

# Appendix A. Proposed Action Treatments by Resource

**Table 1. Proposed actions, locations, treatments, and methods for vegetation (forest stands)**

Note: All acreages or units subject to change depending on site conditions.

Proposed Action	Location	Acres	Treatment	Description	Method
<b>Thinning and tree cutting</b>	Ponderosa pine	Approximately 30,000 acres	Uneven-aged thinning with openings.	Thin to establish groups of trees with interspaces between groups. Groups would have 4 to 20 trees. Up to 50 percent of a stand's area could be interspace. The maximum size of an opening would be 4 acres.	For all treatments in all forest types: use thinning method appropriate to the site: chainsaws, mechanized equipment, or whole-tree mastication. Prescribed fire may be used to thin small trees. Use wood removal technique appropriate to the site: firewood sale, harvest, prescribed burning.  Forest plan diameter limits apply to all thinning and tree cutting projects.
		Approximately 2,500 acres	Stand improvement	Thin to improve growth and vigor of remaining trees.	
	Mixed conifer	Approximately 8,500 acres	Uneven-aged thinning with openings in dry mixed conifer.	Similar to ponderosa pine. Favors retention of ponderosa pine and Douglas-fir.	
		Approximately 2,500 acres	Uneven-aged thinning with openings in wet mixed conifer.	Similar to dry mixed conifer treatment. Favors retention of more species and creation of smaller openings.	
		Approximately 500 acres	Stand improvement thinning in dry or wet mixed conifer.	Same as ponderosa pine, but leaves a higher tree density.	

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Proposed Action	Location	Acres	Treatment	Description	Method
		Approximately 2,800 acres	Thin in Mexican spotted owl protected activity centers, threshold habitat, and slopes over 40 percent.	Thin trees to reduce hazardous fuels.	
	Quaking aspen	Approximately 1,800 acres total for both aspen treatments	Remove encroaching conifers in aspen stands and clones.	Cut conifers to prolong aspen dominance.	
			Regenerate decadent aspen clones.	Cut, masticate, and or burn to promote aspen regeneration.	
	Piñon-juniper	At least 1,000 acres (up to 12,000 acres)	Thin trees	Cut, grind, or masticate trees.	
<b>Treat activity fuels</b>	All stands where tree cutting occurs	All acres treated	Slash treatment	Reduce hazardous fuel accumulation of small trees, treetops, and branches created by thinning and harvesting.	<p>Hand or machine pile, jackpot, broadcast burning; aerial or manual ignition.</p> <p>Lop and scatter: mechanical-chainsaw</p> <p>Firewood sales</p> <p>Leave on ground for resource benefits</p> <p>Method will vary based on site-specific conditions and other considerations: endangered species, weather, land ownership, watershed &amp; community protection, weather, land ownership, watershed &amp; community protection.</p>

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<b>Proposed Action</b>	<b>Location</b>	<b>Acres</b>	<b>Treatment</b>	<b>Description</b>	<b>Method</b>
<b>Maintain open forest conditions or reintroduce fire</b>	All forest types except piñon-juniper	Approximately 71,000 acres	Prescribed fire	Broadcast burning- initial and maintenance treatments	Aerial or manual ignition

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**Table 2. Proposed actions, locations, treatments, and methods for riparian treatments**

Note: All acreages or units subject to change depending on site conditions.

<b>Proposed Action</b>	<b>Location</b>	<b>Acres</b>	<b>Treatment</b>	<b>Method</b>
Enhance native vegetation	Riparian areas throughout area. Specific sites to be determined after field visits.	Approximately 5,700 acres for all riparian treatments Acreage subject to change depending on site conditions.	Plant clippings, cuttings, and saplings of locally obtained native plants.	Manual and mechanical methods
Restore degraded campsites and trails	Riparian areas throughout area. Specific sites to be determined after field visits.		Install barriers to limit or prevent human access Build exclosures Obliterate trails	Manual and mechanical methods
Stabilize streambanks and stream-road crossings	Rio Cebolla, Rio Guadalupe, San Antonio Creek, East Fork Jemez River, Jemez River	Number or acres to be determined after field visits. Acreage subject to change depending on site conditions.	Install exclosures	Manual or mechanical methods for all treatments
			Place large woody debris in streams and along streambanks.	
			Place large woody debris on floodplain; cut or girdle trees as source of wood.	
			Remove, obliterate, or improve road crossings at streams.	
			Revegetate denuded areas	Manual or mechanical methods to install root mats or vegetation plugs

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<b>Proposed Action</b>	<b>Location</b>	<b>Acres</b>	<b>Treatment</b>	<b>Method</b>
Treat headcuts and arroyos in riparian meadows	Riparian meadows throughout area. Specific sites to be determined after field visits.	Number or acreage to be determined after field visits.	Build erosion control structures: one-rock dams, rock bowls, and other headcut control methods.	Manual and mechanical methods
			Place large woody debris and coarse woody debris in arroyos and headcuts.	Manual or mechanical methods Heavy machinery
Thin toe-slopes and create large woody debris	Toe slopes of steep canyon landforms on slopes less than 4 percent in Upper Stable Mesa Canyon, Upper Virgin Canyon, Upper Canon, Cebollita and Upper Alamo Canyon. Toe slopes are the gently inclined surfaces at the base of a steep hill slope.	Approximately 1,100 acres	Thin trees on toe slopes greater than 16" diameter to create large woody debris.	Manual or mechanical methods. Forest plan diameter limits apply.
			Place large woody debris in drainages and riparian areas.	Manual or mechanical methods Heavy machinery
			Lop and scatter slash or pile and burn.	Manual and mechanical methods Manual ignition
Protect large meadow habitats	Riparian areas	Number or acreage to be determined after field visits.	Improve road drainage. Install barriers or exclosures to limit human and vehicle access.	Manual and mechanical methods

**Table 3. Proposed actions, locations, treatments, and methods for terrestrial and aquatic wildlife habitat improvement**

Note: All acreages or units subject to change depending on site conditions

<b>Proposed Action</b>	<b>Location</b>	<b>Acres or Number</b>	<b>Treatment</b>	<b>Method</b>
Increase water sources for wildlife	Throughout area. Specific sites to be determined after field visits.	Approximately 175 acres. Acreage subject to change depending on site conditions.	Thin trees above certain springs, seeps, and headwaters.	Manual and mechanical methods
			Construct earthen dams or trick tanks and fencing.	Bulldozer and backhoe to dig impoundment
Screen wildlife water sources from disturbance	At artificial water sources near roads or in open areas throughout the project area.	Number to be determined after field visits	Plant trees and shrubs around tanks and drinkers to screen them from view of roads. Fence newly planted vegetation.	Manual and mechanical methods
Create snags	Throughout project area in stands lacking large diameter (greater than 16 inches) snags or that do not meet forest plan standards.	Not applicable	Girdle trees or use other means	Manual and mechanical methods
Reestablish historic upland meadows	Throughout area. Specific sites to be determined after field visits. Orthophotos, soils, landforms, old trees, and other evidence will be used to determine suitable sites.	Approximately 2,500 acres. Acreage subject to change depending on site conditions.	Remove encroaching trees by cutting, girdling, burning, or other methods. Retain old, large (>16") trees.	Manual and mechanical methods: chainsaw, chipper, masticator, pile burning, lop and scatter, broadcast burning
Floodplain meadow restoration	Upper San Antonio Creek, Upper Paliza Canyon, Vallecitos Creek, and canyon wall drainages in Rio Cebolla	Approximately 3,000 acres Acreage subject to change depending on site conditions.	Cut trees less than 24" diameter along floodplain margins.	Mechanical means

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Stabilize streambanks and stream crossings, increase streamside vegetation, promote habitat for New Mexico meadow jumping mouse and other wildlife	Riparian corridors throughout the area	Number or acres to be determined after field visits.	Construct fences or enclosures to limit livestock and elk access.	Mechanical and/or hand placement of fencing and enclosure materials.
			Pile logs and trees in a tangled heap (jackstraw) along streambank.	Manual and mechanical methods to transport and place logs
			Plant riparian shrubs and transplant sedge.	Manual and mechanical methods
Remove Kentucky bluegrass and reestablish native bunchgrasses	Throughout project area on slopes less than 25 percent	Acres to be determined after field visits.	Plow, disk, or harrow populations of Kentucky bluegrass.	Machinery
			Transplant vegetation plugs or seed treated areas with native grasses and herbaceous plants.	Manual and mechanical methods
Restore instream habitat	Rio Cebolla, Rio Guadalupe, San Antonio Creek, East Fork Jemez River, Jemez River. Exact sites to be determined after field surveys.	Number of structures or acres to be determined after field visits..	Stabilize streambanks and streambeds- enclosures, boulders, large woody debris.	Use machinery to transport wood, boulders, or other material to treatment areas
			Remove or repair failing fish habitat structures.	Use machinery to transport materials to treatment areas

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Proposed Action	Location	Acres or Number	Treatment	Method
			Create pools in streams and promote pool development.	Use machinery to transport and place large woody debris, root wads, vane structures, or boulders.
			Construct stream channels	Heavy machinery
			Replace culverts and other crossing structures. Provide for fish passage at all road and trail crossings.	Use machinery to transport wood, boulders, or other material to treatment areas.

**Table 4. Proposed actions, locations, treatments, and methods for cultural resources**

Note: All acreages or units subject to change depending on site conditions.

<b>Proposed Action</b>	<b>Location</b>	<b>Number</b>	<b>Treatment</b>	<b>Method</b>
Reduce fuels on archaeological sites	Throughout the project area	Up to 3,000 sites	Remove heavy and light fuels from archaeological sites.	Manual or mechanical means Prescribed burning
Control erosion on archaeological sites			Contour felling of trees, lop and scatter slash, seed with grasses, mulch, place wood in erosion cuts and rills.	Manual and mechanical means
Fuel treatments on traditional cultural properties and sacred sites			Reduce fuels. Treatments to be developed in consultation with traditional communities.	Manual or mechanical means Thinning Prescribed burning

**Table 5. Proposed actions, locations, treatments, and methods for roads**

Note: All acreages or units subject to change depending on site conditions.

Proposed Action	Location	Miles or Number	Treatment	Method
Reopen closed roads and then close them when project is completed	Selected roads throughout the project area	To be determined	Remove barriers and perform needed maintenance as described below. Close roads after projects are complete.	Bulldozers and road graders
Reconstruct and perform maintenance on existing system and closed roads		To be determined	Smoothing out road surfaces, improving water drainage features and patterns, culvert installation and replacement, placing gravel on road surface, stabilizing stream crossings.	Bulldozers, graders and other heavy machinery
Decommission roads (stabilize and restore unneeded roads to a more natural state)		At least 150 miles	Block entrances, build waterbars, stabilize slopes, restore vegetation, eliminate roadbed, other actions as needed.	Heavy machinery
Construct temporary roads		To be determined	Construct some temporary roads, if needed, to implement treatments. Decommission after projects are complete.	Heavy machinery
Develop new or expand existing gravel pits		To be determined	Use new and existing gravel pits for material needed for maintenance.	Bulldozers and road graders would enlarge the existing pits.