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Rim Fire Reforestation (45612) Recreation Resource Report

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**Forest
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Stanislaus
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Affected Environment and Environmental Consequences

3.08 RECREATION RESOURCE

Introduction

This analysis describes the existing condition of the recreation opportunities and uses currently occurring within the Rim Fire project area. This analysis also describes the potential effects to the recreation experiences from the proposed treatment activities identified in the alternatives.

Executive Summary

The Stanislaus National Forest is proposing to create a fire resilient mixed conifer forest that contributes to an ecologically healthy and resilient landscape rich in biodiversity over approximately 42,000 acres. The proposed action includes reforestation, plantation thinning, additional deer habitat and noxious weed eradication treatments on NFS lands within the 2013 Rim Fire. Concerns about these treatments include lost recreation opportunities, exposure to herbicide, and other impacts to the recreation experience including access.

Analysis Framework: Statute, Regulation, Forest Plan and Other Direction

Various Federal laws, Forest Service Handbook and Manual directives, as well as the Forest Plan for the Stanislaus National Forest provide the framework for the Rim Fire Restoration Project. The components of this regulatory framework are outlined below.

Forest Plan

The Stanislaus National Forest Plan contains both Forestwide and management area (MA) specific direction. Forest Plan direction relevant to recreation resources within the project area is listed below.

- **Forest Goal for Recreation:** Provide a wide range of recreation opportunities directed at various experience levels to meet current and projected demand, including campgrounds, hiking trails, picnic areas, off-highway vehicle (OHV) trails, etc (USDA Forest Service 2010a).

Forest Service Handbook and Manual Direction

Forest Service Manual (FSM) 2300 – Recreation, Wilderness and Related Resource Management is the guide for management of recreation resources on National Forest System Lands. This manual contains wide-ranging goals and objectives that serve as the overall framework for managing recreation.

Recreation Niche

The Stanislaus National Forest developed a recreation niche statement and setting map through the Recreation Facility Analysis process (USDA Forest Service 2007a). The niche statement describes the unique characteristics, opportunities, settings, and activities of the forest's recreation program. The statement describes a full range of overnight opportunities, especially oriented toward families and a higher participation than average by children. The Forest is seen as an oasis to escape from winter fog, summer heat and urban life. Easy access for urban visitors and a projected increase in visitation of 42% over the next 20 years is projected.

Spatial and Temporal Context for Effects Analysis

The potential direct and indirect effects to recreation were considered within the project area. The direct effects would be short term and temporary, occurring during project implementation. The long-term indirect effects would be related to ecosystem restoration, changes in visual qualities, and other items within the project area that would influence recreation opportunities.

The temporal bounds of the recreation analysis are generally dependent on the lasting effects of project activities. Effects can be either short-term in nature or long-term. Short-term effects are impacts from project activities that are expected to last up to 5 years. These would include disturbances associated with implementation of the proposed activities as well as impacts that would endure beyond implementation, up to five years. Long-term effects are those projected to endure beyond 5 years.

Cumulative Effects Process

Cumulative effects to recreation were considered within the project area. Potential cumulative effects would be related to other activities occurring within the project area that have the potential to impact recreation opportunities. Cumulative impacts would result if other activities take place during implementation of the Rim Fire Reforestation project, or until vegetation growth obscures the visible stumps from the hand slashing of small diameter trees and hand firelines, approximately 3-5 years.

Connected Actions, Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis

The effects of past actions within the project area are incorporated into the description of the existing conditions. The following present and foreseeable actions are relevant to the cumulative effects analysis for recreation resources within the analysis area: livestock grazing, thinning projects, a high level of ongoing recreation, and a high level of restoration and rehabilitation associated with the Rim Fire (Chapter 2).

Effects Analysis Methodology

Assumptions Specific to Recreation Resource

- Forest recreation use is expected to continue based on nearby urban population growth and demand will continue for recreation opportunities.
- National Visitor Use Monitoring (NVUM) data is accurate.
- Implementation of proposed activities will be completed using the management requirements described below.
- While Forest recreation visits occur year round, the majority of them occur in the summer.

Data Sources

- Stanislaus GIS Library
- National Visitor Use Monitoring (NVUM) data (USDA 2014c)
- Recreation Facility Analysis (USDA 2007)
- Recreation Opportunity Spectrum (ROS), Management Area and project area GIS maps
- Data from the Rim Recovery EIS (USDA 2014)

Recreation Resource Indicators

Indicators of direct and indirect effects include:

Temporary loss of recreation opportunity: displacement of users, or a change in recreation experience due to vegetation treatments/prescribed fire activities (i.e. temporary closure of areas/visitors avoiding the area during the vegetation treatments/prescribed fire).

- Measure: Effects lasting up to 5 years in duration

Long term loss of recreation opportunity: chronic displacement of users, or permanent changes in recreation experience due to changes in scenery following the vegetation treatments/prescribed fire that affect the recreation setting, long-term closures, loss of trail opportunities from impacts of prescribed fire (increased maintenance shortfalls, erosion, downed trees) or other actions related to the project.

- Measure: Effects lasting more than 5 years in duration

Recreation Resource Methodology by Action

The recreation indicators identified and compared the effects of the alternatives on recreation access and opportunities. The analysis discussed the changes in recreation opportunities as a result of each alternative. In each of the alternatives the recreation analysis objective evaluates how each alternative would enhance or diminish recreation access and opportunities in the short and long term.

Affected Environment

Existing Conditions

FOREST RECREATION USE

Before the Rim Fire, recreation within the project area included OHV use, passenger car driving, rafting, boating, hunting, swimming, mining, wood cutting, camping (dispersed and developed), hiking, cycling (mountain and road), fishing, backpacking, horseback riding, and winter sports. Many of those opportunities are once again available for visitor use due to hazard tree removal. Some of the traditional activities that have been attractive to the forest visitor will be less attractive because of the fire. Dispersed camping may be less attractive without the canopy of trees, as an example, while water features remain attractive.

The Rim Fire changed some recreation opportunities. The Spinning Wheel Closure Order STF 2014-13 went into effect in November of 2014 and is set to end in November of 2015. Public access is prohibited into this area due to instability of soils and the need for vegetation to establish (USDA 2014a).

Visitor use estimates for the entire Forest are based on the NVUM survey conducted in 2012, prior to the Rim Fire, and updated in April of 2014 (USDA 2014c). Recreation use on the Stanislaus National Forest for this period was estimated at 1,817,200 National Forest visits and 2,100,300 site visits. The most recent NVUM data shows the following recreation and visitation patterns:

- Roughly 30% of visitation is from within 50 miles of the Forest. There are relatively few visits from greater distances; only about 10% report traveling more than 200 miles.
- Average visitation duration is about 21 hours, though more than half of visits last less than 6 hours
- Infrequent visitors (those who visit at most 5 times per year) account for about 53% of all visits
- About 10% of visits are from people who report visiting more than 50 times per year
- The activities with the highest participation rates include hiking/walking, relaxing, viewing natural features and viewing wildlife.
- The most hours spent doing an activity were developed and dispersed camping, resort use and backpacking.

Visitors were asked to select one of several substitute choices, if for some reason they were unable to visit this national forest. Choices included going somewhere else for the same activity they did on the current trip, coming back to this forest for the same activity at some later time, going someplace else for a different activity, staying at home and not making a recreation trip, going to work instead of recreating, and a residual 'other' category). The largest percent (38%) said they would go elsewhere to participate in the same activity.

NVUM does not state the time of year when the majority of visitors come to the forest. However, many recreation facilities close in mid-October, limiting some opportunities in winter. The main activities reported by visitors through the NVUM process indicate that the majority of visitors arrive in the summer months when those opportunities are available.

Outfitter-guides are currently authorized to operate within the project area. The current special uses database shows nine outfitters on the Mi-Wok and Groveland Ranger Districts, but whether they are utilizing areas within the Rim Fire is unknown (USDA 2014d). Outfitter-guide permits constantly change and there may be less or more outfitters permitted in 2016. Current uses include canoeing, hiking, rafting, fly fishing, shuttle services, sunset tours, weddings, biking and kayaking.

OPPORTUNITY

The Forest Service uses the ROS to inventory and describe the range of recreation opportunities available based on the following characteristics of an area: physical (characteristics of the land and facilities), social (interactions and contact with others), and managerial (services and controls provided). The recreational settings are described on a continuum ranging from Primitive to Urban. The attributes of ROS are the physical (type of access, remoteness, size), the social (user density, encounters), and the managerial (type of facilities, visitor management and naturalness) characteristics of the place (USDA 1986).

The majority of the project area falls within the Roaded Natural and Semi-Primitive Non-Motorized classes. Table 1 shows the direction for management of these two classes.

Table 1. Recreation Opportunity Spectrum Classes within the Rim Reforestation project area

ROS	General Direction	Standards and Guidelines
Semi-Primitive Non-Motorized NMFPA ¹	Manage the area so that on-site controls are minimized and restrictions are subtle. Provide a range of semi-primitive non-motorized recreation opportunities and experiences.	Meet the ROS objective of Semi-primitive Non-motorized. Interaction between visitors is low but there is evidence of other users. Motorized use is normally prohibited, except for: 4N80Y, 5N02R (NMFPA). Resource improvements will normally be limited to minimum, unobtrusive facilities.
Roaded Natural	Manage the area so there is only moderate evidence of the sights and sounds of man. Provide a range of roaded natural recreation opportunities and experiences.	Meet the ROS objective of Roaded Natural. Interaction between users is usually low to moderate with evidence of other users prevalent. Resource modification practices are evident. Conventional motorized use is provided for in construction standards and facilities designs. A full range of other resource activities is permitted to the extent that the general practice description is met

¹ NMFPA=Non-motorized Forest Plan Amendment (USDA 2010a, p. 2)

DEVELOPED RECREATION OPPORTUNITIES

Developed recreation sites provide infrastructure which typically include running water, structures, vault toilets, signage, barrier posts, interior roads, campfire rings, grills and picnic tables. Developed campgrounds within the affected area are Dimond O, Lost Claim, Lumsden Bridge, Lumsden, South Fork, Sweetwater, and Cherry Valley. Upper and Lower Carlon, Middle Fork, and Rainbow Pool Day Use Areas, Rim of the World Vista, Cherry Creek and Merals Pool Boat Launches are also found within the Rim Fire perimeter. Developed recreation sites under special use permit within the Rim

Fire perimeter include Berkeley-Tuolumne Camp, Peach Growers Recreational Residence Tract, and San Jose Camp. A majority of the Berkeley-Tuolumne Camp was destroyed in the Rim Fire and is currently not available for use. San Jose Camp received some fire damage, and a vault toilet was burned at the South Fork Campground. Camp Tawonga is a privately owned camp that is accessed by Cherry Lake Road or Evergreen Road and Forest Route 1S02. (USDA 2014b).

DISPERSED RECREATION OPPORTUNITIES

Touring, or driving for pleasure by motorized vehicle, is a dominant recreation activity. Hunters, anglers, campers, picnickers, hikers, bikers, wood cutters, forest product gatherers, sightseers, bird watchers, nearby residents, rock climbers, spelunkers, kayakers, boaters, swimmers, target shooters and other recreationists also travel to their activity along forest roads. The journey to and from the activity is part of the recreation experience.

Camping often serves as a base for many other activities. Many participants enjoy camping in trailers, RVs, campers, and in tents near their vehicle. Outside of developed campgrounds, these “camps” are often established along roads or on short spurs off these roads.

Dispersed recreation opportunities include non-motorized system trails and motorized recreation opportunities. The project area provides a variety of dispersed recreation opportunities that include 475 inventoried dispersed campsites. Over 6,650 acres of treatment are proposed within ¼ mile of the inventoried dispersed camps in the action alternatives reviewed as part of this analysis. Developed-dispersed camping and concentrated use areas within the Rim Fire perimeter include Camp Clavey, Cherry Borrow, Cherry Valley, Joe Walt Run, and Spinning Wheel.

Stairs, Humbug/Duluke, Indian Creek, Kibbie Ridge/Huckleberry, North Mountain, Preston Falls, Tuolumne River Canyon, West Side Trail, and Lake Eleanor. Some trails access various points of interest along the Tuolumne Wild and Scenic River corridor and serve as important emergency access points for river users. Wilderness trailheads within the project area provide access to trails in Yosemite and Emigrant Wildernesses.

Motorized recreation opportunities typically provide a variety of settings and a diversity of OHV trails varying in length, degree of difficulty, and access to other recreation opportunities. Motorized Recreation Areas include Jawbone Pass, Pilot Ridge, Tuolumne Rim, Two-mile/Middle Clavey/Reynolds Creek, and West Side Rail Tour (USDA 2014b)

Environmental Consequences

Effects Common to All Alternatives

Though there would be short and long term effects to recreation depending on the actions proposed in each alternative, in all cases the Recreation Opportunity Spectrum (ROS) of Semi-Primitive Non-Motorized and Roded Natural would not change. The range of opportunities would continue and the objectives, standards and guidelines for each Class as stated in the Forest Plan and subsequent amendments would be met.

Alternative 1 (Proposed Action)

DIRECT AND INDIRECT EFFECTS

Effects to visitors are often difficult to quantify, as visitor behavior and acceptance of management activities vary greatly by the individual. Some generalizations based on visitor use patterns can be made.

People would likely see treatment activities or see the effects of them, especially in popular areas like the units near the Rim of the World Vista or along Highway 120. The presence of a crew in the field may be dictated by the activity type, species being treated or planted, the method used, and the

optimal time to administer the treatment. However, in some site-specific, popular locations, visitors may be temporarily displaced if they do not wish to recreate where treatments are taking place. This could occur where chemicals are being applied or trees are being felled or planted. Some sites could be closed to use for public safety while herbicide is being applied or where active thinning or burning is occurring. This would be short-term. Figure 3.08-1 shows the Alternative 1 treatment units in relation to recreation sites, wilderness, and wild and scenic rivers.

In addition, visitors may choose to avoid areas during prescribed burning, thinning or spraying activities even if those areas are not closed to public use. Commercial outfitters operating in the area during project implementation may also be directly affected by limited access or trail closures. Adjustments to their permits may need to be made during this time. However, the majority of treatments would occur during late winter and early spring, which have fewer visitations.

Trucks and other equipment will be utilizing public travel routes. These additional vehicles have the potential to increase traffic congestion and negatively affect the driving experience of highway users. Since “driving for pleasure” is an identified recreation use within the project area, this user group, as well as those traveling to recreation destinations could be affected.

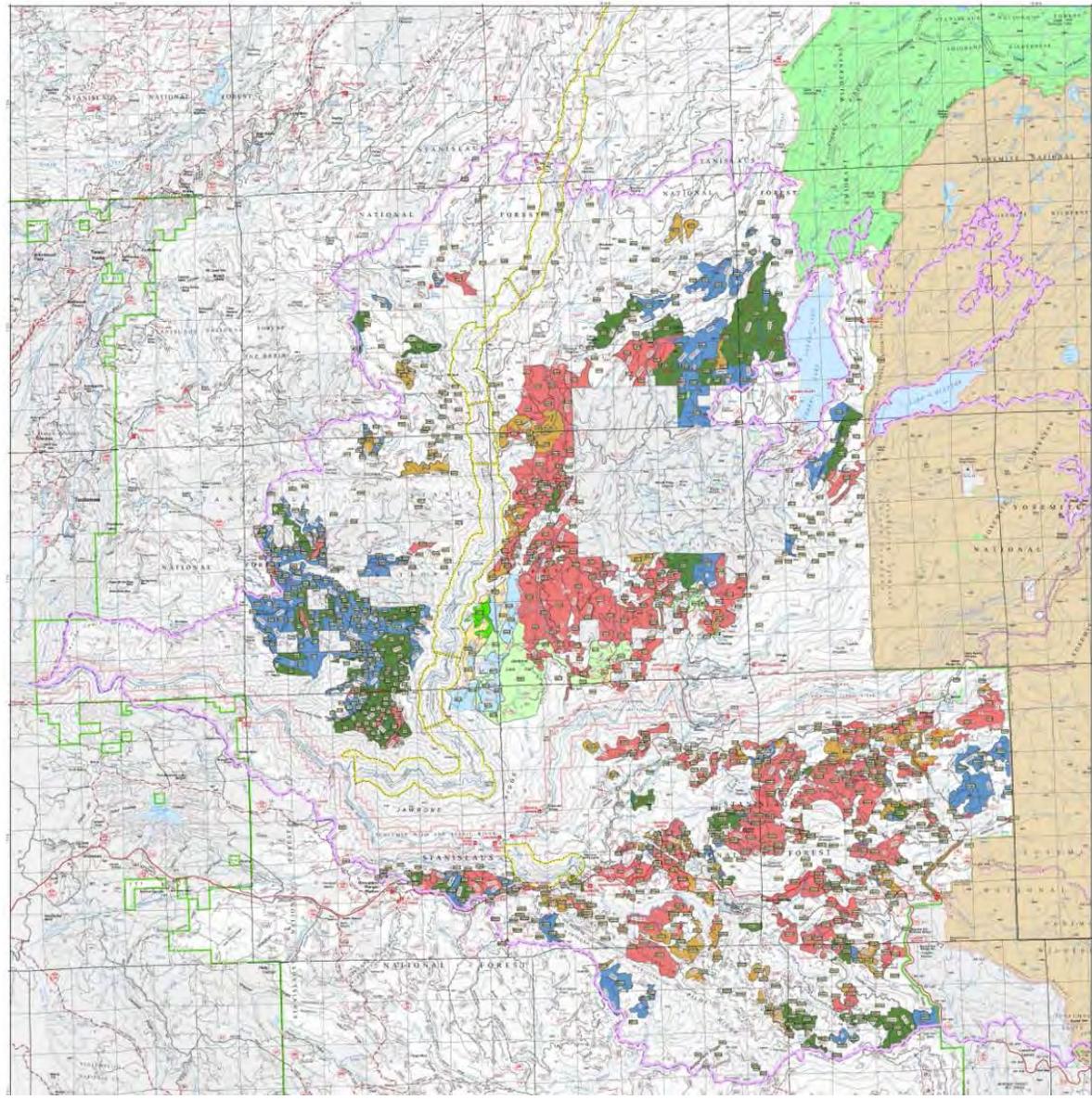


Figure 3.08-1 Alternative 1 treatment units and recreation sites (includes wilderness and WSR)

The proposed vegetation treatments would cause temporary, but not permanent, changes in the some areas designated as Semi-Primitive Non-Motorized ROS. The objective of low interaction between visitors and subtle restrictions and controls would not always be met. However, no long term changes to the ROS in the project area are expected.

A short-term direct effect during project management activities could be temporary Forest Closures implemented to protect the public from safety hazards associated with weed spraying and operation of mechanical equipment. These closures would reduce the public's opportunity to access limited areas of public land for dispersed recreation for up to 24 hours. Advanced signage and public outreach would notify as many people as practical of proposed closure periods ahead of time, allowing them to make alternate recreation access plans. Similarly, management activities within or adjacent to developed recreation facilities have the potential to negatively affect visitor's recreation experience. The action alternatives include a measure to manage the timing of fuels management activities when practical to avoid weekends when visitation rates are anticipated to be higher.

Herbicide Use and Noxious Weed Eradication

Visitors could notice the effects of herbicide use for site preparation, release, and noxious weed treatments, because browned out vegetation might be obvious. This evidence of treatment activities and effects would reduce the sense of naturalness that some visitors expect from a national forest. Weed treatments would not be noticed the following growing season when the residual live, green native vegetation dominates the view. Those who most value natural conditions would likely tolerate use of herbicides if treatments show rapid and significant success in promoting conifer growth and reducing noxious weeds. Visitors would be able to easily avoid the areas actively being sprayed by crews. Those visitors who oppose the use of herbicide, however, would be reluctant to return to the treated areas. The main effects would be to visitors who travel off trails, hunters, those who seek isolated dispersed campsites and harvesters of forest products. Visitors seeking forest products, such as morels, may avoid areas they have used in the past due to concerns about their health. Indirect effects of herbicide treatments could include a greater concentration of visitors in non-treated areas.

Reforestation

Many of the proposed reforestation units are not located in areas where visitors congregate. Exceptions include units within a quarter mile of Sweetwater Campground, Spinning Wheel, and Rainbow Pool, Dimond O Campground, Lost Claim Campground, the privately owned Camp Tawonga, Middle Fork picnic area, and Peach Growers. At these popular locations, implementation activities could temporarily impact recreation as described under prescribed fire and herbicide use. Impacts would be directly related to which type of adaptive management is used in the units.

Reforestation could make cross-country travel more difficult due to high shrub cover around years 15-20. Tree density is not expected to hinder cross-country travel due to the low density of trees per acre and expected tree mortality. People who enjoy cross-country travel could be displaced to other areas; however, there would still be many places for this type of activity available on the forest.

The use of machinery is proposed in reforestation units for site preparation. Feller-bunchers, excavators and tractors used for removing biomass and piling, shredding or deep tilling would cause continuous noise in the immediate area. The main impacts would be to visitors wishing to camp, picnic, or enjoy nature in the vicinity. Those visitors passing through enroute to destinations could be temporarily inconvenienced by delays on roads.

Hand cutting, hand piling or jackpot burning could also occur in these units. The impacts to recreation are similar to those discussed below in the prescribed fire section.

Prescribed Fire

The direct impacts to recreation from the prescribed burning activities during project implementation would be the sights and sounds of people and equipment, including chainsaws and vehicles, and

smoke in the air. Smoke in the air during the prescribed burns may have a direct affect to the quality of the recreation experience within the project area and in the adjacent dispersed camping areas by temporarily reducing air quality and visibility. Some forest roads may be affected by smoke and this could affect driving opportunities.

Smoke from pile burning would result in short term effects in portions of the project area after initial site preparation or thinning has occurred and slash piles are treated. Effects could include user dissatisfaction, user displacement, and temporary reduction in setting qualities due to smoke obscuring the surrounding visual quality. Pile burning is often completed on the day of ignition, but the effects could last longer if there are large fuels present in piles.

Smoke from understory burning would be more obvious, since in some cases entire units would be burned. The effects would be less concentrated as pile burning, but would be spread over a larger area and depending on the fuel, humidity and prescription; smoke could linger for several days. Large logs and snags could smolder and burn for indefinite periods.

Thin Existing Plantations

Noise, dust and increased traffic on forest roads would be expected during thinning treatments. The direct impacts to recreation from the thinning activities would be to the sights and sounds of equipment including chainsaws. Indirect effects to recreation would result from changes to the appearance of the units following the thinning activities. These changes could be perceived as beneficial or negative, depending on the viewer. Thinning could create favorable conditions for dispersed recreation and enhance hunting experiences for some. Other visitors could feel a loss of “sense of place” as conditions change in site specific areas from what they are used to experiencing.

Comparatively few studies have been conducted on public perceptions of mechanized thinning to reduce hazardous fuels; however, some insight can be gained from the literature assessing attitudes toward alternative harvesting techniques. Not surprisingly most studies found that people preferred stands with little or no modification over highly manipulated forest stands. Many visitors would be unable to tell the difference between plantations and natural stands in several years, however.

Several studies have identified a greater level of sophistication among fire-affected communities in both their understanding and acceptance of fire management techniques when compared to the general population. Additional work in fire-prone areas indicates a number of similar factors influence public support for fuel treatments despite geographic and economic differences. Though treatments could be ongoing, visitors who are aware of the drivers behind these treatments may be more willing to recreate in these areas rather than be displaced by them (Shindler and Toman 2003). Educational messages on the need for treatments could influence visitor acceptance and behavior in this area.

CUMULATIVE EFFECTS

Past human activities and natural disturbance processes influenced the current condition of the project area and continue to affect the vegetation structure, spatial arrangement and pattern, composition and diversity, natural processes (such as fire), and movement towards increased forest resiliency and function.

Recreational activities such as hunting, camping, hiking, OHV travel on primitive roads, and snowmobiling and cross-country skiing in the winter are expected to continue within the analysis area. Other ongoing and reasonably foreseeable activities that would occur within the analysis area include hazard tree removal, weed treatments, road and trail maintenance, commercial guided recreation and special events, firewood cutting and continued use of grazing allotments. All of these activities, when added to the activities proposed in the Rim Reforestation project have the potential to cumulatively affect the recreation experience within the project area. The primary impacts would be due to the increased presence of people, vehicles and associated noise that would directly affect the

ability of visitors to enjoy their desired recreation experience, and may lead to the short-term displacement of visitors who choose to avoid the area during implementation of the various activities. When considered with the recent Rim Recovery project, portions of the project area may appear crowded with workers and equipment for the several years that it takes to complete treatments.

The longer-term impacts of ongoing and reasonably foreseeable activities, when added to the activities proposed in the Rim Reforestation project, have the potential to cumulatively impact the recreation setting by causing changes to the scenic qualities within the project area and creating a setting where resource modifications and utilization practices are evident. Most of these effects would be beneficial because they would increase the resiliency of forest conditions, and reduce the risk of potential negative impacts from severe wildfire, therefore, maintaining the recreation settings currently valued by the public. However, due to the length and widespread level of activities, lasting over many years, there could be long term changes to recreation patterns. Fire not only changes the landscape; it changes how people move through it based on their preferences. Often people do not wish to recreate in recently burned areas, and it is expected that shifting of recreation to other areas is likely to occur.

The current and planned vegetation management treatments cumulatively would result in improvements in forest health and sustainability that are large and widespread. In the event of a wildfire, or insect infestation the restored forest would likely experience more typical low severity fire and small scale insect infestation. This would indirectly benefit recreation in the long term.

Alternative 2 (No Action)

DIRECT AND INDIRECT EFFECTS

This alternative would result in no short term or direct effects to the recreation resources, access or quality of recreation experience within the project area. Existing patterns of recreation use are expected to remain, and to increase in volume over time. Closures for safety could continue, however, and these areas would be unavailable for visitor use.

The risk of severe wildfire would remain, though not in the short term. In the long term, this may result in indirect effects to recreation resources, potentially resulting in changes to the recreation setting or scenic quality of the project area. These could include closures, lost opportunities due to destruction of recreation facilities by fire, and changes to access due to hazards such as snags, brush, and fallen trees.

Visitors' experience may be diminished if they are aware of weeds. Weeds can negatively affect a wide array of environmental attributes that are important to support recreation, including but not limited to soil quality, water quality and quantity, plant diversity, availability of forage and cover, and animal diversity and abundance (Eiswerth et al. 2005). Weeds could establish in some dispersed sites, limiting the availability of that area for recreation. However, those visitors who oppose chemical treatments would be more likely to recreate in an area where this type of treatment would not occur.

The natural recolonization of a fire area could be a draw for some who are interested in this process. Some areas with seed trees that survived the Rim Fire are producing regeneration; this could be interesting to visitors and an educational look at benefits of fire. However, there are many areas that experienced high burn severity and regeneration is currently occurring in the form of manzanita, oak and deer brush. These shrubs can be difficult to pass through and off-trail hikers and hunters would avoid those areas.

In addition, visitors may avoid the areas that do not naturally recolonize with conifers, since shade and the views they are accustomed to or desire would not be present. This avoidance could persist for decades.

CUMULATIVE EFFECTS

Cumulative effects are expected to be limited to those areas where closures or subsequent fires could cause changes to recreation patterns. Without reforestation activities, the vegetation that colonizes the fire area could cause long-term changes in how visitors distribute themselves across the landscape, and in combination with other projects occurring in the same area, would incur shifts in how people experience the Forest, particularly off-trail users.

Alternative 3

DIRECT AND INDIRECT EFFECTS

The main differences between Alternative 1 and 3 include the lack of herbicide use and differences in planting prescriptions.

Noxious Weed Eradication

Alternative 3 proposes non-chemical site preparation, release and noxious weed treatments using methods such as: burning, grazing, grubbing, hand-pulling, and native seeding. Because herbicides would not be used, some noxious weeds would continue to grow and flourish. Visitors' experience may be diminished if they are aware of weeds. Weeds can negatively affect a wide array of environmental attributes that are important to support recreation, including but not limited to soil quality, water quality and quantity, plant diversity, availability of forage and cover, and animal diversity and abundance (Eiswerth et al. 2005). Weeds and woody shrubs in some dispersed sites would limit the recreation area's availability. However, those visitors who oppose chemical treatments would be more likely to recreate in an area where this type of treatment would not occur. However, due to the increased effort involved in hand treatments, the presence of crews would be prolonged over the other action alternatives.

Reforestation

Alternative 3 would reforest the same amount of acres as Alternative 1, though the spacing and a different fuel break ridge treatment are different as discussed under Visual Resources (Chapter 3.01). In the long term, visitors could be aware of large spaces used as fuel breaks, but the majority of visitors would not be affected by the spacing. There could be additional shrub density in years 15-20, impeding cross-country travel, since herbicides would not be used, resulting in low tree survival rates and more opportunity for shrubs to colonize the area. Impacts to recreation would be the same as under Alternative 1, although there would be additional deep tilling in Alternative 3. The presence of crews and machinery would be more pronounced. Grubbing treatments would occur for several years, increasing the amount of workers in the field during that time over other alternatives. Visitors who did not want to encounter work crews or machinery could be displaced for longer periods under Alternative 3.

Prescribed Fire

Same as Alternative 1.

Thin Existing Plantations

The direct effect of Alternative 3 is that in some cases weeds would continue to grow and spread. People would not be exposed to herbicides under Alternative 3, but would continue to experience the effects of weeds and woody shrubs, such as noticeable changes to natural conditions and processes expected as part of a forest setting.

CUMULATIVE EFFECTS

Cumulative effects would be similar to Alternative 1, although visitors would see and hear additional and longer-term evidence of workers in the project area due to the additional machinery and time needed for machine and hand treatments instead of herbicide applications.

Alternative 4

DIRECT AND INDIRECT EFFECTS

Herbicide Use and Noxious Weed Eradication

Alternative 4 includes similar noxious weed eradication and effects as Alternative 3, without the use of herbicides. However, herbicides would be used for release and planting activities. For those areas, impacts would be similar to Alternative 1, on a much smaller scale.

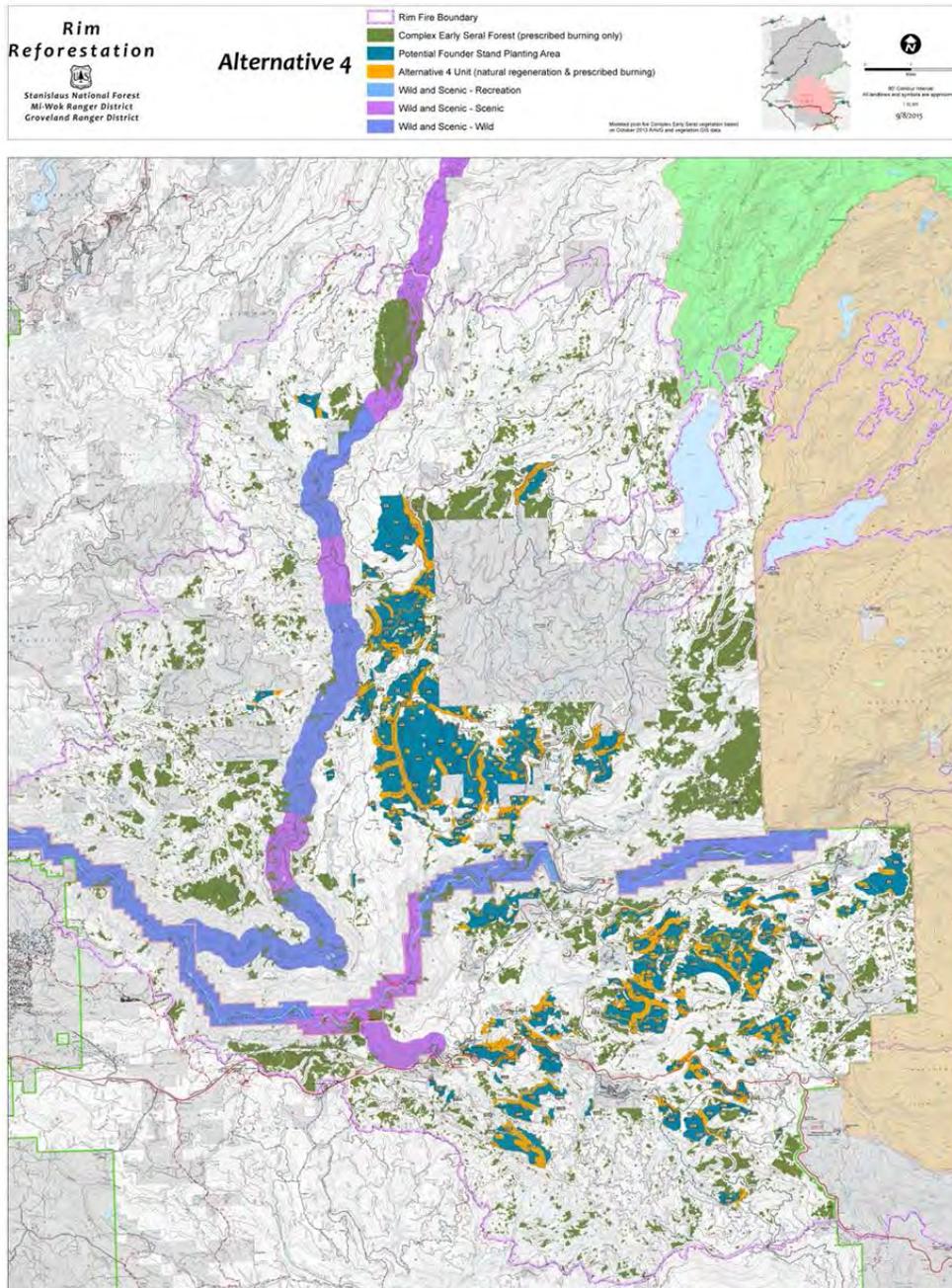


Figure 3.08-2 Alternative 4 treatment units and recreation sites (includes wilderness and WSR)

Reforestation

The main difference to recreation impacts under Alternative 4 would be less treatments proposed. There would be considerably fewer planted acres and trees than in Alternative 1. Reforestation would occur on only 20% of each unit proposed in Alternative 1. In addition, complex early seral forest is left intact and removed from reforestation consideration.

Effects would be similar to Alternative 1, but diminished in scope. Since far fewer acres proposed for treatment in Alternative 1 would not be treated under Alternative 4, the presence of crews, herbicide use, machinery, and burning would impact visitors in very few instances. Though some displacement could occur, recreation patterns would be expected to continue in a normal manner. However, impacts from lack of reforestation activities on the areas not treated would be similar to Alternative 2. Due to lack of reforestation, visitors could see a relatively open landscape in some areas, facilitating off trail travel, until brush development prohibited access, or until natural regeneration occurs.

Prescribed Fire

Much more burning would occur under this alternative; over 10 years, nearly 16,000 acres would be burned. Impacts would depend on rotation, location and size of each unit. If burn times are staggered, visitors would likely not be displaced or inconvenienced. If adjacent units are burned consecutively, visitors could be bothered by lingering smoke, delays, and the presence of fire crews. In some instances nearby roads and facilities could be temporarily closed during burn windows. The presence of active fire, while controlled, could cause some visitors anxiety and they could change their travel plans. Visitors with breathing challenges would tend to avoid the area entirely. Since units are fairly scattered through a large area, effects would be minor and short term.

Thin Existing Plantations

Same as Alternative 1.

CUMULATIVE EFFECTS

Effects would be similar to, but considerably less than, Alternative 1 for the treated areas, and similar to Alternative 2 for those areas not treated. If a severe wildfire season that impeded recreation opportunities on a large part of the forest preceded the prescribed burning activities; the combination of the burning proposed in this alternative with the wildfire event would negatively affect recreation for that particular year.

Alternative 5

DIRECT AND INDIRECT EFFECTS

Herbicide Use and Noxious Weed Eradication

Same as Alternative 1.

Reforestation

Alternative 5 proposes planting conifers in the same areas proposed in Alternative 1, including the natural regeneration units, though some prescriptions are different. Impacts to recreation should not differ from Alternative 1. The spacing prescription is different than in the other action alternatives; instead of clumps or clusters, a more traditional approach is proposed. To some visitors, the even spacing may appear unnatural. Thinning of new plantations to create the ICO structure would make the stands appear more natural. The appearance is not expected to affect recreation patterns significantly. Cross country travel could be impeded by shrub cover in years 15-20; impacts would be similar to Alternative 1. Refer to the Visual Resources (Chapter 3.01) for more discussion.

Prescribed Fire

Alternative 5 only includes prescribed fire in existing plantations. Effects from smoke would be less than the other action alternatives.

Thin Existing Plantations

Same as Alternative 1.

CUMULATIVE EFFECTS

Cumulative effects would be similar to Alternative 1.

Summary of Effects Analysis across All Alternatives

Alternatives 1, 3 and 5 would be similar. These include temporary negative effects of noise, dust and increased traffic on the recreation experiences of Forest users. The use of herbicides in Alternatives 1, 4 and 5 would cause temporary negative effects to visitors who are concerned about health issues associated with those treatments. Effects would include seasonal displacement, change in travel routes, or simple avoidance until after treatments are completed. Each action alternative proposes some form of weed treatment, which would ultimately benefit forest health, indirectly improving recreation in the area.

Alternative 4 would have much less impact on recreation from noise, dust and increased traffic, since considerably fewer acres are being treated. Impacts of smoke would be greater and persist for more years under this alternative, and for short periods could cause more smoke-related displacement of visitors than the other alternatives.

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