PURPOSE AND NEED

South Sacramento Restoration Area

What is NEPA?

- National Environmental Policy Act
- NEPA establishes a *process* for analyzing environmental effects of a proposed project before the government commits to implementing it.
- Two of the major purposes of this process are to:
  - Disclose project effects on the natural and human environment; and
  - Make informed decisions.

Restore Forest and Ecosystem Health

- Restore overall forest health, watershed health, and wildlife habitat.
- Increase forest resiliency to insects, disease, and climate change
- All ecosystem types in the planning area: mixed-conifer, ponderosa pine, pinyon-juniper, meadows, aspen, etc.

Reduce Wildland Fire Risks

- Reduce high-severity fire risks to protect life, property, and natural resources by reducing crown fire hazard potential
- Reduce the likelihood of human-caused ignitions
- Increase the ability of fire suppression crews to control and manage future wildfires

Improve Mexican Spotted Owl Habitat

- Protect existing and promote development of future habitat
- Increase our understanding of the short- and long-term effects of land management on existing and future habitat

Improve Watershed Function

- Improve soil condition and productivity where it is impaired
- Improve hydrologic function of springs and seeps
- Improve the quality of perennial and intermittent waters and riparian areas

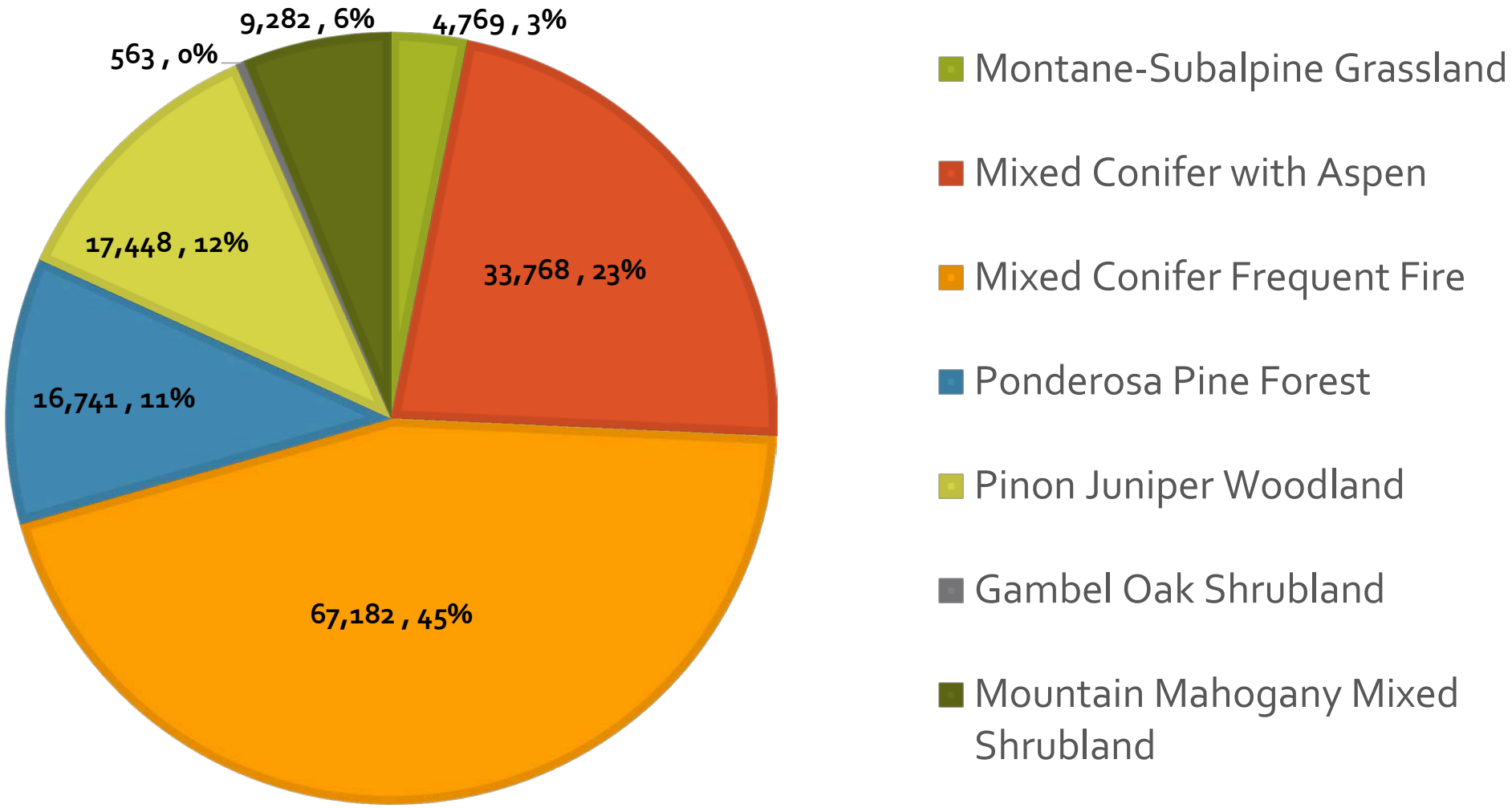
SOUTH SACRAMENTO RESTORATION PROJECT

April 26, 2017

Preliminary Proposed Action

Vegetation Treatments

Ecosystems of the SSRP



*Acres based on Fed 10 project boundary

Forest Health and Resilience

Forest health describes the condition and diversity of trees and other vegetation, as well as the status of important forest processes like nutrient cycling and productivity.

Forest resilience is the capacity of a forest ecosystem to return to the pre-condition state following a disturbance, including maintaining its essential characteristics composition, structures, ecosystem functions, and process rates.

Essentially a healthy forest is a resilient forest

Actions that Lead to Improved Forest Health and Resilience

- Provide greater growing space for trees
- Favor healthier trees
- Improve tree composition
- Remove host tree species when dwarf mistletoe is present
- Balance age class structure
- Direct suppression actions

Improving Forest Resilience to Fire

Forest stand conditions effect fire behavior

- Reduce tree densities
- Retain bigger trees
- Retain more resilient tree species
- Create clumps of single age class trees to reduce ladder fuels
- Isolate clumps of dense trees by creating interspaces without trees
- Remove or treat activity fuels

Desired Conditions

Desired Conditions are goals and outcomes for the forest and woodlands

- Ecological, social, and economic characteristics achievable over time.
- Guide the development of projects and activities
- Create a framework for sustainability
- Ecosystem-based and incorporate forest dynamics
- Describe a desired species composition, structure, landscape patterns
- Incorporate the natural processes such as fire, insects, and diseases

Forest Desired Conditions: key elements

- Tree species and age composition
  - Sustaining a balance of tree ages
- Spatial characteristics of forests
  - Tree groups: size, density, arrangement
  - Interspaces: composition, size, arrangement
- Processes and Functions
  - Biological diversity, foodwebs, hydrologic processes, nutrient recycling, etc.
  - Disturbances (fire, insects, disease, windthrow) at natural frequencies and levels

Mixed-Conifer Frequent Fire - Forest Desired Condition

Mosaic of structural stages ranging from young to old trees.

Variable in appearance but generally uneven-aged and open

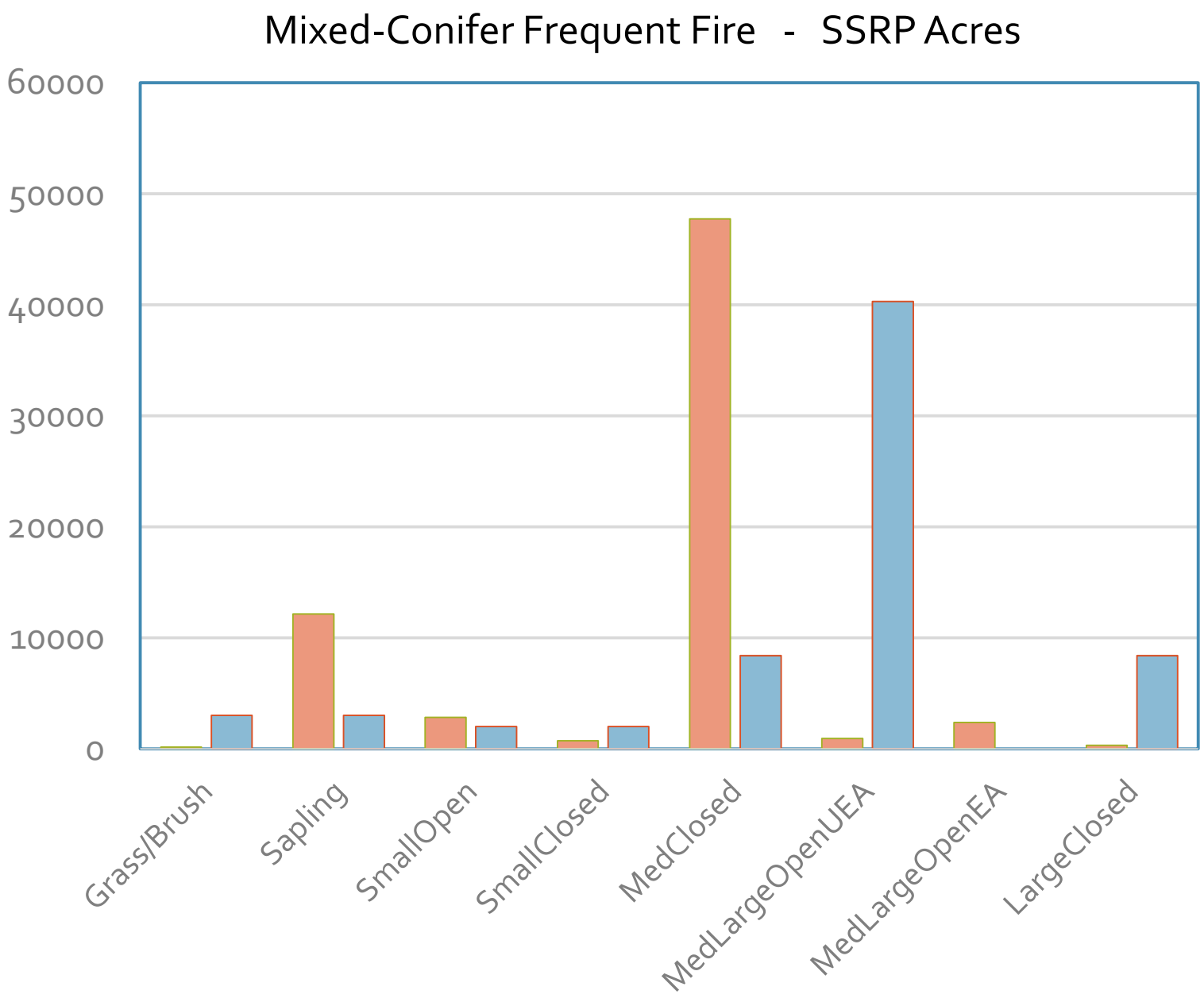
Arranged in small clumps and groups of trees with variably-sized openings similar to historic patterns

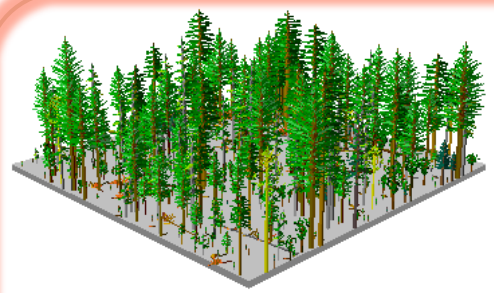
Size and number of trees in groups and number of groups are variable across the landscape

Small groups of aspen and oaks are present

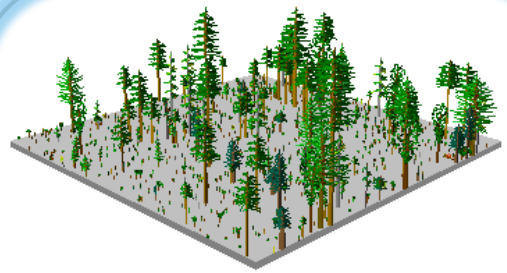
Denser tree conditions exist in some locations such as north facing slopes and canyon bottoms

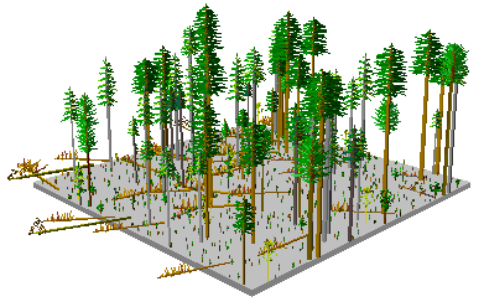
Old growth is well-distributed and interspaced with younger tree groups



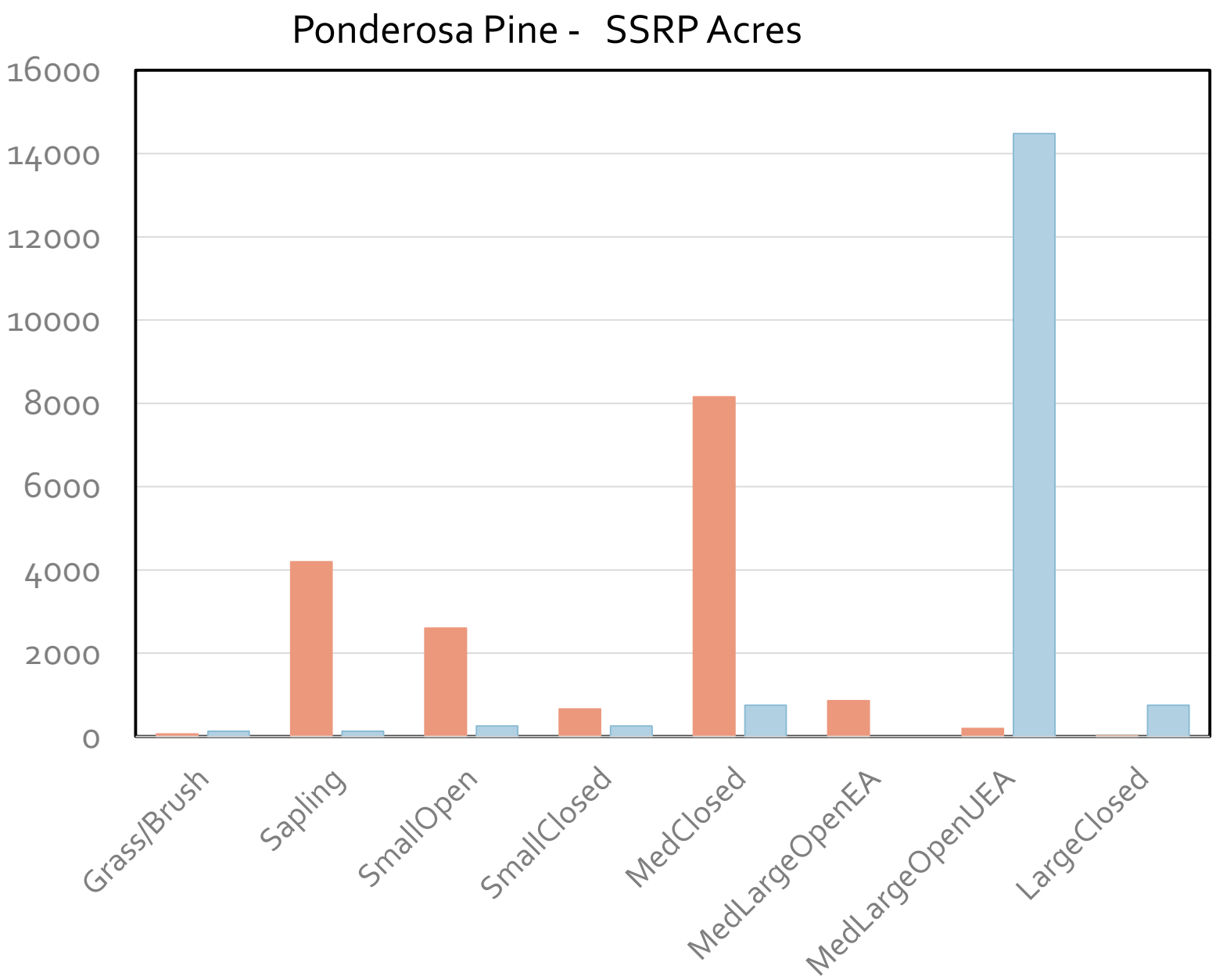


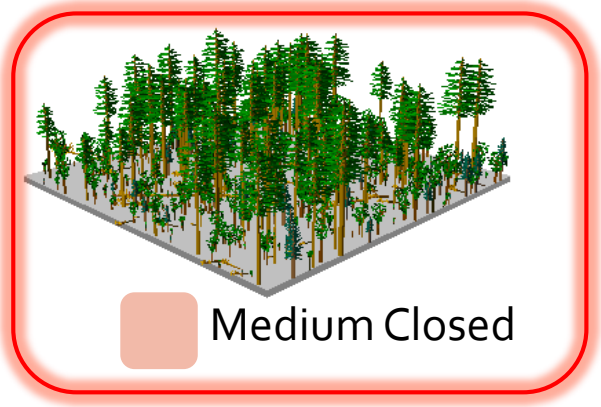
Current Condition
Medium Closed

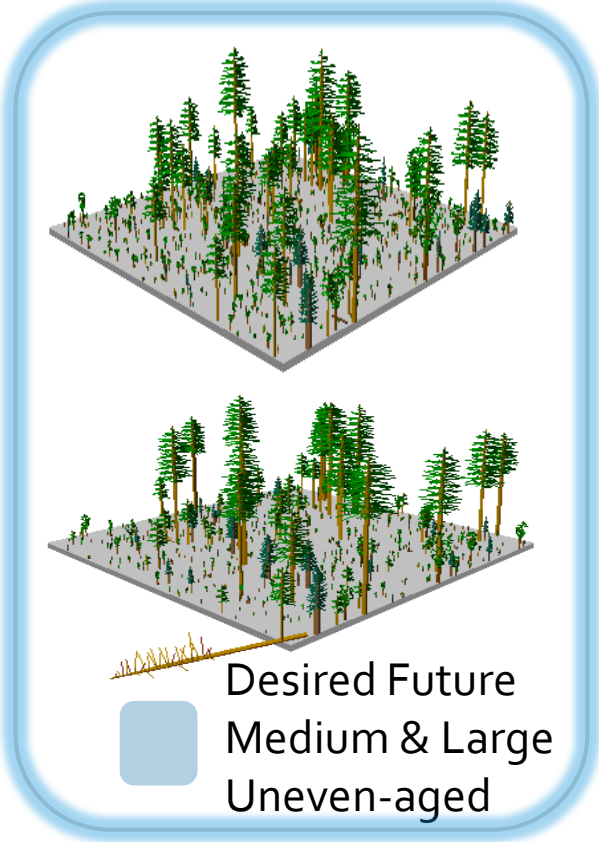




Desired Future
Medium & Large
Uneven-aged Open


Ponderosa Pine - SSRP Acres
16000
14000
12000
10000
8000
6000
4000
2000
0
Grass/Brush
Sapling
SmallOpen
SmallClosed
MedClosed
MedLargeOpenEA
MedLargeOpenUEA
LargeClosed


Medium Closed


Desired Future
Medium & Large
Uneven-aged

Prescription	Ecological Response Unit	Stand Description	Estimated Acres	Notes
Group Selection with thinning in matrix	Mixed Conifer Ponderosa Pine	Stands composed of medium to large trees with closed canopies and those large open states with high levels of DMT	30,000 to 40,000	Follows GTR-310 and desired condition descriptions
MSO Group Selection with thinning in matrix	Mixed Conifer Ponderosa Pine	Stand within selected MSO Protected Activity Centers and Recovery Nest Roost Habitat	5,000 to 10,000	Follows 2012 MSO Recovery Plan
Free Thin	Mixed Conifer Ponderosa Pine	Stands composed of medium to large trees with open to closed canopies that have a high level of dwarf mistletoe infection	1,000 to 4,000	Over half of the host trees have Dwarf Mistletoe Ratings over 2 Follow R3-FH-10-01
Pre-commercial Thinning	Mixed Conifer Ponderosa Pine	Stands composed of young trees	3,000 to 10,000	
Planting	Mixed Conifer Ponderosa Pine	Formerly forested areas without significant tree establishment, usually as a result of fire disturbance	2,000	Local seed collected for appropriate seed zones
Free Thin	Pinyon-Juniper	All stands except those identified for Group Select for wildlife management	5,000 to 12,000	
Total			46,000 to 78,000	

Ground Based Equipment

Cable Logging

Mechanical Treatment in Mixed Conifer

Prescribed Fire in Mixed Conifer

Ponderosa Pine after Natural Fire

Mastication Treatment in Pinon-Juniper Woodlands

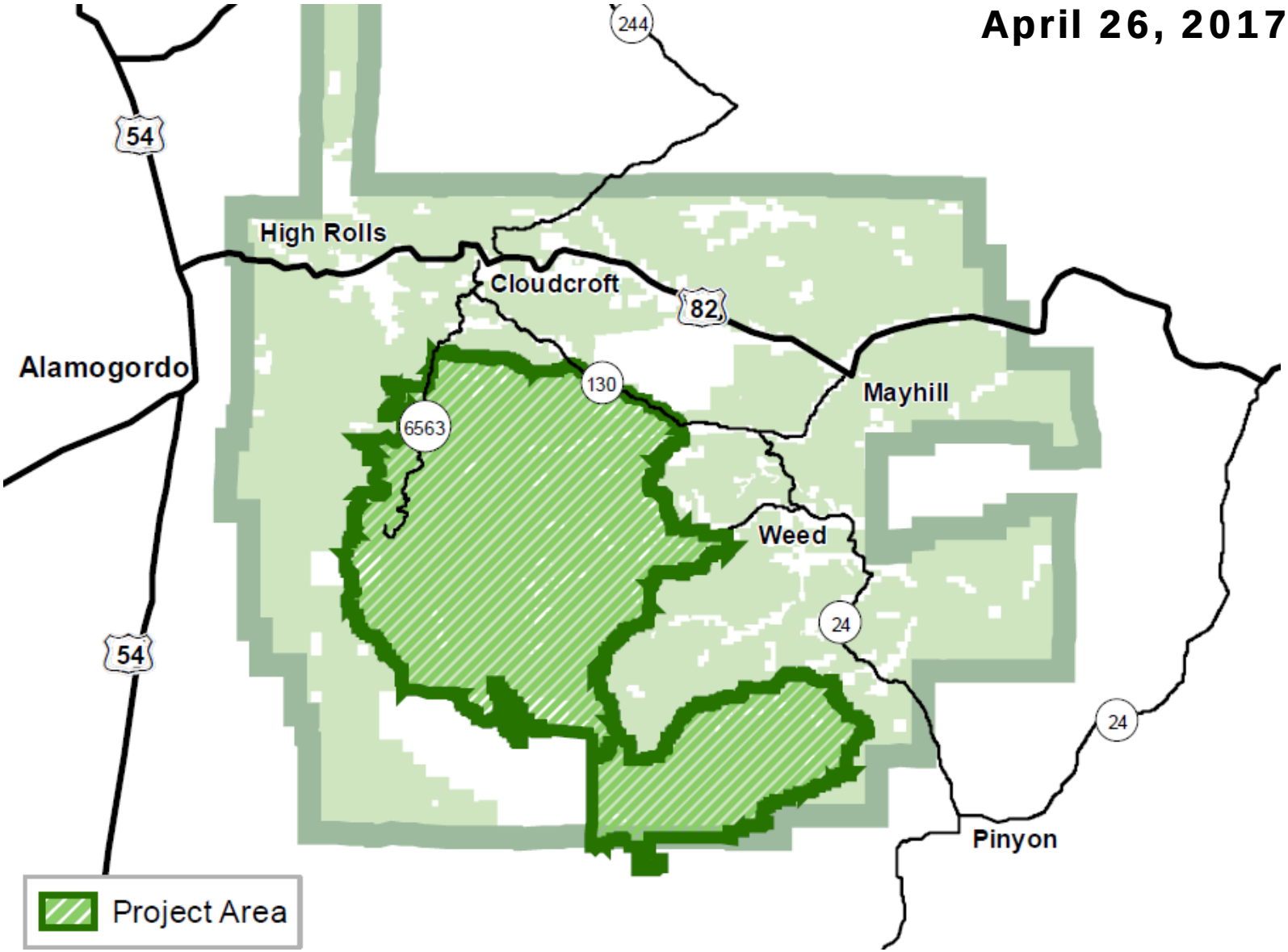
Mastication Treatment in Pinon-Juniper Grasslands

South Sacramento Restoration Project

Lincoln National Forest, Sacramento Ranger District

Public Meeting Handouts

April 26, 2017



Purpose and Need for the Project

The landscape within the Southern Sacramento Restoration Project planning area has been greatly altered from historic conditions. Overall forest health in the area has declined due to insects, disease, and other factors leading to high tree mortality and increased risk for high-severity wildland fire across the landscape. Wildlife habitat and watershed conditions have also declined as a result.

The purpose of the project is to restore overall forest health, watershed health, and wildlife habitat in the planning area. There is a need to increase forest resiliency to insects, disease, and climate change by shifting forest structure, composition, and diversity toward the natural range of conditions that were historically typical for mixed-conifer, ponderosa pine, pinyon-juniper, and other habitat types within the Sacramento Mountains in southeast New Mexico.

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- Improve soil condition and productivity where it is impaired
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Preliminary Project Proposal

In response to the purpose and need, the Forest Service proposes to conduct forest restoration activities on approximately 140,000 acres in the southern Sacramento Mountains (approximately 10 to 15 years to meet initial project objectives with additional maintenance treatments over the long term). Restoration activities would occur in all ecosystems in the area, including mixed-conifer, ponderosa pine, pinyon-juniper, riparian areas, meadows, and aspen habitat types. Restoration activities would focus on thinning and burning treatments to improve forest health and resiliency by reducing stand density, continuity, and homogeneity (sameness of forest structure and species composition), and increase heterogeneity (diverse forest structure and species composition) at a landscape scale, midscale and fine scale.

The South Sacramento Restoration Project includes areas of the Lincoln National Forest, Sacramento Ranger District that either have not been previously treated, or that were previously treated but require additional treatments to support forest restoration and other habitat management goals at all scales. To meet project needs, the Forest Service is proposing to conduct hand and mechanical thinning and chemical and prescribed fire treatments to achieve forest and wildlife habitat restoration objectives (see next two pages for details). Treatments would be aligned with old growth development and large tree retention objectives, which are ecosystem components that are generally lacking in the planning area.

The proposed action will be designed to provide a wide range of treatment options that could be used to achieve desired conditions at the fine scale, mid-scale, and landscape scale. The tools that may be used on any given site would be limited by the characteristics of the site (i.e. vegetation type, topography, presence of Federally-listed species, etc.). Resource protection measures will also be included to further refine treatment options that would be appropriate for the site. This approach provides flexibility and is known as the “toolbox” approach. This approach lets us account for imperfect information and adapt to changes in environmental conditions. This approach will allow the Forest Service to apply to most appropriate tool(s) to achieve desired results. A tool that might be appropriate in one area may not be the right tool to use somewhere else. Before carrying out treatments, project leaders would carefully look at the specific area to be treated and select the appropriate treatment tool(s) using an integrated resource process.

Proposed Activities

Integrated Prevention Strategy

Since human-caused wildfires, insect and disease infestations, and watershed issues do not recognize land ownership boundaries, any effective strategy to prevent these issues must include active coordination among land managers, private landowners, and the public. Cooperative relationships with landowners are a vital component of the integrated prevention strategy. The Forest Service would continue to work with state, federal, and county officials, neighboring landowners, and local organizations to coordinate prevention efforts. The Forest Service would also continue to seek partnership opportunities that would reduce the risk of human-caused wildfires, decrease the spread of insects and disease, and enhance watershed conditions. Educational efforts to increase public awareness of wildfire threats and the resource benefits of thinning prescribed fire, and similar vegetation reduction treatments would continue.

Hand Treatments

Hand treatments refer to the use hand tools such as chainsaws, brush cutters, loppers, and other methods that do not require the use of heavy machinery, vehicles, or similar equipment. The use of manual methods can be extremely time consuming and would most likely be used on slopes that are inaccessible by heavy equipment; in areas adjacent to open roads; or in areas where use of mechanical methods would cause significant, unavoidable harm to resources. Hand treatments may be used in any vegetation type to achieve site specific goals. Hand treatments will be used primarily for personal and commercial fuelwood harvesting but may also be used under circumstances where the use of other methods are not feasible.

Mechanical Treatments

Mechanical treatments refer to a variety of possible tools used to meet objectives. These include equipment and vehicles designed to cut and process trees and slash including on all terrain; yard material to landings; pile slash; chip or masticate woody material; and transport material. Merchantable wood products would be removed from sites where feasible, based on road access, slope, terrain, and economic factors. Wood utilization would include but not be limited to: biomass, fuelwood, post and pole, and sawtimber products. Non-merchantable wood and thinning slash may be removed or treated on site depending on site-specific objectives.

Both ground-based and cable-based yarding systems are proposed. Ground-based yarding systems utilize wheeled or tracked equipment to transport trees or logs to landings. Cable-yarding systems utilize stationary equipment with towers or booms and cables that suspend all or most of the tree or log off the ground and yard them through narrow corridors to landings. Generally, ground-based yarding systems are used on slope gradients of less than 40 percent but soil constraints, length of slope and other factors, determine the best yarding systems to utilize. Landings are typically 0.25 to 1 acre in size and located on level to gently sloped ground. Landings may be large enough to allow for some log processing (i.e. for units that would require whole tree skidding). Equipment such as bulldozers would be used to pile and/or rearrange activity fuels (slash) for burning or erosion control. Aerial harvesting techniques (i.e. helicopters) are not included in this proposal.

Chemical Treatments

Herbicides are another tool that may be used on a limited basis to treat juniper (Juniperus spp.) and oak (Quercus spp.) stumps and sprouts or to control resprouting in these species after being cut using hand or mechanical techniques. Only herbicides that have been registered with the U.S. Environmental Protection Agency for rangeland, forested land, or aquatic use would be considered. Herbicides would be used only as directed on the herbicide label.

Herbicides may be used to treat juniper and oak using targeted application methods. Broadcast and aerial application methods would not be used. The treatment of nonnative invasive plants with herbicides is not included in this proposal.

Prescribed Fire

Prescribed fire (also called controlled burning) is an important tool that can be used to reduce the risk of stand-replacing wildfires, increase public and firefighter safety, as well as meet a variety of natural resource management objectives. Prescribed fires would be either ignited by hand or by helicopters carrying specialized equipment that drop or dispense a fuel mixture to the surface to ignite the surface fuels. The method of ignition for each prescribed burn unit depends on personnel safety, current and predicted weather, topography, vegetation and the intensity of the fire needed to meet the resource objectives of the burn.

Prescribed fire types that may be used include pile, swamper, jackpot, and broadcast burning. Prescribed fire may be used as an initial site treatment, to remove slash created through other treatments, and to maintain treatments once a site has reached the desired condition.

Mexican Spotted Owl Habitat Treatments

Restoration activities, including hand or mechanical thinning and prescribed fire treatments are proposed in Mexican spotted owl protected activity centers and recovery habitats. The overall goal is to improve the quantity, quality, and distribution of owl habitat. Treatments would be designed in coordination with the U.S. Fish and Wildlife Service and align with the 2012 Mexican spotted owl recovery plan. All types of treatments described for this project may potentially be used in Mexican spotted owl habitat. Treatments are expected to improve habitat resiliency by reducing the risk of stand-replacing fires and reducing the occurrence and extent of insect and disease outbreaks within owl habitat. Treatments are also expected to promote the development of future habitat that will be suitable for nesting and roosting. The proposal will also include design criteria and protection measures designed to limit the impacts to this species.

Proposed Activities (continued)

Watershed Improvement Treatments

Watershed improvement treatments will be designed to meet the following principles:

- Stabilize active erosion and prevent further degradation;
- Restore water quantity, quality, and flow;
- Increase groundwater infiltration;
- Promote vegetation reestablishment to stabilize soils and restore soil function.

The focus of watershed restoration for this project would be on upland areas and headwaters. Headcuts and gullies would be stabilized by placing rock, woody debris, or similar materials along intermittent and ephemeral channels to stabilize channel beds and headcuts by slowing water velocity; capturing sediment; recruiting vegetation; and raising channel beds. Techniques for large headcuts may also include creating a series of small vertical drops and/or shallow pools rather than a single large drop to slow water velocity and trap sediment; or smoothing out headcuts and channels to create a more stable angle and prevent additional undercutting. Where headcutting and channeling issues are minor, rock may be placed above or below the unstable area to manage sheet flow. Such techniques would slow water velocity and prevent headcutting and channeling. Logs, whole trees, live woody vegetation, boulders, rock gabions, and similar materials could be anchored to or placed alongside of streambanks to redirect or reduce stream velocity to prevent undercutting and other erosion issues within perennial, intermittent, and ephemeral channels.

Headcutting and channeling can also occur in relatively flat areas as well as on slopes. In flatter areas where these erosion issues are occurring another option that could be used involves plugging the headcuts and channels with soil, sod, or similar materials to slow the velocity of the water and allow it to disperse across the ground. Channels can be plugged either at a single location within the channel or several in a series in the case of a longer gully.

Roads

Infrastructure improvements would be necessary to complete proposed treatments. Open system roads (maintenance level 2 through 5) would continue to be maintained as needed. Maintenance level 1 roads (closed roads) may be temporarily opened and maintained where needed for project access. Temporary roads and landings may also be constructed where needed. Road maintenance includes but is not limited to smoothing out road surfaces, improving drainage, and stabilizing stream crossings.

Open system roads would remain open to public access after completion of the project. Sections of open roads currently along canyon bottoms may be relocated as opportunities arise to mitigate resource damage. However, there would be no overall changes in access, number or mileage of system roads, or road maintenance level where relocation would occur. No new permanent roads would be constructed. Decisions about changing public access are not included in this project. Non-system routes may be rehabilitated, especially where significant resource damage such as soil erosion is occurring, or where road densities exceed recommended levels as described in the Lincoln National Forest travel analysis report.

Adaptive Management

The adaptive management strategy consists of three principle components: 1) the ability to select management tools or strategies best suited to site-specific and mid-scale management; 2) the ability to learn from treatment and resource monitoring so the most effective treatment methods are used to achieve management goals in new areas; and 3) the ability to incorporate new technologies or tools that may become available. All proposed hand or mechanical thinning and prescribed fire treatments may be used indefinitely after the initial treatments to maintain or further reduce tree densities and fuel loads if site-specific objectives cannot be fully achieved by the initial treatment. Sites would be rehabilitated as needed by replanting native woody vegetation or reseeding using native grasses and forbs if natural regeneration is not sufficient for site recovery. The project will include treatment effectiveness and resource monitoring that will show if site-specific goals are being met.

Connected Actions

There may be opportunities in the future to manage unplanned wildfires in the project area that would benefit resources and help meet goals outlined for this project. The choice to manage any unplanned wildfire to meet forest health, watershed, and resource objectives and not threaten human health and safety, private property, or infrastructure would be made on a case-by-case basis. Such choices would include careful consideration of fire location; current and forecasted weather conditions; fuel loads and moisture content; barriers that would help control fire spread; fire crew availability; values at risk; and other factors known to influence fire behavior and effects.

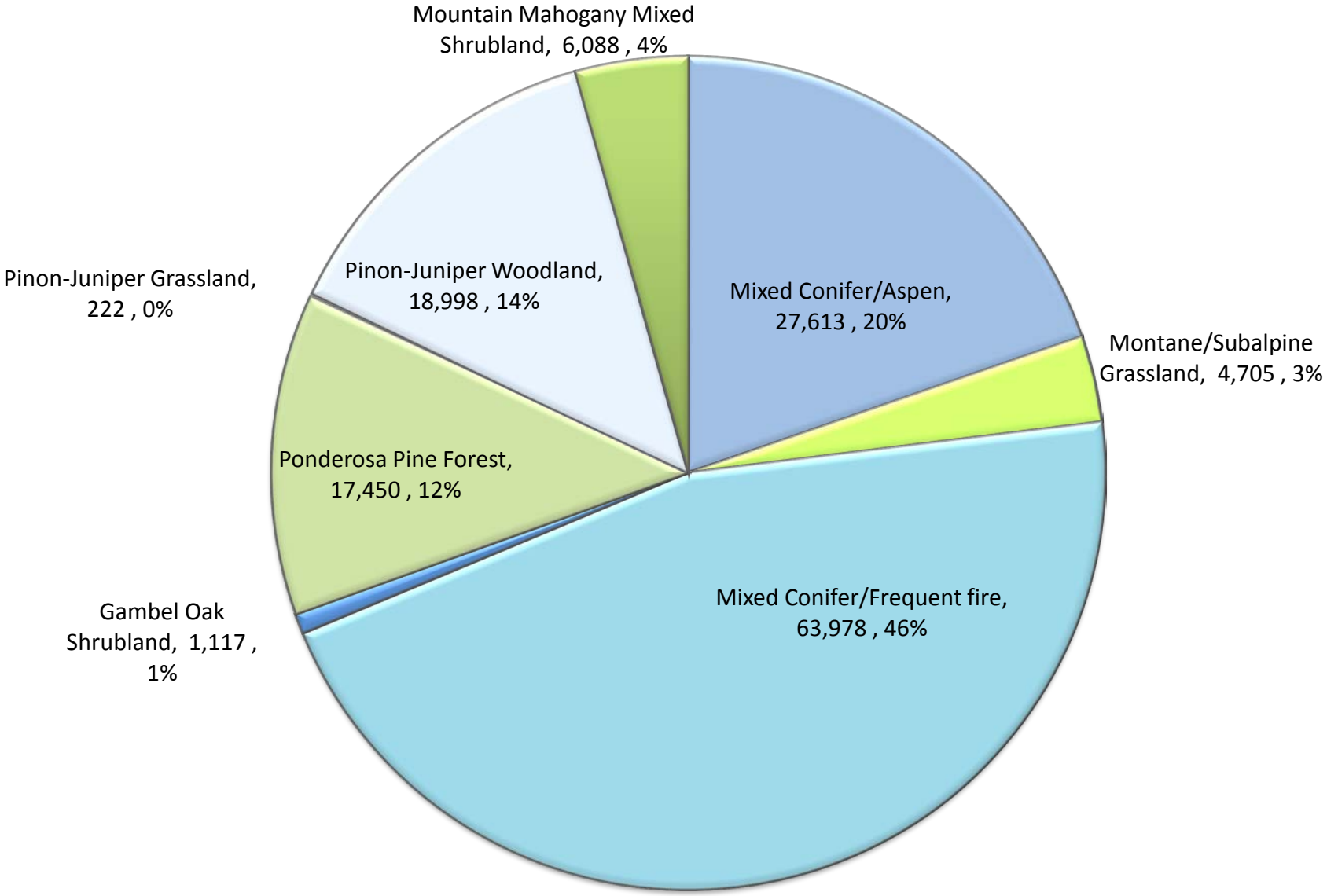
Forest Plan Amendment

This project will include a project-specific amendment to the Lincoln Forest Plan. The amendment will apply only to this project. All other ongoing or future projects would be subject to the existing Forest Plan standards and guidelines unless additional amendments are made for those other projects. The amendment is expected to include, but may not be limited to:

- Using harvest strategies on steep slopes where such activities are not currently authorized;
- Using wildfires for resource benefit;
- Using a broader range of treatment options within Mexican spotted owl habitat than is currently authorized; and
- Removing timing restrictions in some Mexican spotted owl protected activity centers so disturbance in occupied habitat can be limited to one year.

The proposed amendment may include changes to standards and guidelines pertaining to the following substantive requirements of the 2012 Planning Rule (36 CFR 219) regarding 1) sustainability; 2) diversity of plant and animal communities; 3) multiple uses; and 4) timber requirements based on the National Forest Management Act.

Ecological Response Units (in acres)



Project Planning Timeline

Phase 1 (Project Development)

Preliminary Purpose and Need	February 2017
Collaboration Workshop	March 15 to 16, 2017
Existing and Desired Conditions	March 2017
Draft Proposed Action	March to April 2017

Phase 2 (NEPA Analysis)

Public Scoping (30 days)	April 2017
General Public Meeting	April 26, 2017
Issues and Alternatives for Analysis	June 2017
Second Collaboration Meeting	June 2017
Draft EIS	October 2017
Third Collaboration Meeting	October 2017
Forest Service Review/Edit of draft EIS	November 2017

Phase 3 (Final Analysis and Decision)

Notice and Comment Period (45 days)	December 2017
Final EIS and Draft Record of Decision	March 2018
Objection Period (30 days)	April 2018
Objection Review Period (30 days)	May 2018
Sign Decision	June 2018