



## **Background**

The May Valley area is an important area for non-motorized trail recreation users on the San Jacinto Ranger District. May Valley contains approximately 50 miles of both unauthorized non-system and authorized National Forest System (forest system) roads and trails<sup>1</sup> that are popular with mountain bikers, equestrians, and hikers. Most hikers enter the area from May Valley Road (5S21) and Hurkey Creek County Park, most equestrians from McCall County Park, and most mountain bikers from Idyllwild via May Valley Road and Hurkey Creek County Park. Many of the non-system trails are well established and some of the trails have been used for mountain bike events under special use permit for the past 12 years. Due to limited federal funding, to date, the use of these non-system roads and trails has not been adequately managed and the network has not been adequately maintained.

The San Bernardino National Forest Land Management Plan (Forest Plan; USFS 2006) “restricts non-motorized vehicle travel to National Forest System roads and trails” (Part 3, Standard 35, p. 9). This has created a great deal of concern within the local and national mountain bike communities. The International Mountain Biking Association (IMBA) appealed the Forest Plan decision based on this concern. A settlement agreement was reached in which the Forest would resolve unclassified (unauthorized) non-system routes over time. This agreement stated, when necessary, some of these routes would be closed through Forest orders. Due to resource (water quality) issues, several routes within May Valley have been recently closed.

Fall 2012, a travel analysis process (TAP) was conducted for the May Valley planning area. This process was designed to aid in management decisions regarding operation and management of the National Forest Transportation Systems, including non-motorized use of roads and trails. This process examined key issues related to the portion of the forest transportation system under analysis, as well as management options and priorities. The scope of this analysis was limited to: consideration of the non-motorized, unauthorized trail system in the analysis area; the areas associated with resource issues, benefits, problems, risks, and opportunities; and, recreation user demand that is expected.

Input was obtained from Forest resource specialists (i.e., biology, botany, engineering, hydrology, heritage, recreation, lands and special uses) and affected user and special interest groups (i.e., hikers, mountain bikers, equestrians, County Parks). The travel analysis process provided the basis for developing the proposed action for the May Valley Non-Motorized Trails Project.

### **Forest Land Management Direction**

Along with standard 35 noted above, additional Forest Plan direction related to the project include:

The roads and trails to be evaluated are located in the Garner Valley and Idyllwild Places noted in the Forest Plan. The project supports National Strategic Plan Goal 3 – Provide Recreation Opportunities.

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<sup>1</sup> Most of the existing non-system trails are user created and are not authorized; the authorized National Forest System roads and trails are roads and trails the Forest Service has determined to be necessary for the protection, administration, and utilization of the National Forest System (36 CFR 212.1)

Our project is expected to meet the following Management Area direction identified in the Forest Plan:

Idyllwild Place Program Emphasis: “Opportunities for a variety of new non-motorized trails (especially short, easy-to-moderate difficulty, day loop trails)...will be explored.” (Forest Plan, Part 2, p. 71).

Garner Valley Place Program Emphasis: “Developed recreation sites will be improved and new recreation opportunities will be explored.” (Forest Plan, Part 2, p. 67).

Program Strategies and Tactics: Trans 1 – Transportation management, Trails – “Develop an interconnected, shared-use trail network and support facilities that complement local, regional, and national trails and open space, and that also enhance day-use opportunities and access for the general public.” (Forest Plan, Part 2, p. 149).

The northern portion of the project is zoned as Back Country. The southeastern portion of the project area is zoned as Back Country, Motorized Use Restricted. Both zones are suitable for mountain bikes on forest system roads and trails. The management intent for both areas is to retain the natural character of the zone and limit the level and type of development. The Scenic Integrity Objective for the project area is high.

## **Purpose of and Need for Action**

Our project is in response to this Forest Plan settlement agreement with IMBA, the high interest in the recreation use of the unauthorized roads and trails in the May Valley area, the recommendations that came from the travel analysis process, and direction found in the Forest Plan.

The needs for this project are to:

- Evaluate the existing trails in the May Valley area, determine the minimum trail system for the area, and implement and maintain the new trail system with the assistance of cooperators to Forest Service standards.
- Develop additional trailheads to provide staging for this trail system.
- Have any modifications to the existing trail system located entirely on National Forest System lands.

The needs are for the purposes of providing:

- An opportunity to resolve the unauthorized roads and trails in the project area by:
  - Adding the trails to the National Forest System, or
  - Rerouting or closing them due to resource issues, public safety, inability to meet Forest Service standards (e.g., grades are excessive), or are considered unnecessary (e.g., parallels another trail).
- Recreation opportunities for a variety of non-motorized trail users and skill levels.
- Connecting trails between Riverside County Parks.

In addition, important considerations in the project design are that the trail system will:

- Review the needs of permittees and adjacent communities that had been expressed earlier and, when possible, accommodate.
- Be compatible with previous use determinations of National Forest System roads and trails.

## Proposed Action

The proposed action was developed based on the purposes and needs for action and addresses the questions who, what, where and when. It involves adding non-motorized trail improvements to the National Forest System (NFS) in the May Valley area, maintaining and managing the improvements, and restoring unauthorized trails that are proposed for closure and abolishment (eliminate). The proposed action is dependent on partnerships for implementation (i.e., construction, maintenance, management).

### **Actions and Activities Proposed**

This section of the document describes the trail system, including: trail classifications, typical maintenance activities; new trail construction; stream crossings; trail signs; gates; trailheads/staging areas; and, non-system trail and road closures/restoration.

### **Trail System**

Table 1 summarizes distances, existing status and proposed actions for the trails (and roads) that are involved in the analysis. Figure 2 is a map<sup>2</sup> representing these roads and trails along with other proposed and existing improvements related to the project. Of the trails that exist within the project area, the proposed trail system would include the following:

- approximately 3.7 miles of existing authorized forest system trails;
- approximately 23.6 miles of unauthorized non-system trails; and,
- approximately 2.6 miles of reroutes and new construction.

The revised non-motorized trail system in May Valley would include approximately:

- 10 miles of class 2 trails all but 0.28 miles are presently unauthorized non-system trails.
- 20 miles of class 3 trails of which approximately 14 miles are presently unauthorized non-system trails.

Class 2 trails are typically used by mountain bikers and hikers. The designed use for these trails would be for mountain bikes. Class 3 trails are typically wider and are used by pack and saddle stock, mountain bikers and hikers. The designed use for these trails would be for pack and saddle stock.

**Trail Class 2:** We would complete a number of maintenance/construction items to bring these trails to standard (note maximum design parameters in table 1). The width of these trails would be 12 to 24-inch single track on native tread. Currently 90 percent of these trails are at this standard. The remaining 10 percent would need to be cleared and possibly leveled to width and annually maintained to fit within these parameters. Water drainage features, such as water bars, check dams and rolling dips would be installed, at a minimum, in areas where the tread surface has been eroded. Non-treated, six to eight-inch round posts (either purchased or found native in the project area) or native rock would be used. Distances between water drainage features would be built based on soil type and grade for the water drainage features. Table 2 provides guidance on the distance between water drainage features that would be constructed.

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<sup>2</sup> A larger sized map of the proposed action can be found on the forest website: <http://www.fs.fed.us/nepa/fs-usda-pop.php/?project=15568> (print to fit page up to 17"x22").

**Table 1. Summary table of proposed actions and trail specifications.**

<b>Trail/Road Map #</b>	<b>Trail Name</b>	<b>Length (approx. miles)</b>	<b>Existing Status</b>	<b>Action Proposed</b>
1	Sutton's Run	1.38	User Created	Adopt
2	Connector 1	0.47	User Created	Eliminate
3	Upper Loop	2	User Created	Eliminate
4 - 3E08.3	Southridge Trail	3	NFS Trail	NA
5	Connector 2	0.54	User Created	Adopt
6	Granite Spring	0.29	User Created	Eliminate
7	Sunset	0.66	User Created	Adopt
8	Satan's Gut	1	User Created	Eliminate
9	Chalk Hill	0.62	User Created	Eliminate
10	Snakeskin	1.67	User Created	Adopt
11	Log Pile	1	User Created	Eliminate
12	Connector 3	0.29	User Created	Adopt
13-3E08.4	Southridge Trail	3.0	NFS Trail	NA
14	Subway	0.48	User Created	Adopt
15	Connector 4	0.4	User Created	Adopt
16	Cahuilla Cutoff	1.07	User Created	Adopt
17	Shaman's	0.27	User Created	Eliminate
18	Bonita Vista	1.33	User Created	Adopt
19	Tres Hombres Uno	0.75	User Created	Eliminate
20	Tres Hombres Dos	0.58	User Created	Adopt
21	Tres Hombres Tres	0.75	User Created	Eliminate
22	The Spine	0.66	User Created	Eliminate
23a	Lazy Bones	0.69	User Created	Adopt
24	Coffee Pot	0.47	User Created	Adopt
25	Grindstone	1.52	User Created	Adopt
26	Secret Trail	0.85	User Created	Eliminate
27	Missing Link	1.85	User Created	Adopt
28	Exfoliator	0.62	User Created	Eliminate
29	Meadow Trail	0.51	User Created	Eliminate

<b>Trail/Road Map #</b>	<b>Trail Name</b>	<b>Length (approx. miles)</b>	<b>Existing Status</b>	<b>Action Proposed</b>
30	Mirkwood	1.48	User Created	Adopt
31	Coldwater Creek	1.15	User Created	Adopt
32	Johnson Meadow	1.31	User Created	Adopt
33	Recovery Trail	0.86	User Created	Adopt
34	Keen Camp Climb	1.54	User Created	Adopt
35	Rage through Sage	0.84	User Created	Adopt
36	Tunnel of Love	0.82	User Created	Adopt
37	Hurkey Park conn.	0.28	New const.	Adopt
38	Coyote Leg	0.56	New Constr.	Adopt
39	36-37 connector		New const.	Adopt
40	Hwy 243 to 5S03	0.39	User Created	NA
42	Exfoliator a.d.	1.64	New Constr.	Adopt
43	Apple Cyn	0.23	User Created	Adopt
A-5S11	Southridge Road	0.85	NFS Road	NA
B-5S21	May Valley Road	2.44	NFS Road	NA
C-5S05	Bonita Vista Road	3.52	NFS Road	NA
D-5S01	Keenwild Station	0.83	NFS Road	NA
E-5S02	Coldwater Canyon	1.4	NFS Road	NA
F-U10AW01	Johnson Meadow	0.70	NFS Road	Eliminate
H-U10PD21	Coyote Run	1.27	NFS Road	NA
I	Demoralizer	0.46	User Created	Adopt
5S03	Keenwild Spring	1.38	NFS Road	NA

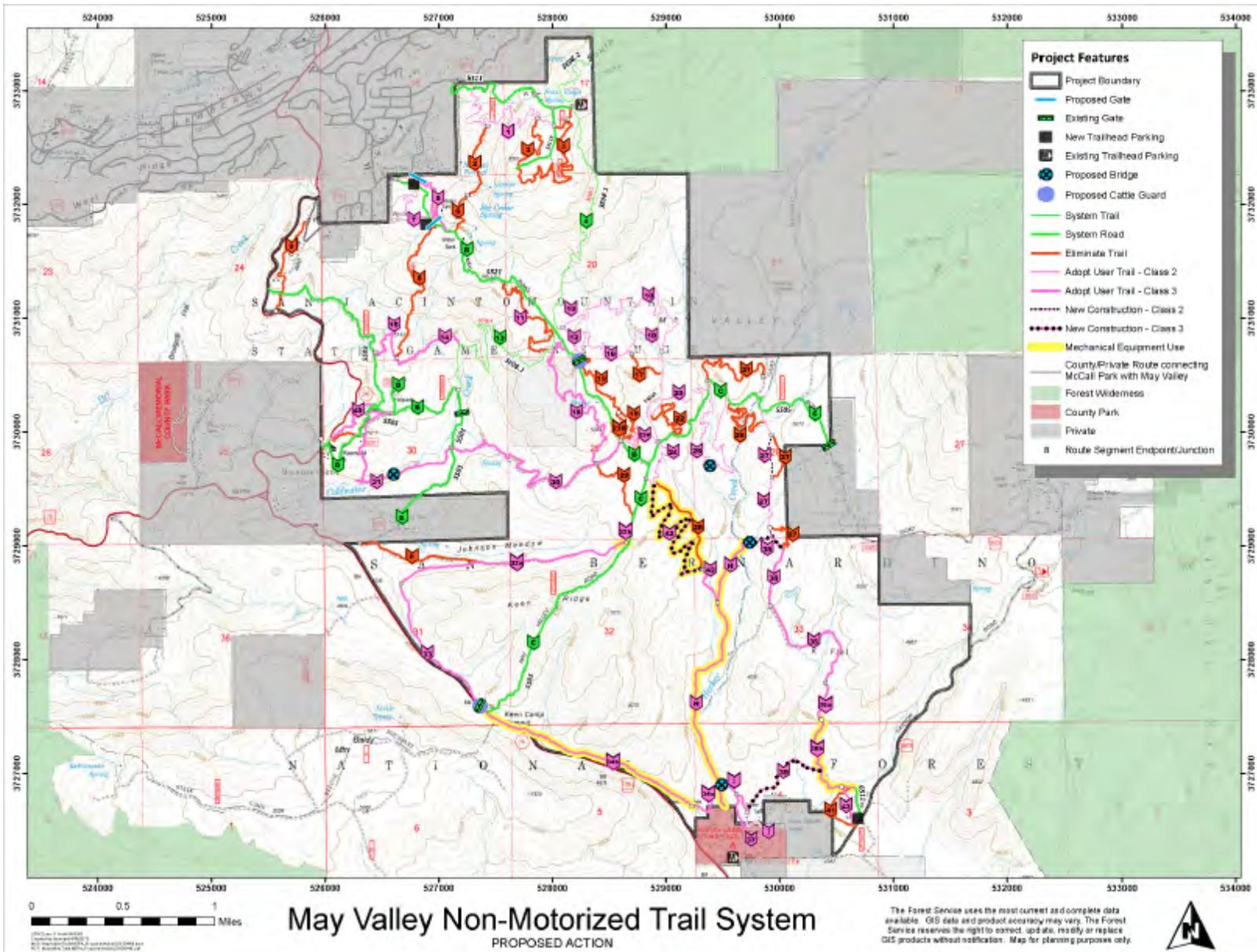


Figure 2. Proposed Action Map

The drainage run-out areas for water bars would be approximately six feet in length. These would be constructed at a 45-degree angle across the tread to drain water. This is where vegetation, duff and debris would be removed. Check dams would be installed to slow water down on the tread. The six to eight-inch round posts would be installed across the tread by digging out both sides of the tread six to eight inches on each side and then placed into the ground. The last step would be pinning down both sides with larger rocks and backfilling the dams with crushed gravel. The rock for the crush is typically hammered on the tread to prevent damage to surrounding vegetation. Drainage dips and grade reversals would also be used where the trail grade is less than 10 percent and in accordance with table 2 below. Drainage dips (also known as rolling dips) are shallow dips that are dug at an angle across tread at a depth of three to eight inches.

Trail maintenance could occur year-round and would be ongoing. Tread work includes removing rock, sloughs and berms, maintaining the water drainage features such as cleaning out the water bars and filling in ruts, where needed. Additionally, removing vegetation is important to maintain a safe sight distance on trails. The clearing and brushing for class 2 trails would be generally six to eight feet in height and 36 to 48 inches in width. Turning radius on switchbacks would be three to six feet. Tree limbs would be cut cleanly within one inch of the branch collar and would not exceed 50 percent of the tree height or the tree's crown. All brush and tree stumps would be flush cut parallel to the ground with a height not to exceed four inches tall as measured from the ground on the uphill side or above an obstacle. All recently cut conifer stumps would have Sporangin® applied by a certified pesticide applicator.

**Table 2. General guidance on frequency of water drainage features based on grade of trail (percent) and soil type (FSH 2309.18.3)**

Soil Type	Distance between Water Drainage Features based on Grade of Trail					
	2%	4%	6%	8%	10%	12%
Loam	350'	150'	100'	75'	50'	*
Clay-Sand	500'	350'	200'	150'	100'	50'
Clay or Clay-Gravel	-	500'	300'	200'	150'	100'
Gravel (rounded rock)	-	750'	500'	350'	250'	150'
Shale or Angular Rock	-	800'	600'	400'	300'	250'
Sand	Varies with local amounts of fine clay and silt. Drainage diversions generally are not required in "pure" sand because of the fast rate of water absorption. For sand with appreciable amounts of fine binder material, use "clay-sand" distances as shown above.					

\* Grades not recommended in this material.  
 - Generally no water drainage feature required for soil stability.

**Trail Class 3:** The width of these trails would be 18 to 48 inches on native tread. Currently 95 percent of these trails are within this width; the remaining five percent would need to be cleared and possibly leveled to width and annually maintained to meet this standard. There would be a greater effort and higher priority in repairing and bringing these trails to standard because they receive much heavier use by all trail users than the class 2 trails. Installation of water drainage features and maintenance of water drainage features and trails would be the same actions and activities as the class 2 trails noted above.

The clearing and brushing for class 3 trails would be generally 10 feet in height and 72 inches in width. Turning radius on switchbacks would be four to five feet.

A 48-inch trail dozer (such as a Sweco<sup>®</sup>) is proposed for use on:

- Keen Camp Climb (trail route 34).
- 100 yards off May Valley Road towards Johnson Meadow (trail route 32).
- 50 feet of reroute on Rage Through The Sage (trail route 35).
- New construction and decommission of Exfoliator (trail routes 28, 42).

### ***New Trail Construction***

Three areas (trail routes 38, 39, and 42) are proposed for new trail construction totaling 2.6 miles of class 3 trail. Most trail construction activities would be performed by hand crews using traditional trail tools (such as shovels, mattocks, chainsaws). As noted above, we are proposing construction (and maintenance) for the Exfoliator a.d. (trail route 42) using a 48-inch wide trail dozer (e.g., Sweco<sup>®</sup>).

On trails in steeper slopes, cut and fill techniques would be utilized. Switchback designs would incorporate armoring both inside and outside tread (utilizing native materials to maintain the integrity of the trail surface). Cross slopes (water drainage feature) would be constructed and maintained at three to eight percent slopes. The focus of trail construction for this project would be to use native materials, though man-made materials, such as rebar or dog bones (concrete retention devices) for retention, may be brought in.

Figure 2 shows the location for the proposed newly constructed trails. Exfoliator Trail (trail route 42) is displayed in a general corridor where switchbacks are proposed but the exact location has not been ground-truthed and mapped.

### ***Stream Crossings***

Twenty-seven stream crossings of various widths and depths are proposed. Four of these crossings may require bridge structures or other similar structure and the remaining 23 crossings would require either a form of hardening, shallow stream crossing or small puncheon boardwalk. The following methods of stream crossings are options for the 23 areas that were preliminarily identified:

1. Natural Stream crossing with hardened approaches: On stream crossing approaches that are sloped and can retain moisture, hardening the approach would generally consist of removing approximately six inches of soil in the trail corridor and either laying down a geotextile material and then filling and compacting a crush material (smaller stones with a lot of fines that compacts to a solid, resistant surface) or filling with softball to baseball-sized rock. To channel use and define the approach, small boulders or logs could be used as trail borders.
2. Shallow stream ford crossing: This improvement would consist of adding rock (approximately softball-sized) where the trail would cross the channel. Larger boulders may be added to the downstream side of this type of crossing to keep the rock in place and define the crossing. This type of crossing is usually used in conjunction with hardened approaches described above.
3. Puncheon boardwalk: Puncheon is a wooden walkway used to cross bogs, to bridge boulder fields, or to simply cross small streams. It consists of a deck or flooring made of sawn, treated timber or native logs placed on stringers to elevate the trail

across wet areas that are not easy to drain. A puncheon that is slightly elevated is termed a surface puncheon. A puncheon placed flush with the wetland surface is known as a subsurface puncheon. Surface puncheons are what is being proposed.

The four other stream crossings would use methods that would take more ground disturbance. These four trail crossings are depicted on the map in figure 2. The options could include:

1. Culverts (single or multiple): More incised channels lend themselves better to a single, or double culvert. Wider channels lend themselves better to several, smaller culverts. Culverts would be installed according to guidelines from the project Hydrologist and Engineer. Culverts would be overtopped with soil or rock. The stream channel edges and culvert(s) entrance and exit would likely be riprapped with rock to funnel the water course and protect the stream banks and culvert(s). The culvert(s) would be long enough for the trail to cross over the top of it. Due to the cost and recurring maintenance needs of culverts, the use of culverts would be minimized.
2. Bridges: Due to cost and installation logistics, the use of bridges would be minimized. Where needed, they would be wood or steel construction and span the drainage. Abutments constructed of logs, concrete or rock gabions would support both ends. Depending on the substrate and bridge size, abutments would be dug three to six feet deep.

The decision on the exact type of crossing would be made during implementation due to various constraints (e.g., budget), but would be one of the options noted above. All trail crossing installations would comply with Forest Service Manual chapter 2350 – Trail, River, and Similar Recreation Opportunities and the Trail Management Handbook 2309.18.

### ***Trail Signs***

Trail signs would be placed at trail intersections to indicate trail name and possibly distance to destination point. Trail signposts would be four by four-inch wood posts or carsonite, set into the ground up to two feet deep. Stop or yield signs would be placed at any points where trails cross National Forest System roads.

### ***Gates***

Two new swing gates are proposed at Cowbell Alley Road and May Valley Road (near the southern trailhead/staging area) and are noted in figure 2. These gates would be made of medium or heavy steel pipe construction with a swing post on one side and stop post on the other side. Posts would be put into the ground up to four feet deep and anchored with concrete (up to three cubic yards of concrete for the heavier gates). Pedestrian gates would be added next to these larger gates to allow access for pack and saddle stock, mountain bikes, and hikers. In addition, the existing four gates would be retained within the trail system.

### ***Trailheads / Staging Areas***

Presently there are two existing trailheads (one of which is located on national forest lands) for the May Valley area. Two additional trailheads are proposed in the lower and upper Cow Bell Alley area (off May Valley Road [Forest Road 5S21]) and an additional trailhead off Apple Canyon Road. Site drawings for these three new trailheads are located in appendix A.

To retain appropriate site aesthetics, these trailheads would be of low-level development, utilizing native material for the surface and retaining as many of the trees and shrubs as possible. Some brush and some small trees would be removed to provide adequate parking

area and turning radiuses. The locations would be designed to allow sufficient parking spaces for at least 10 vehicles and five truck/horse trailer combinations. Mechanical equipment would be used to level the sites, possibly a small-sized bulldozer or large skid steer.

Trailhead perimeters would be defined with eight by eight-inch wood barrier posts, spaced approximately six feet apart and set into the ground up to two feet deep. As needed, directional signing (such as trailhead site name, enter, exit, trailer parking only) would be installed. Directional signing would be on four by four-inch posts or carsonite set into the ground up to two feet deep.

Information kiosks (one per site) would be added to each existing and proposed trailhead / staging area (located on national forest lands) to provide a trail map, trail use guidelines, and other pertinent information. Information kiosks would be of wood construction with six by six-inch posts. Posts would be installed up to three feet in the ground and a small quantity (up to three, 60-pound bags) of cement (such as Sakrete<sup>®</sup>) would be added to each post for support.

### **Non-system Trail and Road Closures / Restoration**

Approximately 12 miles of unauthorized non-system trails and roads would be closed and eliminated through restoration activities (see figure 2 and table 1). Water drainage features would be installed at distances noted in table 2 (based on soil type and grade) to slow water runoff and backfill areas over time. These features would not be maintained, allowing these areas to go back to their native state. Ruts would be filled and the tread surface would be scarified to encourage native vegetation to re-establish. Cut vegetation or rocks from trail construction or maintenance (or from fuels projects being implemented in the area) would be utilized to keep users off the restored trails. Barren areas would be covered with mulch. In areas of concern, tread would be re-contoured, native seed would be scattered, and matting would be laid to aid in restoration efforts. Signs would be posted, showing the areas have been closed.

In addition to the 12 miles of unauthorized non-system trails, the project area has a network of lower use unauthorized non-system trails. These unauthorized non-system trails would be blocked and camouflaged to discourage use. Because these trails have received less use, they can rehabilitate from non-use without any additional restoration work.

Restoration activities on Exfoliator (trail route 28) may use a 48-inch wide trail tractor. All other trails proposed for elimination would be rehabilitated with hand crews using traditional hand tools.

### **Implementation Schedule**

Openings of the trails to be adopted would occur in phases. The following phases would be implemented after the responsible official (District Ranger) makes a decision.

Phase-1. There are a number of trails, primarily Class 2 trails that fit in this category. Characteristics of these trails generally have little maintenance needs in terms of tread or water crossings but may need some side brushing for sight distance. These trails would be the first ones to be opened.

Phase-2. These trails are primarily Class 3 trails where tread maintenance needs improvement. Water features would either need to be cleaned out or developed in areas where water is eroding and moving sediment.

Additionally, brushing out the trails in height and width would be necessary for all users. Connector trails would also be a focus to open based on available funding and finalized partnership agreements.

Phase-3. These are the remaining trails that need either bridges, re-routes, large scale maintenance items or have budgetary restraints that need to be addressed. These would be available as sufficient funding and resources become available.

As noted earlier, implementation of the proposed action would be dependent on partnerships. Full implementation of construction and restoration of trails could take up to ten years, depending on funding and partnerships.

### **Design Features**

To minimize adverse impacts to resources in the project area from this project, the following design features are incorporated into the proposed action. They are broken into resource groups but many of these features can reduce impacts to other resources as well.

### **Hydrology and Soils**

- HYD-1 Prior to implementation, Forest Service and/or contractor would obtain permits from the Santa Ana Regional Water Quality Control Board and US Army Corps of Engineers, as needed.
- HYD-2 Protect and maintain Riparian Conservation Areas by implementing crossing protection at stream crossings that have wet ground or flowing water as identified in the proposed action.
- HYD-3 All applicable water quality best management practices in FSH 2509.22, Chapter 10 (USFS 2011) would be implemented (as shown in table 3). National forest road BMPs also apply to national forest trails.

**Table 3. Summary table of applicable BMPs.**

Best Management Practice ID	Project Application Method
<b>BMP 2.2 – Route Location and Design</b>	
Location BMPs 2.2.3, 2.2.4, 2.2.5	Locate routes and reroutes outside sensitive areas such as riparian areas, wetlands, meadows, bogs, fens, inner gorges, overly steep slopes and unstable landforms to the extent practicable.
Design BMPs 2.2.2, 2.2.3, 2.2.5, 2.2.10	Design route surfaces to dissipate intercepted water in a uniform manner along the route using low maintenance designs such as outsloping, rolling dips, water bars or other features. Design runoff discharge locations in areas of high infiltration and high surface roughness to prevent erosion or through the use of energy dissipaters. Limit hydraulic connectivity of the route to streams.
Design BMP 2.2.14	For routes located within Riparian Conservation Areas (RCAs) where adequate buffer zone does not exist, such as approaches to stream crossings, design for armored or hardened surface.
Crossings BMPs 2.2.5, 2.2.6	Design stream crossing structures to provide the most resource protection consistent with facility needs, legal obligations, and cost considerations. Provide for desired passage of aquatic and terrestrial organisms, debris, and bedload, as well as flow. Size crossings for the 100-year flood event, plus associate debris and sediment.
<b>BMP 2.3 Route Construction and Reconstruction</b>	
BMP 2.3.6	Material removed during route construction, maintenance, or upgrade would not be sidecast within RCAs. Removed material would be used to construct erosion control features or would be stockpiled and stabilized outside RCAs.

Best Management Practice ID	Project Application Method
BMPs 2.3.7, 2.3.9, 2.3.11	Stream crossing construction would be scheduled during periods of low or no flow in the dry season. Equipment used to decommission or construct, maintain, or improve trails would not be allowed to operate when ground conditions are such that excessive rutting and soil compaction could result.
BMP 2.3.16	Scatter construction and maintenance generated slash on disturbed areas and decommissioned routes to help control erosion.
<b>BMP 2.4 Route Maintenance</b>	
BMP 2.4.2	Clean out, repair or reconstruct non-functioning waterbars, rolling dips, culverts, and other features to reduce erosion and sediment transport to streams.
<b>BMP 2.7 Route Decommissioning</b>	
BMPs 2.7.1, 2.7.4	Restore channel crossings and floodplains, where feasible, to natural grade and configuration. Route surfaces would be regraded to provide effective drainage from the route surface through the use of rolling dips, water bars, ripping, mulch, and/or revegetation.
BMPs 2.7.7, 2.7.8	Provide effective soil cover (such as mulch, woody debris, rock, vegetation, blankets) to exposed soil surfaces. Revegetate disturbed areas where feasible.
BMP 2.7.9	Block access to prevent use of decommissioned routes.
<b>BMP 2.8 Stream Crossings</b>	
Design BMP 2.8.3	See Route Location and Design BMP 2.2.5, BMP 2.2.6
Construction BMPs 2.8.1, 2.8.5	Earthwork within stream channels would be minimized and the channel returned to its natural configuration when earthwork is finished. Excavated material would be deposited outside the stream channel and the RCA.
Construction BMP 2.8.9	Streamflow would be diverted around crossing installation area as described in the Erosion Control Plan.
Construction BMP 2.8.14	Clean equipment used for instream work prior to entering the stream.
Construction BMPs 2.8.19, 2.8.20	Provide effective cover, such as mulch, woody debris, rock, blankets, or vegetation, on exposed soil.
<b>BMP 2.10 Parking and Staging Areas</b>	
BMPs 2.10.1, 2.10.5	Design and locate parking and staging areas outside sensitive areas such as RCAs, wetlands, meadows, bogs, fens, inner gorges, overly steep slopes and unstable landforms. Grade parking and staging areas to infiltrate as much runoff as possible. Direct surface runoff to high infiltration and high surface roughness areas.
<b>BMP 2.11 Equipment Refueling and Servicing</b>	
BMPs 2.11.2, 2.11.3	Allow temporary refueling and servicing only at approved locations outside RCAs; a spill response plan and emergency response plan would be prepared and spill response equipment kept at the site.
BMPs 2.11.8, 2.11.10	Avoid spilling fuels, lubricants, cleaners, etc. during handling and transporting. Remove service residues, waste oil, and other materials and properly dispose of them following completion of the project.
<b>BMP 2.13 Erosion Control Plan</b>	
BMP 2.13	A BMP checklist would be prepared to include topics such as wet weather operations, construction erosion control, road management, and other features in the final design. Following the Decision and prior to Implementation if the Proposed Action is chosen, an Erosion Control Plan would be written in accordance with the requirements in R5 FSH 2509.22 Chapter 10, and approved by the Forest Hydrologist. This Plan would include the appropriate monitoring specifically to address the riparian areas and legacy sediment sources from roads, trails, and unauthorized user created paths. The hydrologist would educate district staff on monitoring responsibilities.

### **Special Status<sup>3</sup> Wildlife and Botanical Species**

- SPECIAL SPP-1 Continue to monitor system roads/trails for development of unauthorized routes. Disguise (such as add slash to the entrances) routes, install and maintain barriers and signs, restore (such as seed or plant with native plants) with priority on those areas near or leading to occupied threatened or endangered species sites. The objectives are to correct the incursion as soon as possible to prevent continued use and to encourage users to stay on designated routes (including roads and trails). Methods should minimize ground disturbance and impacts.
- SPECIAL SPP-2 Signs directing the public to keep motorized and non-motorized vehicles on designated routes would be maintained on national forest roads and trails.
- SPECIAL SPP-3 Pets of project personnel and employees shall not be allowed on sites in threatened and/or endangered occupied habitat.
- SPECIAL SPP-4 All modeled habitat is considered suitable and avoided until surveys have been performed to determine suitability.
- SPECIAL SPP-5 All suitable habitat is considered occupied unless surveys have been performed satisfying the detection and determination protocol and a negative determination is made.
- SPECIAL SPP-6 Suitable habitat for federally listed species would be avoided unless: 1) protocol-level surveys indicate absence; or 2) if the species is present, the proposed activity is not likely to adversely affect it.
- SPECIAL SPP-7 Long-term changes/effects to habitat structure within federally listed species occupied and suitable habitat would be avoided. If unavoidable, project administrator would work with district biologist/botanist to avoid adverse effects to federally listed species.
- SPECIAL SPP-8 Road and trail maintenance may also include the removal of dead or dying trees that are within falling distance (hazard trees). In threatened and endangered species habitat, trees may be felled, but not removed (e.g., if the large woody debris is important for contributing to habitat quality or if equipment use would result in habitat damage).
- SPECIAL SPP-9 Botanical or biological monitoring would be conducted, as needed, during trail re-alignment closure and restoration to ensure that protection measures and objectives are met. Post-implementation monitoring of areas with vulnerable resources (e.g., meadows, rare plant occurrences, etc.), as needed, would also be conducted.
- SPECIAL SPP-10 If any newly listed or unknown occurrences of special status species are found within the affected project area during project activities, work would stop in the area and the district biologist would be contacted immediately to determine appropriate action. Additional species protection measures may be required.

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<sup>3</sup> Special status species include threatened, endangered, candidate (federally listed) and Forest Service sensitive species.

SPECIAL SPP-11 Forest Service staff and volunteers would monitor the area and if/when problem areas arise, remedial and preventative actions would be taken as appropriate. Coordination with adjacent landowners, public education, and signing would be used as appropriate.

## **Wildlife**

### ***General Wildlife***

- WILD-1 Within Riparian Conservation Areas, retain snags and downed logs, unless they are identified as a threat to life, property, or sustainability of the riparian conservation area (Forest Plan, Standard S15).
- WILD-2 Protect known active and inactive raptor nest areas from project activities. Extent of protection would be based on proposed management activities, human activities existing at the onset of nesting initiation, species, topography, vegetative cover, and other factors. When appropriate, a no-disturbance buffer of 50 feet for non-mechanized activities and 100 feet for mechanized activities around active nest sites would be required from nest-site selection to fledging (Forest Plan, Standard S18).
- WILD-3 All project sites would be kept as clean of debris. All food related trash items would be placed in closed containers and regularly removed from the sites.
- WILD-4 Restrict construction activities to daylight hours to minimize effects to species in the area, including deer and mountain lion.

### ***Migratory Birds***

- WILD-5 Avoid adverse impacts to nesting birds per Migratory Bird Treaty Act (MBTA), by avoiding construction and maintenance activities during bird breeding season (March 15 to September 15) whenever practicable. If work is performed during the breeding season and district biologist feels it is necessary, a walk through survey would be performed by a qualified biologist to identify obvious nests prior to undertaking work. If active nests are located, appropriate exclusionary buffers would be established.

### ***California Spotted Owl (*Strix occidentalis*)***

- WILD-6 Locate new trailheads outside of Protected Activity Center (PACs) (CASPO Conservation Strategy).
- WILD-7 Locate new non-motorized trails out of direct line of sight of spotted owl nests or nest groves. If new trails are constructed within a PAC, apply limited operating period guidelines (CASPO Conservation Strategy) during trail construction and maintenance activities.
- WILD-8 Maintain a limited operating period (LOP) prohibiting activities within approximately 0.25 miles of a California spotted owl nest site, or activity center where nest site is unknown, during the breeding season (February 1 through August 15), unless surveys confirm that the owls are not nesting (Forest Plan Standard S20).
- WILD-9 During construction and maintenance activities, retain all woodrat nests in PACs and home range cores (HCRs) within the activity areas.

***Quino checkerspot butterfly (Euphydryas editha quino)***

- WILD-10 Personnel working in areas with known Quino checkerspot butterfly (Quino) occurrences or suitable habitat would be provided identification information, via handout or presentation from the District or Forest Biologist, for Quino and Quino host plants prior to starting work, as well as direction and notification instructions for what to do if Quino are encountered. Work would stop in the immediate area until the notifications can be made to the District. At that time, the Forest or District biologist would recommend appropriate actions be taken to avoid impacts to Quino (such as alteration of the project timing until end of flight season or should the proposed action cover a linear or large area, relocate activities outside of Quino occupied habitat until such time as the District biologist deems action may be reinitiated).
- WILD-11 Personnel would be provided maps of Quino occurrence locations and be given the avoidance/minimization direction for those sites. These personnel include forest employees, volunteers, and liaisons involved with activities related to this project (such as trail construction, trail maintenance).
- WILD-12 Surveys for Quino occupancy would be conducted in areas determined to be suitable as funding permits. Impacts to host plants would be avoided to the greatest extent possible unless occupancy surveys can confirm lack of Quino presence.
- WILD-13 Road and trail maintenance activities (such as grading, re-creating berms, creating waterbars, opening up lead-outs, cleaning out culverts) within Quino occupied, suitable or designated critical habitat would be timed to avoid the Quino flight season (March 1 to June 30). Areas that contain Quino host plants would be flagged to avoid crushing of larvae and host plants themselves.
- WILD-14 Maintenance activities for roads and trails including vegetation removal (such as brushing, felling and/or removal of hazard trees) would be conducted to avoid the Quino flight season (March 1 to June 30).
- Directional felling of hazard trees would be done in a manner to avoid impacts to Quino host plants.
  - Where it is not feasible to avoid impacts to Quino host plants and not possible to wait until after the flight season due to an imminent hazard-tree threat, a Forest or Forest approved biologist would monitor and work with the fallers to avoid direct impacts.
  - Minimal impact techniques (such as hand lopping of shrubs and limiting the duration of the activity) would be used.
  - Exceptions to this conservation measure include situations where the Forest or Forest approved biologist determines the effect would be neutral to Quino (i.e., would not compromise the suitability of the habitat) and where an imminent threat occurs from a hazard tree.
- WILD-15 Brush, loose soils, or other similar debris material shall not be deposited or stockpiled within Quino occupied habitat.
- WILD-16 Avoid activities that result in the removal, crushing, burying, burning, or mowing of host plants within occupied habitat for the Quino checkerspot butterfly; unless guided differently by a species-specific consultation. Continue to coordinate the

awareness of Quino occurrences and avoidance/minimization measures need to be followed for various activities.

- WILD-17 Design and install interpretive signs for dispersed and developed recreation sites with Quino, as deemed appropriate or necessary by the district biologist and as funding is available.
- WILD-18 When possible, reroute trails that pass through occupied or suitable Quino habitat.
- Southwestern willow flycatcher (Empidonax traillii extimus)***<sup>4</sup>
- WILD-19 Conduct protocol level southwestern willow flycatcher surveys by a qualified/permitted biologist.
- WILD-20 Limit cutting limbs and/or removing willow (*Salix* spp), alder (*Alnus* spp) and sycamore (*Platanus occidentalis*) individuals in the project area and especially in areas considered to be suitable habitat.
- WILD-21 Put up signs for southwestern willow flycatcher habitat at the beginning and end of suitable habitat during the breeding season (April to July).
- WILD-22 No trail realignment, closure or restoration activities would be conducted within 500 feet of suitable willow flycatcher habitat during the nesting season (May 1 through August 31), unless protocol surveys indicate absence of the species. Exceptions may occur where a biologist determines that the activity type and noise attenuation would not result in increases of noise/disturbance above the baseline in the suitable habitat.

## **Botany**

### ***Rare Plants***

- BOT-1 Forest Service sensitive (sensitive) plant surveys would be conducted and completed by qualified personnel familiar with the flora of the area prior to project implementation. These surveys would be focused on areas where impacts are expected and where potential sensitive plant habitat has been identified.
- BOT-2 Notify the district botanist with sufficient lead-time (before the start of the growing season [i.e., April 1<sup>st</sup>]) prior to trail and trailhead construction or maintenance activities to allow flagging of threatened, endangered, and sensitive plant species locations for avoidance where possible.
- BOT-3 Protect riparian habitat and plant communities (e.g., lemon lily [*Lilium parryi*], southern mountains skullcap [*Scutellaria bolanderi* ssp. *austromontana*]) around streams and springs. This could include routing trails away from streambeds and springs, minimizing stream crossings, hardening stream crossings, building bridges across larger streams (e.g., Herkey Creek, unnamed creek near Hurkey Creek Park), and placing physical obstacles such as logs, boulders, and plantings of native shrubbery between trail users and fragile riparian vegetation.
- BOT-4 The use of hand equipment for trail maintenance is preferred wherever possible to minimize impacts to surrounding vegetation, particularly along single-tread

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<sup>4</sup> Riparian Conservation Areas and BMPs related design criteria identified in the hydrology and soils section of the proposed action will also provide protection to southwestern willow flycatcher habitat.

tracks. However, it is understood that motorized equipment may need to be used in certain cases and along tracks that occur on road beds.

- BOT-5 Educate the public about the importance of staying on forest system trail tread and parking areas to protect sensitive species and habitats (e.g., by providing information at each information kiosk at trailheads).

***Invasive Plant (Weed) Species***

- WEED-1 Funding permitting, select areas would be monitored for weed infestations and prioritized for treatment, if needed.
- WEED-2 No material (e.g., soil) would be permitted from off-site sources unless approved by the Forest Service. All materials (such as seed, mulch, gravel, wattles) used for trail installations/removal/maintenance, and soil erosion measures would be certified noxious weed-free. Native seed purchased for use on national forest lands would be certified free of noxious weed seed. Seeds not covered under a weed-free certification would be inspected and determined to be free of noxious weed seed before purchase and use. Native seed would be used and where available, locally collected native seed would be used.
- WEED-3 Staging areas for equipment, materials, or crews may be prohibited in areas with invasive plant infestations.
- WEED-4 To reduce the likelihood of introduction or spread of non-native invasive plants, all mechanized equipment to be used off of national forest roads would be cleaned prior to entering the project area. If the equipment is operated within areas known to be infested with noxious weeds (e.g., yellow star thistle and Spanish broom), it would be cleaned prior to moving to units without these species and/or demobilizing from the project area. In all project-related contracts, provisions would be included that require equipment cleaning before and during project implementation to all project-related contracts.
- WEED-5 A handout would be prepared for the maintenance crews, Permittees, and volunteers to identify and monitor the trails for target weed species. If weeds are discovered, the Forest Service would work with those groups to help eradicate/control the occurrences.
- WEED-6 Educate the public about the importance of preventing the spread of nonnative invasive and noxious weeds (e.g., by providing information at each information kiosk at trailheads and/or weed pamphlets).
- WEED-7 New invasive plant infestations discovered in the project area before or during project implementation would be evaluated by the district biologist, and the appropriate prevention and control measures would be taken.
- WEED-8 A combination of natural barriers (e.g., rocks, logs), screening (e.g., with native vegetation), fencing, etc. may be used at the approaches to the rehabilitated trail to prevent and discourage unauthorized vehicle or foot activity during and after the project treatment. All existing fences and other barriers would be repaired after completion of project area units in order to prevent unauthorized off-road driving.

## **Cultural Resources**

- ARCH-1 Hand treatment of vegetation and adding cut vegetation within cultural sites and/or handlines constructed outside of cultural site boundaries may be implemented to protect sites. Hand treatment of the vegetation and adding cut vegetation to the trails/treads would aid in disguising unauthorized routes and also provide cover to bare soil, which helps reduce erosion and promotes natural seed recruitment and germination. Cut vegetation can be collected from nearby vegetation using hand saws, pruning shears, or chainsaws. Dead and down shrub limbs would also be used when available.
- ARCH-2 Known cultural resources within the project area would not be modified or disturbed.
- ARCH-3 Sensitive archaeological areas would be monitored by an archaeologist during project activities and during all subsequent long-term treatment, if determined necessary by the district archaeologist.
- ARCH-4 Treatment areas that were not surveyed for archaeological resources due to impenetrable vegetation would either be monitored by an archaeologist during mechanical equipment operations or would be selectively inventoried within a year after completion of project implementation.
- ARCH-5 If additional cultural resources are discovered during project activities, work would stop immediately in that area until an archaeologist can evaluate the site.

## **Scenery Resources**

- VIS-1 Reasonable effort shall be made to avoid the cutting of Jeffery pine (*Pinus jefferyi*), sugar pine (*Pinus lambertiana*), ponderosa pine (*Pinus ponderosa*), and California black oak (*Quercus kelloggii*) of any size throughout the creation of trails and trailheads. If the project administrator deems that it is necessary to cut a tree or trees during the course of trail establishment, the district forester or biologist shall be contacted to determine mitigations or methods of disposal.
- VIS-2 Any live vegetation, trees or brush, damaged beyond recovery during operations shall be cut and disposed of properly (as noted in other design features).
- VIS-3 Vegetation in chaparral along the trail would be removed in clumps leaving feathered edges along the trail to avoid a lineal vegetative canyon from the trail as well as distance views.
- VIS-4 Cut and fill for the trail would be balanced to avoid either a long cut face or fill slope.
- VIS-5 Rock walls, where possible, would be constructed with available rock, to reduce the area of barren soil along the trail.

## **Fuels**

- FUEL-1 Unless being utilized as a means of obstructing unauthorized trails, any vegetation cut in the process of trail establishment shall be lopped to a size not to exceed two feet in length and shall be placed in the understory of residual brush or on the surface of unauthorized trails that are scheduled for closure and elimination. The depths of such lop and scattered material shall not exceed ten inches.

- FUEL-2 Complete stems or clumps of brush may be laid across unwanted trails at the discretion of the project administrator.
- FUEL-3 Vegetation cut in the process of trail establishment may be chipped on site provided that chip material does not exceed two inches in depth nor occupy more than 500 square feet of surface area without achieving at least a 50 foot spacing between areas of chips.
- FUEL-4 Cut vegetation shall not be thrown on top of residual brush.

### **Range**

RANGE-1 Install two cattleguards next to existing gates on May Valley Road. The locations for these proposed gates are shown in figure 2, the proposed action map.

### **Monitoring**

Information gathered before, during and after implementation of activities is used to determine the effectiveness of the project's design and associated design features. It provides a feedback mechanism not only for this project but similar projects planned in the future. Monitoring is completed at recurring intervals as a basis for Forest Plan implementation. Project effectiveness monitoring is completed by routine sampling specific projects at specified time intervals. The following are monitoring elements specific to this project:

An Erosion Control Plan would be developed that includes appropriate monitoring specifically to address the riparian areas and sediment sources from roads, trails, and unauthorized trails (BMP 2.13)

Continue to monitor system roads/trails for development of unauthorized routes (design feature T&E-1).

Botanical or biological monitoring would be conducted, as needed, during trail re-alignment closure and restoration to ensure that protection measures and objectives are met. Post-implementation monitoring of areas with vulnerable resources (e.g., meadows, rare plant occurrences, etc.), as needed, would also be conducted (design feature SPECIAL SPP-9).

Funding permitting, sensitive plant species and habitats should be monitored periodically (every two to three years to assess impacts of trail use on those resources (design feature BOT-6).

Funding permitting, select areas would be monitored for weed infestations (design feature WEED-1).

Treatment areas that were not surveyed for archaeological resources due to impenetrable vegetation would either be monitored by an archaeologist during mechanical equipment operations or would be selectively inventoried within a year after completion of project implementation (design feature ARCH-4).

### **Summary of Proposed Action**

The proposed action is located in the May Valley area on the San Jacinto Ranger District in Riverside County, California. The proposed action includes:

- Add non-motorized trail improvements to the National Forest System.
- Maintain and manage the improvements.
- Eliminate and restore approximately 12 miles of well-used (and un-estimated number of miles of lesser used) unauthorized trails.

- Design features and monitoring to minimize resource impacts.

Table 4 is a summary of key actions in the proposed action. Total miles of trails and roads involved (i.e., system, unauthorized, new construction) total approximately 53 miles. Of the 53 miles, approximately 41 miles of roads and trails would be part of the non-motorized National Forest Transportation System in the May Valley area.

**Table 4. Summary of key actions in the proposed action.**

<b>Key Actions</b>	<b>Number of miles</b>	<b>Number of improvements</b>
Existing System Road	11.3	NA
Existing System Trail	3.7	NA
New Trail Construction	2.6	NA
New Trailheads	NA	3
New Gates	NA	2
New Cattleguards	NA	2
New Bridge or Culvert Stream Crossing	NA	4
Adopt Unauthorized Trail	23.6	NA
Eliminate Unauthorized Trail	12	NA

NA = not applicable

The San Jacinto District Ranger will decide whether or not to implement the proposed action. If the decision is to implement the proposed action, implementation would occur in phases.





