

4FRI Rim Country Proposed Action May 2016

To meet the purpose and need for the Rim Country Project and move toward desired conditions, the Apache-Sitgreaves, Coconino, and Tonto National Forests propose mechanical thinning, prescribed fire, and other restoration activities throughout the project area that would make the forest more resilient to natural disturbances such as fire, insect and disease, and climate change. Restoration activities are needed to maintain or restore forest structure and pattern, the desired fire regimes, and watershed and ecosystem function in ponderosa pine, frequent fire mixed conifer (dry mixed conifer), ponderosa pine-evergreen oak, riparian, and grassland cover types, moving them toward conditions within the natural range of variability. Other cover types (such as pinyon juniper) may receive some operational treatments to enable or complete treatments in target forest types, by reducing uncharacteristic fire risk, reducing ground disturbance from fireline construction, or improving operability. Table 1 displays project area acreage by cover type. Figure 1 displays the general location of the cover types.

Table 1. Acres of Cover Type

Cover Type	Approximate Acres
Ponderosa Pine	316,700
Ponderosa Pine-Gambel Oak	170,700
Ponderosa Pine-Evergreen Oak	146,200
Dry Mixed Conifer	63,300
Other (Wet Mixed Conifer, Pinyon-Juniper, Oak Woodland/Shrubland, Chaparral) *	251,400

*Other cover types that may receive some facilitative operations to enable or complete restoration treatments in target cover types, by reducing uncharacteristic fire risk, reducing ground disturbance from fireline construction, or improving operability.

Restoration activities proposed for the Rim Country project area include:

- Mechanically thin trees and/or implement prescribed fire on approximately 970,800 acres.
 - Mechanically thin trees and apply prescribed fire on approximately 1,200 acres in the Long Valley Experimental Forest.
 - Implement prescribed fire alone on approximately 79,100 acres.
 - Mechanically thin and/or implement prescribed fire on approximately 68,600 acres of Mexican spotted owl (MSO) protected activity centers (PACs),

approximately 131,000 acres of MSO recovery habitat, and approximately 500,500 acres of northern goshawk habitat.

- Mechanically thin trees and/or apply prescribed fire on approximately 23,800 acres of grasslands.
- Conduct facilitative operations (thin and/or burn) on up to 250,000 acres of other cover types to enable or complete restoration treatments in target cover types.
- Determine reforestation needs on approximately 70,750 acres.
- Decommission approximately 230 miles of existing system and unauthorized roads on the Coconino and Apache-Sitgreaves NFs.
- Decommission 30 miles of unauthorized roads on the Tonto NF.
- Improve approximately 150 miles of existing non-system roads and construct approximately 350 miles of temporary roads for haul access; decommission when treatments are completed.
- Relocate and reconstruct existing open roads adversely affecting water quality and natural resources, or of concern to human safety.
- Restore approximately 5,500 acres of meadows.
- Restore approximately 184 springs.
- Restore up to 164 miles of riparian streams and intermittent and ephemeral stream channels (non-riparian).
- Restore up to 350 miles of stream habitat for threatened, endangered, and sensitive aquatic species.
- Construct up to 200 miles of protective barriers around springs, aspen, Bebb’s willows, and big-tooth maples, as needed for restoration.

Table 2 displays acres to be thinned and burned by forest cover type. Table 3 displays the treatments proposed in MSO and goshawk habitat. Figure 2 displays general locations for the proposed vegetation thinning and prescribed fire.

Table 2. Acres of Proposed Mechanical Treatments and Prescribed Fire by Cover Type

Cover Type	Mechanical Treatment with Prescribed Fire	Prescribed Fire Only
Ponderosa Pine	313,200	3,500
Ponderosa Pine-Gambel Oak	151,500	19,200
Ponderosa Pine-Evergreen Oak	113,300	33,000
Dry Mixed Conifer	52,000	11,300
Grassland	11,700	12,100

Totals	641,700	79,100
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Figure 1. General Locations of Forest Cover Types

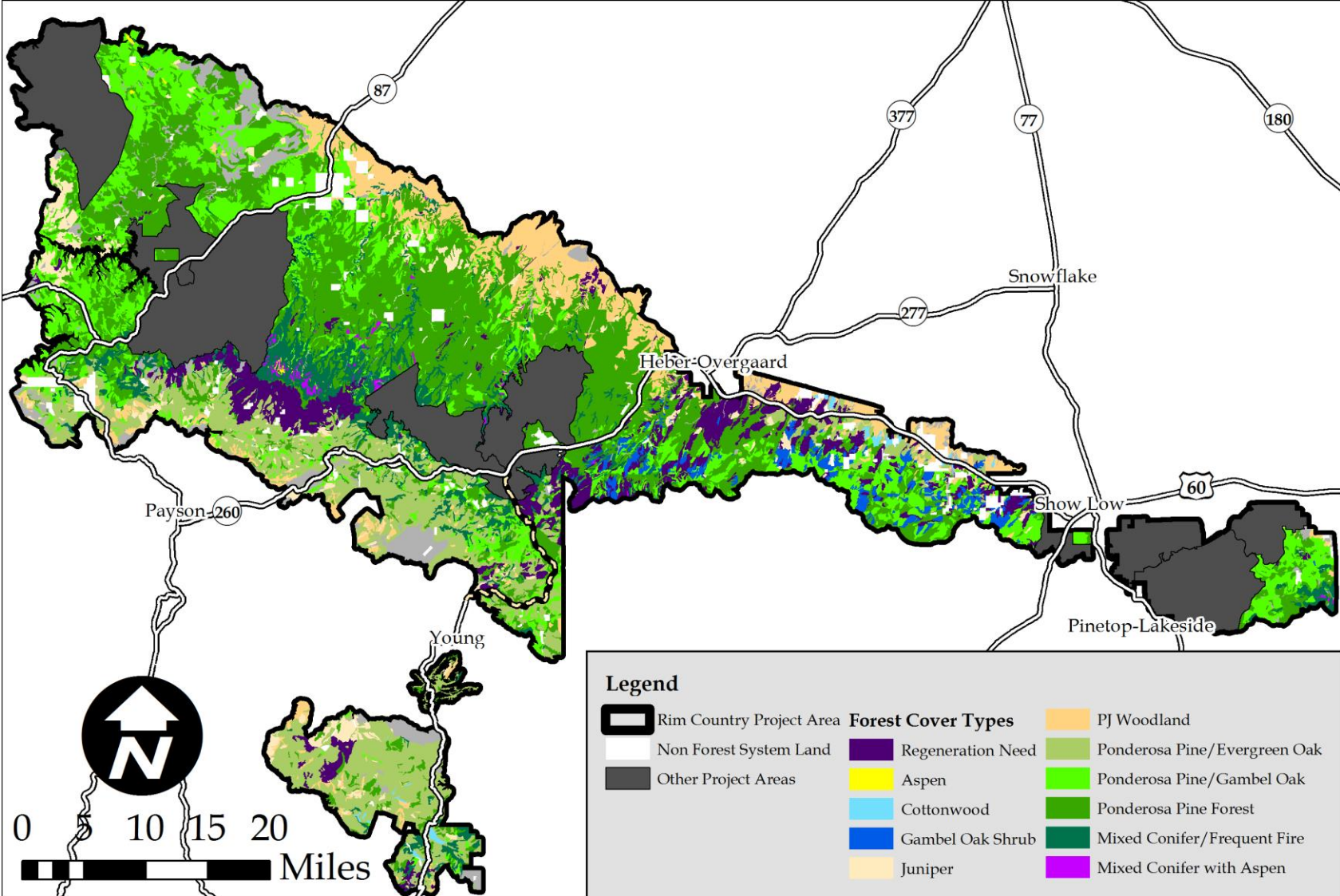


Figure 2. General Locations of Proposed Thinning and Prescribed Fire Treatments

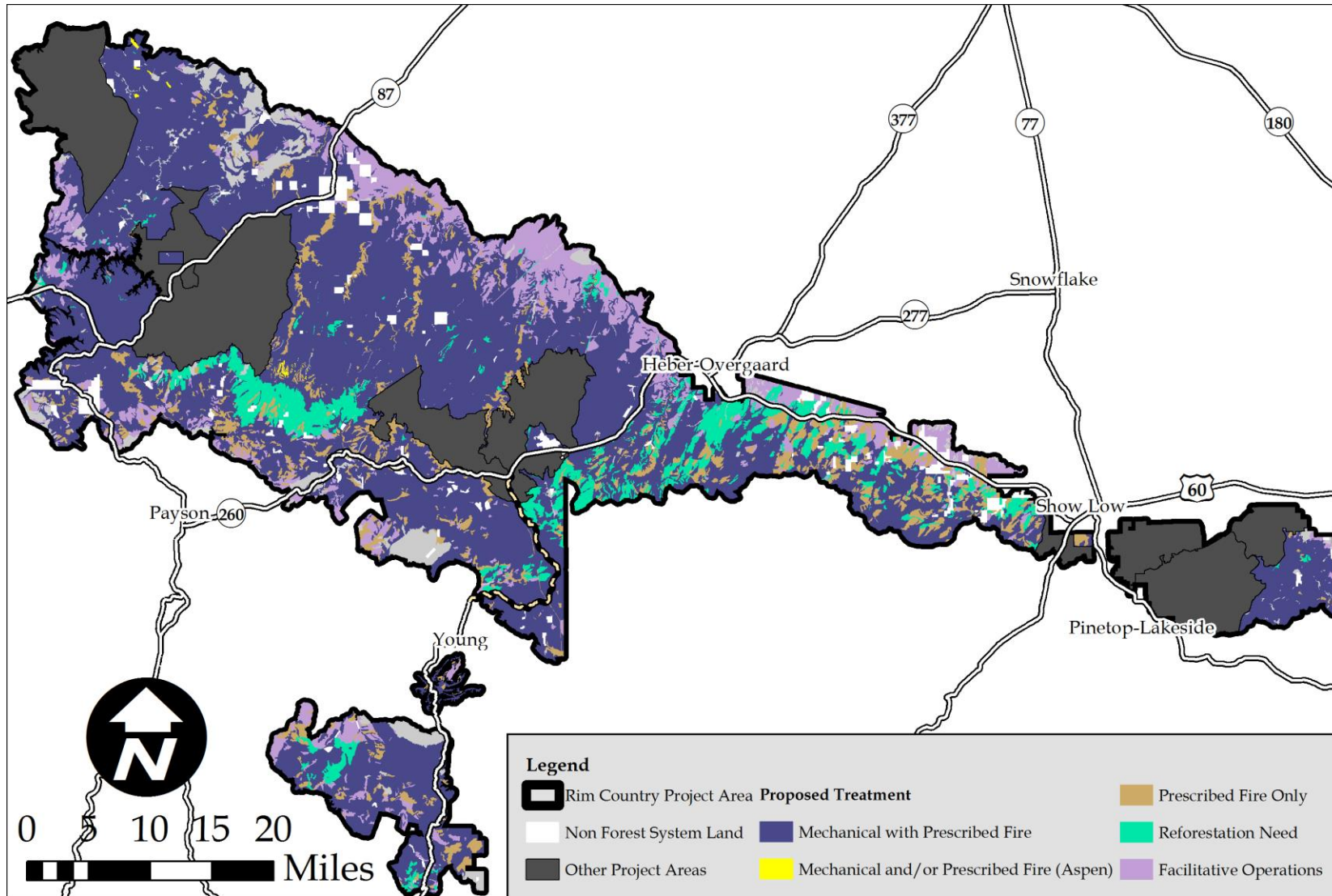


Table 3. Summary of Mechanical and/or Prescribed Fire Treatments Proposed in MSO and Goshawk Habitat

Treatment/Habitat/Forest Cover Type		Acres
MSO PAC Treatments*		68,600
Protected Activity Centers	Ponderosa Pine	20,900
	Ponderosa Pine-Oak	26,600
	Mixed Conifer	21,100
MSO Recovery Treatments		131,000
Recovery	Ponderosa Pine-Oak	83,300
	Mixed Conifer	36,300
Recovery Nest/Roost	Ponderosa Pine-Oak	4,600
	Mixed Conifer	6,800
Goshawk PFA Treatments		25,000
Post-Fledgling Family Areas	Ponderosa Pine	18,500
	Ponderosa Pine-Oak	6,500
	Mixed Conifer	0
Goshawk Foraging Treatments		475,500
Goshawk Foraging	Ponderosa Pine	277,300
	Ponderosa Pine-Oak	195,900
	Mixed Conifer	2,300
Grand Total		700,100

*PAC treatment acres are estimates only, and will be determined after field visits with USFWS.

The forested landscapes in the Rim Country project area are highly departed from their desired conditions, lacking desired species composition, spatial arrangement, and structure, and are very dense as measured by basal area, trees per acre, and stand density index. Some of these areas are at high risk for disturbance from undesirable fire behavior, insects and disease, and climate change. The proposed treatments will bring these areas back to, or move them toward, their desired conditions and help to establish sustainable, resilient, and functioning ecosystems. The proposed mechanical treatments (thinning) are designed to establish interspace and uneven-aged stand structure, mitigate adverse effects of dwarf mistletoe, and improve stand structure and health in younger stands.

Across the project area, fire regimes constitute a spatial and temporal mosaic of landscape patterns. There is a need to reintroduce or maintain fire in ponderosa pine, aspen, mixed conifer, and grasslands in the project area. Currently, across much of the project area, fuel loads of all kinds in the immediate vicinity of large and/or old trees are such that mortality would be high in the event of a wildfire burning under undesirable conditions. Implementing fire and mechanical treatments would decrease surface and canopy fuel loading, as well as ladder fuels in the immediate vicinity of old trees. This would decrease potential fire-caused mortality in large and/or old trees. Use of prescribed burning, particularly when combined with mechanical thinning, would reduce the potential for damage from wildfires, as well as the costs associated with fire suppression (Jaworski 2014).

Current stand conditions exhibit declining to stagnant tree growth in areas where late-successional habitat is desired. There is a need to restore resilient late-successional forest and increase habitat diversity, particularly within MSO PACs. Forest structure in PACs would be managed to provide late-successional conditions over time to maintain nesting and roosting habitat. Canopy gaps, meadows, and aspen provide herbaceous understory vegetation to support prey species within PACs where most of the hunting is done by the owls during the nesting season. Irregular tree spacing would be used to create canopy gaps to move toward or facilitate stand conditions that may be more conducive to low-intensity prescribed fire treatment.

Improving late-successional forest would also improve nest stands for northern goshawks. Moving towards a forest structure with all age and size classes represented would improve MSO recovery habitat and overall habitat for northern goshawks. Canopy gaps and interspaces would provide adequate space for the development of rooting zones, increasing tree group resilience. Creating rooting zones and returning low-severity fire would maintain a mosaic of grass, forbs, and shrubs, benefiting prey species for both owls and goshawks.

In the meadows and grasslands of the Rim Country project area, conifers have encroached into these naturally open areas, decreasing the size and function of landscapes that were historically grasslands. Meadow and grassland restoration would include reducing or eliminating tree encroachment (pines and junipers), and applying prescribed fire.

Approximately 184 springs in the Rim Country project area exhibit downward trends or static-degraded conditions. The condition and function of these springs need to be improved to sustain these features. Spring restoration would include reducing tree encroachment and noxious weeds, returning fire to the system (prescribed fire), and placing protective barriers.

Many riparian streams in the Rim Country project area, particularly within the Rodeo-Chediski Fire area, are currently non-functioning or functioning-at-risk, with accelerated erosion and peak flows. Restoration is needed to restore the functionality of these streams, reestablishing former drainage patterns, restoring appropriate vegetation, and returning fire to the system (prescribed fire). Impaired intermittent and ephemeral stream channels are also in need of restoration, including reducing tree encroachment and noxious weeds, revegetating, and repairing headcuts.

Stream habitats and aquatic species depend upon perennial streams or reaches and their habitat is maintained by the watershed, soil, and riparian conditions within the ecosystem. Proposed stream habitat treatments may be needed within all or some portion of the fish-bearing streams.

Restoration treatments may include channel restoration (one rock dams, grade control or induced meandering) and channel structural improvements (felling or girdling trees to provide large woody debris for cover and habitat complexity). All proposed riparian treatments will also improve or maintain stream habitat by restoring watershed function or resiliency. Treatments in watersheds may also improve soil infiltration and subsurface flows higher in the system that provide cooler and perennial water to streams and maintain stream temperatures.

Aspen is dying or rapidly declining in the Rim Country project area due to the combined effects of conifer encroachment, browsing, insects, disease, severe weather events, and lack of fire disturbance. To stimulate growth, recruit younger age classes, and increase individual recruitment of aspen, protective barriers would be placed around sites to prevent browsing and other disturbance during regeneration. Bebb's willows and big-tooth maples, tree species that provide habitat for songbirds and small mammals, as well as soil and stream bank stability, are also declining in health, vigor, and number in the project area. Protective barriers would be placed to reduce browsing and other disturbances, recruit younger age classes, increase populations, and retain this diverse habitat.