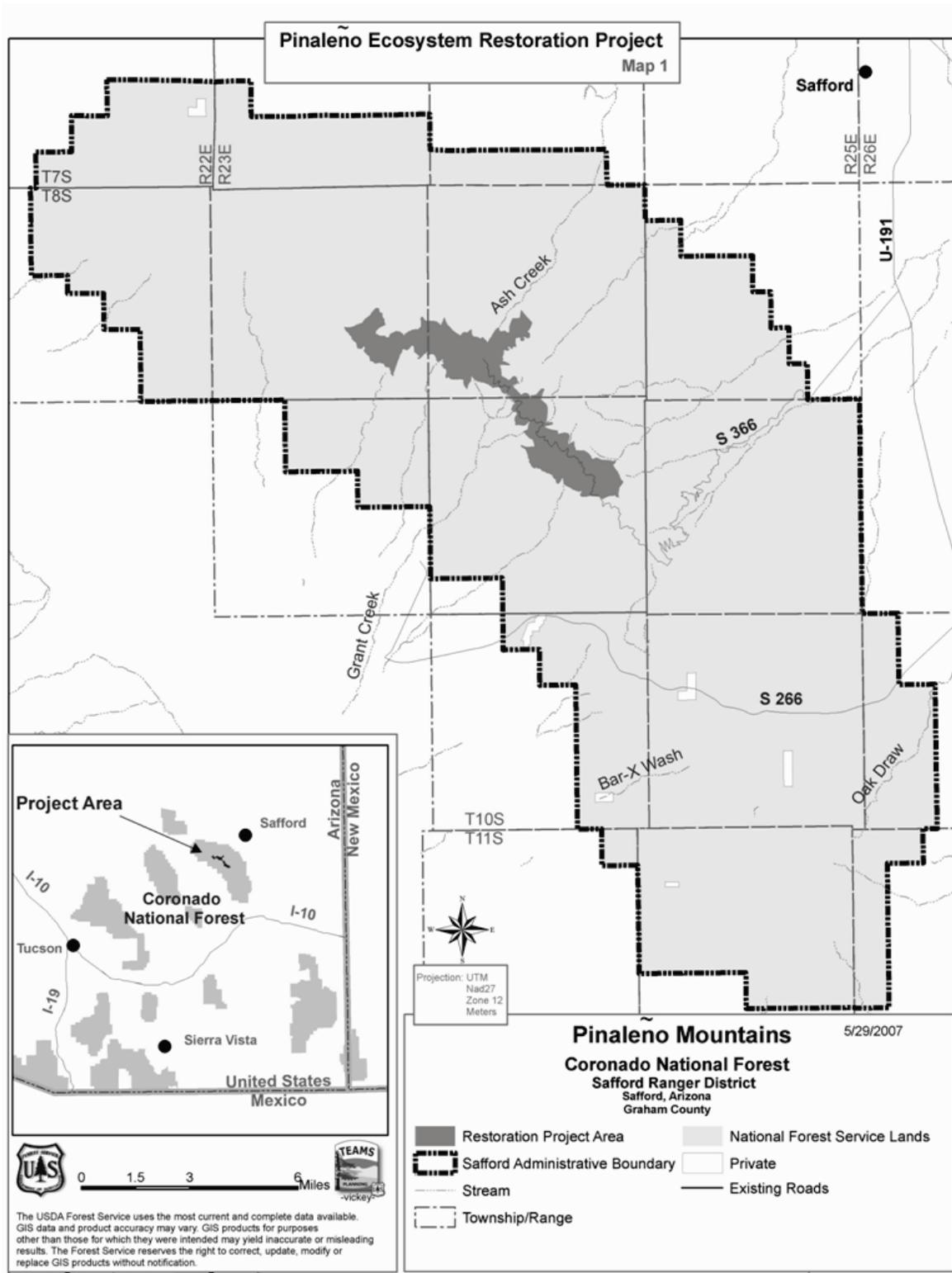


Figure 1. Location of the Pinaleno Ecosystem Restoration Project

Progressive insect infestations, beginning in 1996, began defoliating and killing trees in the spruce-fir and mixed-conifer forests. The dead and dying trees resulting from these outbreaks has resulted in increased wildfire potential and a further decline in the red squirrel population through habitat loss and decreased cone crops. Census estimates of the red squirrel population dropped dramatically in the late 1990s, and have not recovered to pre-insect infestation levels since. Viability of the subspecies is of paramount concern. The moist mixed-conifer forest is now the primary remaining habitat for the red squirrel. Fires and insect infestation effects have heightened the current concern for protecting remaining red squirrel habitat, and raised the need for restoring degraded habitat.

In response to these conditions, the Forest Service has worked closely with the Arizona Game and Fish Department and the U.S. Fish and Wildlife Service in an interdisciplinary team of resource professionals to develop the Pinaleño Ecosystem Restoration Project.

My Decision

This record of decision documents my decision and rationale for the selection of Alternative 2 but with modifications as described on the next page. It also documents my finding that the proposed amendments to the forest plan are not significant (see finding on page 15 of this document).

Alternative 2 is described in the FEIS between pages 17 and 32. My decision includes the associated transportation system, the design features and mitigation measures (FEIS, appendix A), forest plan amendments (FEIS chapter 2, p. 36), and monitoring (FEIS, appendix B) as described in the FEIS. My conclusion is based on a thorough review of the final environmental impact statement, public comments, and the project record. I considered relevant scientific information, public concerns and opposing viewpoints, incomplete or unavailable information, scientific uncertainty, and risk.

On a landscape scale, the project works toward the goal of reducing the risk of and increasing the resistance to wide-scale disturbance events from wildfire, insects, and disease. However, this project is primarily designed to protect and improve the long-term sustainability of the habitat for the endangered Mount Graham red squirrel. This project will be accomplished over a 10-year period, following an implementation schedule that will prioritize treatments to most directly protect occupied red squirrel habitat and provide for quick monitoring feedback on potential effects to Mount Graham red squirrels and their habitat.

As directed by the Coronado forest plan, project design prioritized the policy requirements of an endangered endemic subspecies, the Mount Graham red squirrel, over those of a wider ranging threatened subspecies, the Mexican spotted owl, and prioritized both over the policy requirements of the northern goshawk (*Accipiter gentilis*), a Forest Service sensitive species, and the policy requirements of old growth forests. Two strategies were developed to reduce potential fire behavior and to initiate a restoration process for improving forest resilience to bark beetle disturbance. Both would lessen threats to habitat while insuring only low levels of potentially harmful direct impacts to the two listed species, balancing long-term benefits with short-term impacts. The selected strategy, Alternative 2, closely adheres to the recovery plan for the Mount Graham red squirrel and the best available science concerning the squirrel.

A second action alternative, Alternative 3, attempted to strictly apply the Mexican spotted owl standards and guidelines while also attempting to meet needs of the Mount Graham red squirrel.

Red squirrels and spotted owls require similar old growth conditions as part of their habitat requirements; however, there were inherent conflicts in Alternative 3 treatment priorities. See page 11 for a detailed explanation.

In selecting and modifying Alternative 2, I carefully reviewed disclosures in chapter 3 of the FEIS regarding how well the alternative will achieve our objectives. Notable conclusions include:

- Alternative 2 will treat the most acres (2,641) with the overlap of activities (such as thinning, prescribed fire, and other fuel reduction treatments) providing the most reduced potential for stand-replacing wildfire (FEIS, p. 46), which is the primary threat to the Mount Graham red squirrel.
- Alternative 2 will increase the amount of area that supports surface fire rather than active and passive crown fires with flame lengths that exceed those that can be fought with direct attack (FEIS, p. 108).
- Alternative 2 will thin trees under a forest restoration prescription across the most acreage (1,722 acres), applying variable density thinning, thinning from below, and group selection treatments. Compared to the other alternatives, this alternative will produce the largest and most long-standing effects reducing insect and disease susceptibility and increasing tree growth and vigor, while retaining greater structural diversity and providing for long-term sustainability of the ecosystem (FEIS, p. 73).
- Alternative 2 will treat additional acres (849 acres) under an important wildlife treatment prescription by applying variable density thinning, thinning from below, and group selection treatments to only the smaller diameter trees and snags (maximum 9-inch-diameter limit), and retain higher overstory stocking levels (more trees per acre) within forest stands within the most important wildlife areas including Mexican spotted owl core areas (166 acres).
- Effects to existing and potential Mount Graham red squirrel habitat are similar in both Alternatives 2 and 3. However, Alternative 2 will increase tree growth and vigor to a greater extent on the most acreage resulting in moving more stands closer to old-growth characteristics preferred by the Mount Graham red squirrel, producing larger and more frequent cone crops, and creating the potential to provide more habitat to the species over the long term (FEIS pp. 101-107).
- The application of prescribed fire, lop and scatter, pile and burning, mastication and small-diameter thinning, will maintain or enhance fire-dependent ecosystems (2,641 acres).

Modification of Alternative 2

Modifications Resulting from Inventoried Roadless Area Direction

Upon completion of the FEIS, the forest recognized that a 308-acre portion of the treatments in Alternative 2 were located within the Pinaleno Inventoried Roadless Area. Although this is only 0.23 percent of the roadless area acres, and treatment within this area either met or could be modified to meet our inventoried roadless area guidelines, the forest failed to inform the public of the status of this land through the NEPA scoping process. Because of this failure, I have elected to drop these acres from the proposal. The inventoried roadless area treatment units dropped from the project are listed in appendix A.

Project Modifications Resulting from the Endangered Species Act (Section 7) Consultation Process

During the Endangered Species Act Section 7 consultation process with the U.S. Fish and Wildlife Service (USFWS), treatment modifications and additional design features were developed in order to reduce the level of incidental take issued by the USFWS. These modifications are all related to Mexican spotted owl conservation. Changes were made to the project that will reduce potential impacts to six of the Mexican spotted owl protected activity centers in the project area.

In some cases, our changes involved small modifications to treatment unit boundaries to completely avoid entry into a protected activity center. In other protected activity centers, we dropped some units near core nesting or roosting sites from the project. I have also decided to defer a decision at this time on an entire implementation subdivision, Clark Peak, because of potential impacts to two protected activity centers. The forest may reinitiate consultation at a later time on this unit after initial monitoring results are reviewed.

An additional projectwide design feature was added that restricts all project treatment actions to the nonbreeding season of the Mexican spotted owl. Only monitoring and project preparation activities will occur between March 1 and August 31 each year.

Changes to Alternative 2 are listed in appendix B and summarized below. A final project map is attached at the end of this document.

- **Moonshine protected activity center** – 3.5 acres of treatments were dropped in the Grant Creek implementation unit removing all potential impacts to this protected activity center.
- **Riggs Lake and Nuttall protected activity centers** – 602 acres in the Clark Peak implementation unit and 42 acres in the Lefthand implementation unit were deferred or removed, removing all impacts to these protected activity centers; this also will reduce impacts to the Chesley and Lefthand protected activity centers.
- **Chesley protected activity center** – an additional 11.5 acres of treatments were dropped that were too close to core nesting and roosting areas, no treatments will now occur south of Swift Trail within this protected activity center.
- **Webb Peak protected activity center** – 109.1 acres were removed from treatment in the Columbine implementation unit that were too close to core nesting and roosting areas; no treatments will now occur south of Swift Trail within this protected activity center.
- **Grant Vista protected activity center** – 44.5 acres were removed from treatments in the Bible Camp and Columbine implementation units, reducing potential impacts to this protected activity center.

In total, 644 acres of treatments have been deferred from a decision at this time and an additional 168.6 acres of treatments have been removed from the project.

Responsiveness of Alternative 2 to the Purpose and Need

As with many areas on the Coronado National Forest, changes in forest dynamics have occurred within the Pinaleño Ecosystem Restoration Project planning area during the past 100 years. Although fire exclusion has been a primary factor in these changes, other management practices have contributed as well. As a result, forest density has increased and species composition has changed with the forest becoming more at risk and less resistant to wildfire, insect, and disease problems.

As stated in the FEIS on page 5, the purpose and need for this project is to initiate forest restoration efforts within the project area using guidelines provided in the “Mount Graham Red Squirrel Recovery Plan” and as allowed by the forest plan; initiate the restoration of ecological processes for wildlife habitat improvement purposes; restore and maintain fire-dependent ecosystems; and improve the resiliency of overstory trees to insect and disease impacts promoting a healthier forest condition as directed by the Coronado forest plan as amended. The treatments will protect and promote late-successional forest conditions, reduce susceptibility to insect and disease outbreaks, and reduce fuel loading within the Pinaleño planning area.

The Pinaleño Mountains have experienced high-intensity wildfires, such as the Clark Peak Fire in 1996 and Nuttall-Gibson Complex Wildfire in 2004, and insect infestations since the 1990s affecting over 40,000 acres of upper montane forests. The goal of this proposed project is to move toward a more stable forest ecosystem by creating conditions that are resilient and resistant to uncharacteristic disturbance. At present, any fire under current forest conditions is likely to result in an uncharacteristic loss of forested habitat. Recent large-scale fires in other areas of the Coronado National Forest this year have demonstrated the severity of risks these ecosystems face. I would like to treat this area so that it is in a condition where a naturally ignited wildfire would be able to burn more similar to historical conditions, and can be managed with improved firefighter and public safety.

Alternative 2 provides proactive management of the forest and will result in a substantially reduced risk of tree mortality from wildfire and bark beetles in high-density stands. In dense stands, two factors that greatly influence forest health are the reduction of tree species that attract bark beetles and an increase in individual tree vigor, both of which allow for better defense from attack. There is considerable evidence that lower density stands of seral species are more likely to have less mortality and exhibit greater resiliency following wildfire or bark beetle attack than higher density stands. By addressing tree stocking levels and species composition in stands that are dominated by more desirable species, Alternative 2 will promote increased growth rates, increased resistance to insects and disease, and greater resiliency in the event of disturbance.

Alternative 2 will reduce the amount of understory trees and shrubs that are also contributing to the risk of uncharacteristically severe fire behavior. Thinning small trees, treating or removing slash, and applying prescribed fire to the stands will substantially improve the ability of the forest to withstand a wildfire should one start in the planning area or enter from adjacent areas.

Responsiveness of Alternative 2 to the Significant Issues

In response to public comments we received during analysis, the interdisciplinary team identified five key issues. These issues were then used to develop Alternative 2, the proposed action:

Significant Issue 1: The proposed project’s silvicultural prescriptions are not consistent with silvicultural guidelines of the “Mexican Spotted Owl Recovery Plan.”

Because some members of the public feel these types of treatments will not be consistent with the “Mexican Spotted Owl Recovery Plan” and the Mexican spotted owl standards and guidelines in the forest plan under the 1986 regionwide amendment, they expressed a desire to have an alternative that closely follows this guidance (Alternative 3).

Even though Alternative 2 does not strictly follow the guidelines for forest management as established by the “Mexican Spotted Owl Recovery Plan,” it is consistent with the forest plan as amended under the 1986 regionwide amendment, which prioritizes actions related to management of the Mount Graham red squirrel over those of Mexican spotted owl (chapter 2, p. 44). Therefore, a forest plan admendment was not required for treatment prescriptions designed for the protection of Mount Graham red squirrel habitat even when those prescriptions did not follow Mexican spotted owl standards and guidelines.

Due to high tree stocking levels and forest fuels buildup in the project area, these stands are highly susceptible to mortality from disturbances that would adversely impact both the red squirrel and Mexican spotted owl. Both Alternatives 2 and 3 are similar in effects. Both are likely to adversely affect the threatened Mexican spotted owl but will not jeopardize the species. Adverse effects are limited in scope; neither alternative will reduce the amount of habitat meeting or exceeding Mexican spotted owl nesting and roosting threshold conditions, and neither is expected to affect viability of the species. Adverse effects are outweighed by expected long-term protection and stabilization of the species habitat.

Treatments conducted in the selected alternative provide better resilience to disturbance than Alternative 3 by reducing the stand density more. Alternative 2 treats more acres and better reduces the canopy fuels continuity, which reduces the risk of crown fire. These benefits will favor conditions that support a greater proportion of surface fires rather than crown fires. In areas and conditions where fire must be suppressed, Alternative 2 will reduce the occurrence of high-intensity fire, which has flame lengths that exceed those that can be fought with direct attack. This reduces the need for the use of aerial retardant applications and indirect attack strategies.

In addition, treatments prescribed under the selected alternative will result in greater diversity in forest structure than those developed for Alternative 3, the Mexican spotted owl alternative. Prescriptions in Alternative 3 would result in more open understory canopies, which would lead to reduced hiding cover for Mount Graham red squirrel and greater vulnerability of the squirrel to avian predators.

Significant Issue 2: The proposed project doesn’t treat enough areas of the Pinaleño Mountains or use enough prescribed fire to fully meet the ecosystem restoration purpose and need of the project.

Alternative 2 addresses this issue better than the other alternatives. Vegetation treatments consist of live tree thinning, removing standing and down dead trees, and a variety of fuels treatments on 2,641 acres. The purpose and need states that this project initiates forest restoration to protect key ecosystem components. This project is only part of a long-term management strategy for the entire Pinaleño Ecosystem Management Area, with the ultimate goal of returning fire to a more natural role throughout the mountain range. Current fuel loading and stand conditions are such

that significant use of fire as a primary management tool cannot yet be contemplated, due to unacceptable risk associated with additional loss of Mount Graham red squirrel habitat.

Significant Issue 3: The proposed project may have negative effects to wildlife including the Mount Graham red squirrel, the Mexican spotted owl, and northern goshawk.

Both Alternatives 2 and 3 resulted in a “may affect/likely to adversely affect” determination for the Mount Graham red squirrel, Mexican spotted owl, and Mexican spotted owl critical habitat, but neither are likely to jeopardize the existence of the species. These adverse effects are limited in scope, are not expected to affect viability of the species, and are outweighed by expected long-term protection and stabilization of the habitat for the Mount Graham red squirrel. This resulted in the “may affect/is not likely to adversely affect” determination for critical habitat for the Mount Graham red squirrel. The U.S. Fish and Wildlife Service concurs with our determination (“Biological Opinion: Pinaleño Ecosystem Restoration Project,” 22410-2005-F-0651, August 5, 2011).

Many, if not all, of the habitat conditions for the Mount Graham red squirrel exceed those for the Mexican spotted owl in terms of forest density and structure. By prioritizing our restoration efforts on the Mount Graham red squirrel, habitat change impacts on the Mexican spotted owl will be minimized. Long-term benefits such as improved forest health and reduced fire severity will also be essential to the continued viability of Mexican spotted owls within this mountain range. The interdisciplinary team continually balanced the potential for short-term impacts to red squirrel and spotted owl with long-term sustainability of their habitat. Mitigation measures were designed to limit any potential impacts, such as seasonal operation restrictions and snag and log retention (FEIS, appendix A). Monitoring measures were also developed to measure impacts to habitat and direct impacts to the species (FEIS, appendix B).

Management for northern goshawk is a lower priority than for the Mount Graham red squirrel or Mexican spotted owl as directed by the forest plan under amendment 8, (June 1996, “Regional Mexican Spotted Owl, Northern Goshawk and Old Growth Amendment”). Northern goshawk standards and guidelines apply to the forest and woodland communities that are outside of Mexican spotted owl protected and restricted areas. The entire project area falls within either protected or restricted Mexican spotted owl habitat. In addition, the FEIS showed that the two action alternatives posed little impact to this species and would create major benefits to old growth resilience.

Alternative 2 provides prescriptions that may improve habitat conditions for goshawk, but still remains more conservative than those provided in goshawk management standards and guidelines. Some disturbance of birds is likely to occur as a result of human presence and noise; however, historical monitoring of nesting birds in this mountain range have indicated that nests have not been abandoned despite large-scale wildfires (i.e., Clark Peak Fire of 1996 and Nuttall Complex of 2004) or mid-scale thinning projects. This monitoring effort will continue under this project. This alternative is not likely to result in a trend toward Federal listing or loss of viability of the species.

Significant Issue 4: The proposed project will negatively affect air quality.

Implementation of Alternative 2 will carefully follow Arizona's smoke management regulations and restrictions to maintain air quality in populated areas and Class I airsheds, in cooperation with the Environmental Protection Agency (EPA), Arizona Department of Environmental Quality (ADEQ), and local agencies (FEIS p. 135).

There will be a direct, short-term impact on air quality within the project area. Management activities proposed will likely cause direct short-term impacts from dust. Specifically, these activities involve chipping and masticating of live and dead vegetation, loading and processing activities at landing sites, and truck transportation of material. These activities are not anticipated to result in significant impacts to regional air quality because of the transitory nature of fugitive dust.

In addition, activities planned would generate short-term impacts from smoke resulting from prescribed understory burning and hand pile burning. The largest unit planned for burning under these alternatives is approximately 200 acres in size. Modeled particulate matter (PM_{2.5}) concentrations are projected to be below the Federal ambient 24-hour standard; therefore, the national ambient air quality standards for public health established by the EPA for PM_{2.5} would not be violated (FEIS, p. 137).

Receptors located within or near the project analysis area such as campgrounds, the Arizona Bible Camp, and the astrophysical site may experience higher concentrations of PM_{2.5} during the course of burning as indicated above and, depending on air movement, may be impacted by inversions in the evenings. The closest Class 1 airshed (Galiuro Wilderness) lies to the west. Modeling shows there would be no significant impacts to this or any other Class 1 airshed resulting from this project (FEIS, p. 137).

The effects from smoke are not likely to have cumulative effects with other activities in the airshed given the oversight by the ADEQ that allows for good smoke dispersion. Daily regulation of the amount of burning is managed to reduce impacts and negative effects of smoke. The prescribed burning in this project would compete with other burning in the airshed on any given day. The Coronado is responsible for establishing burn priorities within the forest, and the ADEQ is responsible for managing all the burning on a given day within the State. If air quality exceeds thresholds, the activities will be delayed until they are not exceeded (FEIS, pp. 138-139).

Significant Issue 5: The proposed project will decrease old growth in the analysis area.

One of the six goals listed for the purpose and need (FEIS chapter 1, p. 5) is the protection and promotion of old-growth (late-successional) forest conditions. For the moist mixed-conifer, which dominates the project area, this is primarily the groves of large old Douglas-fir trees. These groves are considered a "keystone" element of the southwestern mixed-conifer ecosystems. Late-successional conditions should not be confused with late-seral trees. Old growth in this forest type developed with moderate levels of disturbance, primarily frequent low-severity and less frequent mixed-severity wildfires. The late-seral species, primarily white fir in this forest type, are those that develop and come to dominate the forest without this natural disturbance. Reasons Douglas-fir is so valuable in the Pinaleño Mountains as an ecological keystone component include its long lifespan (700 years and longer growing to become the largest trees on the

landscape), and its great durability after dying as a snag and down log, providing an essential component of Mount Graham red squirrel habitat. Contrast that with white fir, which seldom lives longer than 200 years, never reaching the size of older Douglas-firs, and once dead, decays rapidly. Treatments under Alternative 2 are focused on improving the resilience of the remaining large Douglas-fir groves by removing the competing understory white fir.

Our classification of stands as old growth indicates that 83 percent of the forested area within the project area currently meets the forest plan old growth criteria. Neither action alternative measurably reduces this proportion of old growth (FEIS, table 30, p. 77) due to the fact that the treatment prescription criteria developed to meet the Mount Graham red squirrel needs surpasses the criteria of the old growth standards and guidelines across all parameters. Because of this, the selected alternative will not reduce the amount of mixed-conifer old growth at any of the three scales of measure required by the forest plan; including the project, the Pinaleno Ecosystem Management Area, or at a multiple ecosystem management area level.

I believe that Alternative 2 is the best alternative for sustaining old-growth forest conditions because it will increase the resiliency of the largest and most valuable trees to insect infestations by reducing competition with smaller competing understory trees. It will also decrease the amount of ladder fuels and the continuity of canopy fuels, thus reducing the likelihood of both passive and active crown fires, allowing for the eventual reintroduction of fire back into the system.

Alternatives Considered

In addition to Alternative 2, two other alternatives were analyzed in detail. They include Alternative 1, the no action alternative, and Alternative 3, which featured a Mexican spotted owl emphasis. Additional alternatives include those considered in the FEIS and “dropped from detailed consideration” (FEIS, pp. 45-46).

Alternative 1 (No Action)

The no action alternative would allow current processes to continue, along with associated risks and benefits, in the Pinaleno planning area. This alternative serves as a baseline for comparison of the effects of all other alternatives. Under Alternative 1, current management plans would continue to guide management. There would be no change in the level of ongoing management activities within the project area. All custodial activities such as road maintenance, law enforcement, and response to emergencies, including wildfire, would continue.

Our analysis shows that it is likely that insect and disease levels would continue to increase causing increased tree mortality and fuel accumulations. No progress would be made toward the restoration of ecological processes that include the reintroduction of low-intensity prescribed fire. Stands would remain at risk to severe stand-replacing crown fire threatening the Mount Graham red squirrel and other important wildlife habitat and forest ecosystems. Also, the sustainability of current old growth stands is in jeopardy because of the risk of losing large tree structure to wildfire and insects. This alternative was not selected because it does not meet the stated purpose and need, and allowing the current conditions to exist is not acceptable.

Alternative 3 - Mexican Spotted Owl Emphasis

Alternative 3 attempted to strictly apply the Mexican spotted owl standards and guidelines while also attempting to meet needs of the Mount Graham red squirrel. Both species require similar old-growth conditions as part of their habitat requirements; however, this alternative would have created inherent conflicts in priorities including the following:

1. The timing of treatments within Mexican spotted owl protected activity centers under Alternative 3 restricted the preferred sequence of treatments that focused primarily on the Mount Graham red squirrel;
2. There would have been an inability to treat Mexican spotted owl core areas adjacent to Mount Graham red squirrel habitat and midden protection zones;
3. There would have been a lower capability to develop complex forest structure (diverse both horizontally and vertically) under the spotted owl prescriptions, due to restrictions on only removing smaller diameter trees (this would open the understory canopy more and expose the Mount Graham red squirrel to greater pressure from avian predators); and
4. There would have been less benefit to the residual large Douglas-fir groves, a key Mount Graham red squirrel habitat component in the moist mixed-conifer habitat, since removal of the more shade-tolerant competing white fir would be limited to smaller trees. The more homogenous forest structure would also leave the area more vulnerable to crown-replacing wildfire.

Environmentally Preferable Alternative

Under the National Environmental Policy Act, the Agency is required to identify the environmentally preferable alternative (40 CFR 1505.2(b)). This is interpreted to mean the alternative that would cause the least damage to the biological and physical components of the environment, and which bests protects, preserves, and enhances, historic, cultural, and natural resources (Council on Environmental Quality, Forty Most Asked Question Concerning CEQ's National Environmental Policy Act Regulations, 46 Federal Register 18026).

In the short term, it could be argued that Alternative 1 would best meet the definition of "environmentally preferable" because it would not alter the existing biological and physical environment and, thus, would not result in any short-term impacts to vegetation, water, wildlife or social values. In addition, it does not have any of the impacts associated with building of temporary roads or of the increased traffic associated with treatments. However, Alternative 1 does not address the pressing environmental issues identified in the EIS, such as the need to protect and restore the habitat of the Mount Graham red squirrel. Further, taking no action would likely lead to undesirable and unintended consequences because the environmental conditions of the area would continue to trend away from desired watershed, wildlife habitat, and fuel loading conditions.

Of the six goals listed in the purpose and need for action (FEIS chapter 1, p. 5), two are for ecosystem restoration, two are for protecting large overstory trees or enhancing old growth forests and one is for reducing the risk of stand-replacing wildfires. I consider all of these actions to be enhancing the environment. The only other project goal is to provide for the protection of our firefighters.

Both action alternatives focus on the long term as it relates to reducing risk of a wide-scale disturbance event that could remove large blocks of forest, threatening the remaining habitat of the Mount Graham red squirrel and other old-growth-dependent species. Alternative 2 as modified will reduce this risk to a greater extent than Alternative 3, and it will leave a more structurally diverse and resilient forest landscape, furthering our restoration goals to a greater extent. Alternative 2 also provides a better strategy to encourage the return of the natural fire cycle, increase the resiliency of mixed-conifer stands including those with old growth characteristics, and protect and restore the habitat of the Mount Graham red squirrel.

Removal of forest products, if any, are a byproduct of these efforts and a means to improve operational efficiency and mitigate the impacts of pile burning and prescribed broadcast burning but are not a direct objective of the project. The project will be implemented regardless of whatever opportunities might or might not occur from stewardship contracts or agreements. These are only methods of reaching our goals and objectives. The impacts of temporary road building and transportation of equipment and woody biomass will be spread out over a 10-year implementation period, and the impacts of these activities will be monitored and mitigated (FEIS, appendix F).

Therefore, I have determined that the environmentally preferable alternative is Alternative 2 as modified for balancing both the short-term impacts and long-term benefits. This was the task assigned to the interdisciplinary team and I believe that they have accomplished this charge.

Public Involvement

The Forest Service has provided stakeholders the opportunity to be involved in the planning process. In 2004, a letter was sent to local user and interest groups, cabin owners, and the forestwide NEPA mailing list asking for input regarding the “Mount Graham Sky Island Demonstration Project.” Based on responses from this mailing, a biological working group made up of conservation organizations, agency personnel from the Arizona Game and Fish Department, USDI Fish and Wildlife Service, Forest Service, and university scientists was developed. They provided insights and shared their scientific knowledge on historical fire regimes and potential strategies to initiate restoration of the forested ecosystems, and how best to protect the habitat of the endangered Mount Graham red squirrel. In May 2005, draft proposals were distributed and sent to the public. Public meetings were held to discuss and develop potential alternatives. In September 2005, tribal coordination began regarding the specific proposals being discussed. In October 2005, field trips were held to discuss potential treatments with the public and to receive input regarding those treatments. In January 2006, the Coronado redrafted a proposed action substantively to emphasize protection of currently occupied Mount Graham red squirrel habitat, while restoring declining mixed-conifer stands and improving forest stand health in potential Mount Graham red squirrel habitat.

A notice of intent (NOI) was published in the Federal Register on August 3, 2007, indicating our intent to prepare and consider an environmental impact statement, which would examine the potential impact to the Mount Graham red squirrel and Mexican spotted owl in much more detail. From this notice, responses were received from 12 individuals or organizations with a range of issues and concerns. Using the comments from the public and other agencies (see “Issues” section), the interdisciplinary team developed a list of issues and alternatives to the proposal.

A 45-day comment period for the Pinaleño Ecosystem Restoration DEIS was provided for interested and affected publics, including appropriate local, State, and Federal Government agencies, and tribes. This period started on June 20, 2009, following the publication of a notice of availability in the Federal Register on June 19, 2009. The official public comment period ended on August 4, 2009. During this period, the Forest Service received comments from different sectors of the public, with a range of concerns and questions. All comments were reviewed and substantive comments were considered during comment analysis. Some comments resulted in further clarification or analysis within the FEIS. I have reviewed and considered the comments as part of the decisionmaking process. The response to substantive comments is included in the FEIS in appendix I. The complete comment record is kept within the Pinaleño Ecosystem Restoration Project public record and is available for review at the Safford Ranger District, Safford, Arizona.

Consultation with Government Agencies and Tribes

Consultation with many Federal and State agencies is required and was completed during the DEIS comment period. A list of agencies consulted is found in chapter 4 of the FEIS. Most notably, the Arizona Game and Fish Department and U.S. Fish and Wildlife Service played key roles in the project; both agencies provided a wildlife biologist to assist the interdisciplinary team. Both agencies also provided other wildlife biologists who participated in many of the interdisciplinary meetings and field trips and provided input to the project. We also held an interagency briefing with the line officers and their staff prior to the release of the DEIS to discuss the project, our restoration strategy, and to provide me their perspective on the best course of action. Integral to this was how the project would help meet the recovery needs of the Mount Graham red squirrel, fulfill forest management recommendations of the “Mount Graham Red Squirrel Recovery Plan” and how these efforts fit into the ongoing efforts to update and revise the recovery plan.

Consultation with tribal entities on a government-to-government basis in reference to activities related to potential disturbance of cultural heritage resources, including archaeological sites, sacred sites, gathering areas, springs and any other areas of interest to tribal nations, is mandated under various executive orders, policies, statutes, and case law. Federal land managing agencies including the Forest Service are authorized to consult with American Indian tribes not only under mandated law but also under the U.S. Government’s trust responsibility to tribal nations.

The Western Apache, which include the San Carlos, White Mountain, Tonto and Yavapai-Apache Nations, maintain deep and significant cultural, spiritual, social, physical, and holy ties to the Pinaleño Mountains, known in the Western Apache language as *Dzil Nchaa Si’an*. Other American Indian tribes including the Chiricahua Apache, Four Southern Tribes (the Ak Chin Indian Community, Tohono O’odham Nation, Salt River Pima Maricopa Indian Community, and Gila River Indian Community), Hopi Tribe, and Pueblo of Zuni also are recognized as stakeholders with interest and association to the Pinaleño Mountains. However, *Dzil Nchaa Si’an* has been determined eligible for, and is in the process of being nominated to the National Register of Historic Places as a Western Apache traditional cultural property. The San Carlos and White Mountain Apache Tribes are often deferred to and considered the lead tribal entities with regard to activities and projects associated with the Pinaleño Mountains.

Various consultation meetings were conducted with representatives of both the San Carlos and White Mountain Apache Tribes concerning the Pinalaño Ecosystem Restoration Project. Mitigation recommendations and project concerns from both San Carlos and White Mountain Apache consultants were identified and integrated into the environmental impact statement. The Western Apache continue to oppose the Mount Graham International Observatory as incompatible with the spiritual values of *Dził Nchaa Si'an* and is central to most of my discussions with the Western Apache tribes. I recognize that even though consultation continues to occur concerning various projects having the potential to affect *Dził Nchaa Si'an*, the Western Apache will continue to fervently and adamantly oppose the Mount Graham International Observatory. However, implementations of Alternative 2 will likely benefit Pinalaño cultural heritage resources over the long term, by beginning to restore the ecosystem to pre-1870 conditions as recommended by the White Mountain Apache Tribe. Implementation of the project will be completed with respect toward the values inherent in *Dził Nchaa Si'an* and in compliance with applicable cultural heritage resource legislation.

Consultation occurred with the Arizona State Historic Preservation Office and a finding of “no adverse effect” was made for this project. See page 17 for more information.

Consistency with Other Laws and Regulations

After consideration of the discussion of environmental consequences (FEIS, chapter 3), I have determined that Alternative 2 as modified is consistent with other laws and regulations as outlined in the FEIS. Detailed discussions of laws and regulations are provided in the FEIS, chapter 3, pp. 57 to 198, and within the appendices.

The National Forest Management Act (NFMA)

Consistency with the Forest Plan and Other NFMA Requirements

The National Forest Management Act requires projects to comply with forest plan direction. The “Coronado National Forest Land and Resource Management Plan” (forest plan) establishes management direction for the Coronado National Forest. This management direction is achieved through the establishment of forest plan goals and objectives, standards and guidelines, and management area goals and accompanying standards and guidelines. Projects and activity decisions must demonstrate and explicitly document consistency and compliance with forest plan forestwide standards, management area standards, and monitoring plan requirements.

The selected alternative is consistent with the “Coronado National Forest Land and Resource Management Plan Final Environmental Impact Statement,” “Record of Decision,” and the accompanying “Land and Resource Management Plan,” as amended dated June 11, 2005 (FEIS chapter 2, pp. 5-7).

I also find the selected alternative to be consistent with other requirements of the National Forest Management Act implementing regulations, specifically:

Forest Vegetation: All of the project area is considered unsuitable for timber management; however, the Forest Plan allows for vegetation management where necessary that consists of sanitation salvage operations, maintenance and improvement of wildlife habitat, and control of insect and disease outbreaks. In Management Area 2A, the forest plan specifies “outbreaks of insects or disease will be controlled using integrated pest management concepts when there

is a significant danger to the vegetation needed to sustain habitat for the Mount Graham red squirrel and astronomical research activities” (forest plan, p. 54-5). It is consistent with 36 CFR 219.27(c)(1).

Cultural Resources: The selected activities comply with forest plan direction for cultural resources (FEIS, p. 183).

Old Growth: The selected activities will not reduce the proportion of the area classified as old growth.

The activities included in this decision are consistent with all forest plan standards for old growth (forest plan, p. 23). The definitions of old growth were used in the validation and analysis process of old growth in this project.

Finding of Nonsignificant Amendment

Under the National Forest Management Act (NFMA, 16 USC 1604(f)(4), forest land and resource management plans (forest plans) may “be amended in any manner whatsoever after final adoption and after public notice.” Federal regulations at 36 CFR 219.14 allow the Forest Service to use the provisions of the planning regulations in effect before November 9, 2000, in order to amend forest plans. These regulations state that the responsible official shall (1) determine whether proposed changes to a land management plan are significant or not significant in accordance with the requirements of sections 1926.51, (2) document the determination of whether the change is significant or not significant in a decision document, and (3) provide appropriate public notification of the decision prior to implementing the changes.

The Forest Service Land and Resource Management Planning Manual (Forest Service Manual 1926.51) provides a framework for consideration listing instances when a proposed change to a forest plan is not significant or significant. An amendment is not significant when it involves:

1. Actions that do not significantly alter the multiple-use goals and objectives for long-term land and resource management;
2. Adjustments of management area boundaries or management prescriptions resulting from further onsite analysis when the adjustments do not cause significant changes in the multiple-use goals and objectives for long-term land and resource management;
3. Minor changes in standards and guidelines; or
4. Opportunities for additional projects or activities that will contribute to achievement of the management prescription.

As stated in the FEIS, we need to amend our forest plan to allow activities integral to the proposed Pinaleño Ecosystem Restoration Project (FEIS pp. 36-37). Specifically, the forest plan would be amended to allow (1) regulated Christmas tree removal and public firewood gathering associated with treatment prescriptions and (2) exceptions to the visual quality objectives. These amendments would apply only within the project area and over the lifespan of the project. As part of this proposal, management area specific standards and guidelines in the forest plan would be amended to reflect changes in direction.

I have evaluated the proposed changes to management direction and concluded that they do not constitute significant amendments to the Coronado forest plan for the reasons described below:

1. **Actions that do not significantly alter the multiple-use goals and objectives for long-term land and resource management.**

The proposed amendments to the forest plan do not alter any of the multiple-use goals and objectives for long-term land and resource management. The amendments propose temporary, site-specific changes in management direction to allow forest restoration activities. The results of the proposed amendments will be consistent with long-term current goals and objectives.

2. **Adjustments of management area boundaries or management prescriptions resulting from further onsite analysis when the adjustments do not cause significant changes in the multiple-use goals and objectives for long-term land and resource management.**

There are no adjustments to management area boundaries and the adjustments to prescriptions in the proposed amendments do not alter the long-term multiple-use goals and objectives for the land and resource management plan.

3. **Minor changes in standards and guidelines.**

The proposed amendments to the forest plan make minor changes to standards and guidelines to allow activities associated with the Pinaleño Ecosystem Restoration Project that are temporary (over the life of the project) and site specific (within the project area).

4. **Opportunities for additional projects or activities that will contribute to achievement of the management prescription.**

The proposed amendments adjust standards and guidelines to allow land managers to work toward recovering habitat for the Mount Graham red squirrel, restoring ecosystem processes, improving forest health, reducing the risk of stand-replacing crown fire, protecting old growth forest conditions, and improving firefighter safety.

The current forest plan is nearing the end of the first planning period and is undergoing revision. The proposed management direction will be in place until efforts to revise the forest plan are complete, thereby supporting my determination that the proposed changes do not constitute a significant amendment of the forest plan.

Finding

On the basis of the information summarized above, it is my determination that this is not a significant amendment to the Coronado forest plan.

National Environmental Policy Act (NEPA)

NEPA establishes the format and content requirements of environmental analysis and documentation as well as requirements for public involvement and disclosure. The entire process of preparing this environmental impact statement was undertaken to comply with NEPA.

The Preservation of American Antiquities Act of June 1906 and the National Historic Preservation Act: The Arizona State Historic Preservation Office

Consultation occurred with the Arizona State Historic Preservation Office (SHPO). A finding of “no adverse effect” was made for this project. This finding was based on the knowledge that although cultural resource sites may be impacted by the proposed undertaking, site avoidance and project design criteria will provide protection of eligible site characteristics. The probability that certain eligible sites may be impacted during project activities leads to this finding of effect as described in 36 CFR 800.5 (b) and 36 CFR 800.16(i) (Federal Register Vol. 65, No. 239; Tuesday, December 12, 2000; pages 77730 and 77738). The SHPO concurred with this finding on May 5, 2008.

American Indian Religious Freedom Act of 1978

This act provides for the maintenance of “access to sites ... freedom to worship through ceremonials and traditional rites.” This decision allows for continued access and does not abridge any rights to continue “worship.”

Executive Order 13007 - Indian Sacred Sites

This order indicates that Federal land management agencies “shall, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites.” This order is based on a “government-to-government” relationship between agencies and tribal government. There have been ongoing government-to-government consultations on this project under section 106 of NHPA. Access to sacred sites and their physical integrity has been maintained with this project (see “Consultation with Government Agencies and Tribes” section above).

The Endangered Species Act and Regional Forester’s Sensitive Species

Details regarding actual species found within the Pinaleno Ecosystem Restoration Project area and potential effects of proposed activities on those species and their habitat are discussed in the “Wildlife” section in chapter 3 of the FEIS. The Endangered Species Act requires protection of all species listed as threatened or endangered by Federal regulating agencies. Biological assessments were prepared to document the possible effects of the proposed activities to endangered, threatened, and sensitive plant and wildlife species within the project area. Appropriate coordination, conferencing, and consultation with the U.S. Fish and Wildlife Service have been completed as directed under Section 7 of the act (see previous section of this document titled “Consultation with Government Agencies and Tribes”).

We have determined that implementation of all of the proposed activities will result in a “may affect/likely to adversely affect” determination for the Mount Graham red squirrel and for the Mexican spotted owl and owl critical habitat. The biological opinion issued by the U.S. Fish and Wildlife Service after consultation concludes that implementation of the project will contribute to the likelihood of the survival and recovery of the Mount Graham red squirrel throughout its range (“Biological Opinion: Pinaleno Ecosystem Restoration Project,” 22410-2005-F-0651, August 5,

2011). The biological opinion also concludes that the project is neither likely to jeopardize the continued existence of the spotted owl, nor result in destruction or adverse modification of spotted owl critical habitat. In their opinion, the project will ultimately improve forest health and reduce the likelihood of high-severity wildfire, the primary threat to spotted owl habitat in the Pinaleño Mountains. The U.S. Fish and Wildlife Service also concurred with our determination of “may affect/not likely to adversely affect” for red squirrel critical habitat, Apache trout (*Oncorhynchus apache*), and Gila trout (*O. gilae*).

The remaining threatened and endangered species have determinations of “no effect” and sensitive species have determinations of “no impact” or “may impact individuals of the species, but not likely to result in a Federal trend toward listing the species.” During formal consultation, the Forest Service and U.S. Fish and Wildlife Service share information about the proposed project and the species likely to be affected. Modifications were made to the proposed action specifically to reduce potential impacts on the Mexican spotted owl. These changes are listed in appendix B and were summarized in the “Decision” section above.

As part of their biological opinion, the U.S. Fish and Wildlife Service issued an Incidental Take Statement to the Coronado National Forest. “Incidental take” is defined as take that is incidental to, and not for the purpose of, carrying out an otherwise lawful activity. Anticipated incidental take for the Mount Graham red squirrel could result in up to a 15 percent decline in the abundance of Mount Graham red squirrels within treated areas during project implementation (through year 15). This take could be in the form of loss of occupied nests with litters, competition with Abert’s squirrels, increases in predation, and loss due to roadkill. Incidental take for this project will not exceed the incidental take as described in the Coronado forest plan biological opinion as measured through abandonment and/or physical alteration of middens. Because all middens are buffered or within midden protection zones, no physical alteration of middens will occur as a result of this project; therefore, no individual middens are likely to be directly affected by the proposed action. This will be verified by monitoring sweeps of adjacent midden protection zones prior to and after treatments. These midden sweeps will be used to quantify take relevant to allotted take for this project and the forest plan incidental take statement.

Hair-tube monitoring will provide the data needed to detect changes in abundance of Mount Graham red squirrel and Abert’s squirrel, and will be compared to mountainwide population trends to determine if these changes reflect effects of the proposed action, or are due to large-scale habitat changes across the range of Mount Graham red squirrel. The U.S. Fish and Wildlife Service determined that this level of anticipated take is not likely to jeopardize the continued existence of the species. They also issued reasonable and prudent measures and terms and conditions that are nondiscretionary actions the Forest Service must follow to minimize incidental take. These are listed in appendix B of this document.

In addition, the U.S. Fish and Wildlife Service biological opinion issued an Incidental Take Statement to the Coronado National Forest for Mexican spotted owl using anticipated impacts to the integrity of protected activity centers to quantify incidental take thresholds for the spotted owl. Incidental take can be anticipated as the harm and harassment of birds to such a degree that the birds are considered lost as viable members of the population and thus “taken.” The project action will result in an incidental take of six pairs (four harm and harass, two harass) and associated juvenile owls associated with six protected activity centers over the life of the project due to the effects of chronic or long-term disturbance within and/or immediately adjacent to protected activity centers, habitat degradation, and within four protected activity centers, core

habitat alteration. The U.S. Fish and Wildlife Service determined that this level of anticipated incidental take is not likely to jeopardize continued existence of the species. They also issued reasonable and prudent measures and terms and conditions that are nondiscretionary actions the Forest Service must follow to minimize incidental take. These are listed in appendix B of this document.

Review requirements: If, during the course of the action, the level of incidental take is exceeded for either of these two species, such incidental take would represent new information requiring review of the reasonable and prudent measures provided, the Coronado National Forest shall immediately notify the U.S. Fish and Wildlife Service and request reinitiation of consultation, pursuant to 50 CFR 402.16a. Furthermore, the forest will immediately provide an explanation of the causes of the taking and review with the Arizona Ecological Services Office the need for possible modification of the reasonable and prudent measures.

The Clean Water Act, 1982 and 303(d)

This act is the basis for the Intergovernmental Agreement between the Arizona Department of Environmental Quality (ADEQ) and Forest Service for the control of nonpoint source pollution and maintenance of clean water (ADEQ Contract No. HH-1037). This is accomplished through planning, application, and monitoring of best management practices, which are recognized as the primary means to control nonpoint source pollution on National Forest System lands. The proposed actions incorporate project design features that would ensure compliance with these regulations (FEIS appendix A).

Civil Rights and Environmental Justice

Executive Order 12898 requires Federal agencies to identify and address any disproportionately high and adverse human health or environmental effects on minority and low income populations. I have determined that there would be no discernable impacts from the selected alternative in the effects on Native Americans, women, other minorities, or the Civil Rights of any American citizen (see “Social Considerations” section of the FEIS).

Project Implementation

Implementation of treatments would likely begin in fall of 2012. I have reviewed the Pinaleno Ecosystem Restoration Project FEIS and associated appendices. I believe there is adequate information within these documents to provide a reasoned choice of action. I am fully aware of the possible adverse environmental effects that cannot be avoided, and the irreversible and irretrievable commitment of resources associated with the selected alternative. I have determined that these risks will be outweighed by the benefits of protecting the Mount Graham red squirrel populations and their habitat, and reducing fuel loading and stand densities that will sustain the forested ecosystem in the long term. Implementing the selected alternative will cause no unacceptable cumulative impact to any resource. The FEIS adequately documents how compliance with these requirements is achieved (FEIS, chapter 3).

Procedure for Change During Implementation

Minor changes may be needed during implementation to better meet onsite resource management and protection objectives.

In determining whether and what kind of further NEPA action is required, I will consider the criteria to supplement an existing environmental impact statement in 40 CFR 1502.9(c) and FSH 1909.15, sec. 18, and in particular, determine whether the proposed change is a substantial change to the intent of the selected alternative as planned and already approved, and whether the change is relevant to environmental concerns. Connected or interrelated proposed changes regarding particular areas or specific activities will be considered together in making this determination. The cumulative impacts of these changes will also be considered.

The intent of field verification prior to my decision was to confirm inventory data and to determine the feasibility and general design and location of a road or unit, not to locate the final boundaries or road locations. Minor adjustments to unit boundaries may be needed during final layout for resource protection, to improve logging system efficiency, and to better meet the intent of my decision. Many of these minor changes will not present sufficient potential impacts to require any specific documentation or action to comply with applicable laws.

Appeal Rights

This decision is subject to administrative review (appeal) pursuant to 36 CFR Part 215. The appeal must be filed (regular mail, fax, email, hand delivery, or express delivery) with the appeal deciding officer at: USDA Forest Service, Southwestern Region, Appeal Deciding Officer, 333 Broadway Blvd., SE, Albuquerque, NM 87102. Facsimiles may be received at (505) 842-3173.

Emails may be electronically received at: appeals-southwestern-regional-office@fs.fed.us The office business hours for those submitting hand delivered appeals are: 8:00 a.m. to 4:30 p.m. Monday through Friday, excluding holidays. Electronic appeals must be submitted in a format such as an email message, plain text (.txt), rich text format (.rtf), or Word (.doc) to the email address listed above. In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification. All appeals, including attachments, must be filed within 45 days from the publication date of this notice in the Arizona Daily Star, the newspaper of record. Attachments received after the 45-day appeal period will not be considered. The publication date in the Arizona Daily Star is the exclusive means for calculating the time to file an appeal. Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source.

If an appeal is received on this project, there may be informal resolution meetings and/or conference calls between the responsible official and appellant. These discussions would take place within 15 days after the closing date for filing an appeal. All such meetings are open to the public.

If no appeals are filed within the 45-day time period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

Contact Persons

For additional information concerning this decision or the Forest Service appeal process contact:

Ms. Andrea Wargo Campbell, Forest NEPA Coordinator
Coronado National Forest
Supervisor's Office
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Phone: (520) 388-8352
Email: awcampbell@fs.fed.us

For information concerning the record of decision or the final environmental impact statement contact:

Mr. Craig Wilcox, Forest Silviculturist
Coronado National Forest
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Phone: (928) 348-1961
Email: cpwilcox@fs.fed.us

Responsible Official Signature



JIM UPCHURCH
Forest Supervisor, Coronado National Forest

October 31, 2011

Date

Appendix A - Treatments Dropped from Consideration Due to Inventoried Roadless Area Status

The following table lists the Pinalaño Ecosystem Restoration Project treatment units, treatment prescriptions, and acres that fall within a designated inventoried roadless area.

Table 1. Pinalaño Ecosystem Restoration Project FEIS proposed action (Alternative 2) treatments by unit within designated inventoried roadless area

| Unit No. | Silviculture Treatment | Fuels Treatment | Removal Method | Treatment Area | Treatment Subdivision | Acres |
|----------|---|--|---|---|-----------------------|-------|
| 18 | No Treatment | Lop and scatter; underburn | No Removal | Forest restoration-modified treatment area | Shannon | 15.2 |
| 21 | Thin trees <9 in. d.b.h.; MSO restricted (170 BA) | Lop and scatter; underburn | No Removal | Important wildlife area-general Rx | Shannon | 23.9 |
| 26 | No Treatment | Lop and scatter; underburn | No Removal | Forest restoration-modified treatment area | Shannon | 52.5 |
| 79 | Thin trees <9 in. d.b.h.; MSO restricted (170 BA) | Lop and scatter | No Removal | Important wildlife area-general Rx | Cunningham | 2.4 |
| 496 | Thin trees <9 in. d.b.h.; MSO restricted (170 BA) | Lop and scatter | No Removal | Important wildlife area-general Rx | Cunningham | 20.9 |
| 498 | Thin trees <9 in. d.b.h.; MSO restricted (170 BA) | Lop and scatter | No Removal | Important wildlife area-general Rx | Cunningham | 10.2 |
| 187 | Reduce mortality in snag pockets (0.25-1.25 acre group size) up to 18 in. d.b.h. to 6 snags/acre; thin live <9 in. d.b.h. | Masticate; hand cut, pile, and burn steep slopes; followup underburn | No Removal | Important wildlife area-modified treatment area | Ash Creek | 9.1 |
| 201 | Reduce mortality in snag pockets (0.25-1.25 acre group size) up to 18 in. d.b.h. to 6 snags/acre; thin live <9 in. d.b.h. | Lop and scatter; hand cut, pile, and burn; followup underburn | Whole-tree yard; machine or hand cut; remove by skyline | Important wildlife area-modified treatment area | Ash Creek | 4.7 |

Table 1. Pinalaño Ecosystem Restoration Project FEIS proposed action (Alternative 2) treatments by unit within designated inventoried roadless area

| Unit No. | Silviculture Treatment | Fuels Treatment | Removal Method | Treatment Area | Treatment Subdivision | Acres |
|----------|--|--|--|--|-----------------------|-------|
| 185 | Reduce mortality in snag pockets (0.25-1.25 acre group size) up to 18 in. d.b.h. to 6 snags/acre; general Rx <18 in d.b.h. | Lop and scatter; hand cut, pile, and burn; followup underburn | No Removal | Forest restoration-modified treatment area | Webb Peak | 4.5 |
| 205 | Reduce mortality in snag pockets (0.25-1.25 acre group size) up to 18 in. d.b.h. to 6 snags/acre; thin live <9 in. d.b.h. | Masticate; hand cut, pile, and burn steep slopes; followup underburn | Whole-tree yard; machine or hand cut; remove by skyline | Forest restoration-modified treatment area | Webb Peak | 10.1 |
| 172 | Reduce mortality in snag pockets (0.25-1.25 acre group size) up to 18 in. d.b.h. to 6 snags/acre; general Rx <18 in d.b.h. | Masticate; hand cut, pile, and burn steep slopes; followup underburn | Whole-tree yard; machine or hand cut; remove by ground-based equipment | Forest restoration-modified treatment area | Webb Peak | 2.6 |
| 194 | Reduce mortality in snag pockets (0.25-1.25 acre group size) up to 18 in. d.b.h. to 6 snags/acre; general Rx <18 in d.b.h. | Masticate; hand cut, pile, and burn steep slopes; followup underburn | Whole-tree yard; machine or hand cut; remove by ground-based equipment | Forest restoration-modified treatment area | Webb Peak | 4.9 |
| 532 | Reduce mortality in snag pockets (0.25-1.25 acre group size) up to 18 in. d.b.h. to 6 snags/acre; general Rx <18 in d.b.h. | Masticate; hand cut, pile, and burn steep slopes; followup underburn | Whole-tree yard; hand cut; remove by skyline | Forest restoration-modified treatment area | Webb Peak | 8.6 |
| 432 | Thin trees <9 in. d.b.h.; MSO restricted (170 BA) | Lop and scatter; hand cut, pile, and burn | No Removal | Important wildlife area-general Rx | Webb Peak | 40.7 |
| 395 | Thin trees <9 in. d.b.h.; MSO restricted (170 BA) | Lop and scatter; hand cut, pile, and burn | No Removal | Important wildlife area-general Rx | Webb Peak | 17.1 |
| 230 | No Treatment | Underburn | No Removal | Non-forest prescribed burn | Lefthand | 5.4 |

Table 1. Pinalaño Ecosystem Restoration Project FEIS proposed action (Alternative 2) treatments by unit within designated inventoried roadless area

| Unit No. | Silviculture Treatment | Fuels Treatment | Removal Method | Treatment Area | Treatment Subdivision | Acres |
|----------|---|---|--|--|-----------------------|-------|
| 521 | Thin trees <9 in. d.b.h.; MSO restricted (170 BA) | Lop and scatter; underburn | No Removal | Important wildlife area-general Rx | Lefthand | 16.0 |
| 522 | Thin trees <9 in. d.b.h.; MSO restricted (170 BA) | Lop and scatter; underburn | No Removal | Important wildlife area-general Rx | Lefthand | 8.0 |
| 460 | Thin trees <9 in. d.b.h.; MSO restricted (170 BA) | Lop and scatter; hand cut, pile, and burn | No Removal | Important wildlife area-general Rx | Clark Peak | 11.6 |
| 461 | Thin trees <18 in. d.b.h.; MSO restricted (150 BA) | Lop and scatter; hand cut, pile, and burn | Whole-tree yard; hand cut; remove by skyline | Forest restoration-general Rx | Clark Peak | 1.7 |
| 235 | Thin trees <18 in. d.b.h.; MSO restricted (150 BA) | Lop and scatter; hand cut, pile, and burn | Whole-tree yard; hand cut; remove by skyline | Forest restoration-general Rx | Clark Peak | 10.3 |
| 458 | Thin trees <18 in. d.b.h.; MSO restricted (150 BA) | Lop and scatter; hand cut, pile, and burn | Whole-tree yard; hand cut; remove by skyline | Forest restoration-general Rx | Clark Peak | 19.3 |
| 242 | Thin trees <18 in. d.b.h.; MSO restricted (150 BA) | Lop and scatter; hand cut, pile, and burn; followup underburn | Whole-tree yard; machine or hand cut; remove by ground-based equipment | Forest restoration-general Rx | Clark Peak | 5.9 |
| 243 | Reduce mortality in snag pockets (0.25-1.25 acre group size) up to 18 in. d.b.h. to 6 snags/acre; no live tree thinning | Lop and scatter; hand cut, pile, and burn; followup underburn | Whole-tree yard; machine or hand cut; remove by ground-based equipment | Forest restoration-modified treatment area | Clark Peak | 4.4 |
| Total | Treatment unit acres in inventoried roadless area | | | | | 307.7 |

Appendix B - Project Modifications Resulting from Section 7 Consultation Process with the Fish and Wildlife Service

During the Section 7 consultation process, modifications resulted to the Pinaleno Ecosystem Restoration Project proposed treatments and design features in order to reduce the incidental take under the Endangered Species Act. These modifications are intended to reduce potential impacts to the Mexican spotted owl. A map of the revised project follows at the end of this appendix.

Modification of Proposed Action

Projectwide Design Feature added – Treatments will not occur during MSO breeding season. Only monitoring and project preparation will occur between March 1st and August 31st. This design feature listed below will be incorporated into the project.

Treatments in Mexican Spotted Owl Protected Activity Centers (PAC) Modified to Preclude Incidental Take

1. Moonshine PAC – PAC acres removed from project

| Implementation Subdivision | Treatment Unit | Acres Removed | Removals from Project |
|----------------------------|----------------|---------------|----------------------------------|
| Grant Creek | 69 | 0.4 | Boundary change remove PAC Acres |
| Grant Creek | 509 | 3.1 | Boundary change remove PAC Acres |

2. Riggs Lake PAC – Defer decision to treat all units in Clark Peak Implementation Subdivision for 5 years including portions inside of the Riggs Lake PAC, reinitiation of consultation may occur after that time.

| Implementation Subdivision | Treatment Unit | Acres Deferred | Deferrals/Removals |
|----------------------------|----------------|----------------|---|
| Clark Peak | 124 | 19.6 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 125 | 3 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 129 | 16.5 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 134 | 10.6 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 142 | 3.8 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 145 | 16.7 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 152 | 17.3 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 156 | 9.5 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 159 | 19.5 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 170 | 6 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 171 | 15.3 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 176 | 20.8 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 189 | 50.3 | Deferred, may reinitiate consultation with FWS after year 5 |

Appendix B – Project Modifications Resulting from
Section 7 Consultation Process with the Fish and Wildlife Service

| Implementation Subdivision | Treatment Unit | Acres Deferred | Deferrals/Removals |
|-----------------------------------|-----------------------|-----------------------|---|
| Clark Peak | 192 | 5.1 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 197 | 24 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 200 | 28.5 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 209 | 7.5 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 213 | 3.7 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 218 | 9.9 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 222 | 45.5 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 223 | 0.8 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 226 | 10.4 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 231 | 5.3 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 232 | 18.2 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 233 | 37 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 234 | 2.8 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 235 | 10.3 | Removed from treatment, in IRA |
| Clark Peak | 236 | 5.7 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 237 | 16.9 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 238 | 8.1 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 239 | 13.2 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 242 | 5.9 | Removed from treatment, in IRA |
| Clark Peak | 243 | 4.4 | Removed from treatment, in IRA |
| Clark Peak | 458 | 19.3 | Removed from treatment, in IRA |
| Clark Peak | 459 | 5.5 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 460 | 11.6 | Removed from treatment, in IRA |
| Clark Peak | 461 | 1.7 | Removed from treatment, in IRA |
| Clark Peak | 462 | 24.3 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 464 | 33.3 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 533 | 34.5 | Deferred, may reinitiate consultation with FWS after year 5 |
| Lefthand | 165 | 8.3 | Deferred, may reinitiate consultation with FWS after year 5 |
| Lefthand | 450 | 11.3 | Deferred, may reinitiate consultation with FWS after year 5 |
| Lefthand | 451 | 11.4 | Deferred, may reinitiate consultation with FWS after year 5 |
| Lefthand | 453 | 6.8 | Deferred, may reinitiate consultation with FWS after year 5 |
| Lefthand | 454 | 3.9 | Deferred, may reinitiate consultation with FWS after year 5 |

3. Chesley PAC – Drop portion of treatments that were inside the core, other treatments only occur outside the breeding season, deferred Clark Peak Implementation Subdivision units (acres reported in previous table)

| Implementation Subdivision | Treatment Unit | Acres Removed | Removal from Project |
|----------------------------|----------------|---------------|------------------------|
| Lefthand | 445 | 1.8 | Removed from treatment |
| Lefthand | 447 | 9.7 | Removed from treatment |

| Implementation Subdivision | Treatment Unit | Deferrals |
|----------------------------|----------------|---|
| Clark Peak | 145 | Deferred, may reinitiate consultation with FWS after year 5 |
| Clark Peak | 533 | Deferred, may reinitiate consultation with FWS after year 5 |

4. Webb Peak PAC – Remove treatments that are south of Swift Trail, removing all treatments in the core, all remaining treatments will occur outside the breeding season, topography will aid in directing smoke away from cores.

| Implementation Subdivision | Treatment Unit | Acres Removed | Removals from Project |
|----------------------------|----------------|---------------|--|
| Columbine | 92 | 10.4 | Removed from treatment |
| Columbine | 93 | 14.3 | Removed from treatment |
| Columbine | 95 | 2.7 | Removed from treatment |
| Columbine | 105 | 14.0 | Remove PAC portion only from treatment |
| Columbine | 380 | 13.8 | Removed from treatment |
| Columbine | 382 | 2.3 | Removed from treatment |
| Columbine | 471 | 11.8 | Removed from treatment |
| Columbine | 473 | 5.5 | Removed from treatment |
| Columbine | 475 | 7.2 | Removed from treatment |
| Columbine | 477 | 16.5 | Removed from treatment |
| Columbine | 479 | 2.0 | Removed from treatment |
| Columbine | 483 | 4.2 | Removed from treatment |
| Columbine | 529 | 0.6 | Remove PAC portion only from treatment |
| Columbine | 530 | 3.8 | Removed from treatment |

5. Grant Vista PAC – Remove all of the important wildlife area silviculture treatment units from PAC, other treatments will occur outside the breeding season, small acreage most are fuel treatments only, topographic features help redirect smoke away from the core.

| Implementation Subdivision | Treatment Unit | Acres Removed | Removals from Project |
|----------------------------|----------------|---------------|------------------------------|
| Bible Camp | 403 | 1.3 | Removed core acres from unit |
| Columbine | 80 | 14.3 | Removed unit from treatment |
| Columbine | 82 | 10.1 | Removed unit from treatment |
| Columbine | 91 | 6.0 | Removed unit from treatment |
| Columbine | 368 | 4.5 | Removed unit from treatment |
| Columbine | 375 | 8.3 | Removed unit from treatment |

Reasonable and Prudent Measures and Terms and Conditions – Mount Graham Red Squirrel

The following reasonable and prudent measures, with their accompanying terms and conditions, are necessary and appropriate to minimize incidental take of Mount Graham red squirrel (MGRS):

1. Any MGRS nest trees that are found in important wildlife areas and forest restoration areas shall be buffered.
 - a. Should MGRS nest trees be discovered during pre-implementation, sweeps of treatment blocks shall be provided a no-treatment buffer similar to one that would be created around a newly discovered midden. In important wildlife areas, a 92-foot radius buffer, and in forest restoration areas, a 200-foot radius buffer shall be established around MGRS nest trees.
2. You shall submit annual reports documenting project implementation; results, effects, and incidental take to the FWS and review committee for the life of the project.
 - a. Reporting of monitoring results and complete records of all incidental take that occurs during the life of the project will be included in the Forest Service’s Endangered Species Act (act) report submitted annually to the FWS. If appropriate, a separate report containing this information may be submitted to the review committee.
 - b. Should the FWS or a member of the review committee determine further discussion is required based on the results included in any annual report, the forest shall convene a meeting accordingly.

Conservation Recommendations

Section 7(a)(1) of the act directs Federal agencies to utilize their authorities to further the purposes of the act by carrying out conservation programs for the benefit of endangered and threatened species. These conservation recommendations from the U.S. Fish and Wildlife Service are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

The FWS recommended continued assistance of the forest in implementation of the MGRS recovery plan and its revisions, including providing funding for carrying out key recovery actions under our authorities.

The FWS also recommended acquisition of LiDAR (Light Detection and Ranging) data of the project area after the proposed action is complete to fully assess the changes in basal area, forest structure, and other key habitat components important to Mount Graham red squirrels when compared to LiDAR data that the forest acquired in 2008.

Reasonable and Prudent Measures with Terms and Conditions – Mexican Spotted Owl

The following reasonable and prudent measure and the associated term and condition is necessary and appropriate to minimize take of MSO:

1. Annual reports shall be submitted documenting project implementation, results, effects, and incidental take to the FWS for the life of the project.
 - a. Reporting of monitoring results, progress in implementing the project as proposed, and complete records of all incidental take detected during the life of the project will be tracked yearly and included in the Forest Service’s Endangered Species Act report submitted annually to the FWS (both the Tucson suboffice and the Mexican spotted owl lead in the Flagstaff suboffice). In regard to incidental take, the following shall be monitored and reported: (1) the length of time of disturbance within or immediately adjacent to each PAC, (2) the extent of treatment occurring within PACs and cores, and (3) numbers of MSO injured, killed, or otherwise incidentally taken as a result of the proposed action, where such a determination can be made.

Conservation Recommendations

Section 7(a)(1) of the act directs Federal agencies to utilize their authorities to further the purposes of the act by carrying out conservation programs for the benefit of endangered and threatened species. These conservation recommendations from the U.S. Fish and Wildlife Service are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

The FWS recommended continued assistance of the Forest to improve prescribed burning techniques and determine means by which more key habitat components/physical and biological features of spotted owl habitat may be retained following fuels reduction treatments.

The FWS also recommended acquisition of LiDAR data of the project area after the proposed action is complete to fully assess the changes (when compared to LiDAR data acquired in 2008) in key habitat components/physical and biological feature of MSO habitat.

