



United States Department of Agriculture

Rim Fire Reforestation (45612) Special Areas Resource Report

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**Forest
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Affected Environment and Environmental Consequences

SPECIAL AREAS

Introduction

This analysis describes the existing condition of the Special Areas occurring within the Rim Fire project area. This analysis also describes the potential effects to these areas 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 impacts to wilderness character and Wild and Scenic River Outstandingly Remarkable Values (ORVs)

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

The Forest Plan Compliance (project record) document identifies the Forest Plan Standards and Guidelines that specifically apply to this project and related information about compliance with the Forest Plan. In addition, the Forest Plan includes a specific goal applicable to Special Areas and the Rim Reforestation project:

Wilderness

The Wilderness Act of 1964 (Public Law 88-577) and the 132 subsequent laws designating Wilderness contain numerous statutory provisions addressing management of Wilderness. It establishes a National Wilderness Preservation System of federal Lands where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.

Several sections of FSM 2320 provide management direction for Wilderness:

- Wilderness values shall dominate over all other considerations except where limited by the Wilderness Act, subsequent legislation, or regulations (FSM 2320.3).
- Do not maintain buffer strips of undeveloped wild land to provide an informal extension of Wilderness. Do not maintain internal buffer zones that degrade Wilderness values (FSM 2320.5).
- Manage each Wilderness as a total unit and coordinate management direction when they cross other administrative boundaries (FSM 2320.5).
- Where a choice must be made between Wilderness values and visitor or any other activity, preserving the Wilderness resource is the overriding activity (FSM 2320.6).
- Display the relationship and coordination between the Wilderness and activities present in the Wilderness, as well as activities outside of the Wilderness that affect the management of Wilderness (FSM 2322.03).
- Protect air quality and related values, including visibility, on Wilderness land designated class I by the Clean Air Act as amended in 1977 (FSM 2323.61).

Forest Plan direction for Wilderness is to: maximize the quality and naturalness of the wilderness environment; minimize impacts to the Wilderness resource while allowing it to be used for primitive

recreation and preserving scenic, scientific, educational and historical values; all NFS lands within Congressionally designated Wilderness and areas recommended for Wilderness will be managed in accordance with the Wilderness Act of 1964 (16 USC 1131-1136) as amended (USDA 2010).

Wild and Scenic Rivers

The Wild and Scenic Rivers Act (82 Stat. 906, as amended; (16 U.S.C. 1271-1287) establishes the National Wild and Scenic River System and establishes policy for managing designated rivers. Under the Act, designated rivers “shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations” (16 USC 1271). Section 10(a) states: each component of the national wild and scenic rivers system shall be administered in such manner as to protect and enhance¹ the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. Section 12(a) states: particular attention shall be given to scheduled timber harvesting, road construction, and similar activities which might be contrary to the purposes of this Act.

FSH 1909.12, Chapter 8 includes direction to manage selected river corridors to preserve their notable values or features as part of, or for eventual inclusion in, the National Wild and Scenic River System.

Forest Plan direction for Wild and Scenic Rivers is to protect and enhance Proposed Wild and Scenic River characteristics and manage the same as designated Wild and Scenic Rivers (Forest Plan, page 117). Designated and proposed Wild and Scenic Rivers, along with immediate environments, will be managed to preserve their free flowing condition and protect their outstandingly remarkable values (p. 111). The Forest Plan allocates Wild classification river segments to Primitive or Semi-Primitive Non-Motorized ROS; and, Scenic and Recreational classification river segments to Roded Natural Recreation Opportunity Spectrum (ROS p. 114). Special cutting methods will be used to improve the quality of Wild and Scenic River resources (p. 116). (USDA 2010)

The Tuolumne Wild and Scenic River Plan (USDA 1988) provides additional direction for that congressionally designated river. Timber management objectives include the following:

- Manage vegetation to protect and enhance Wild and Scenic River values, placing special emphasis on protecting streamside vegetation.

Effects Analysis Methodology

Wilderness

The geographic extent of this analysis is the area of the Wilderness that falls within one half mile of project activities. Rim Reforestation project activities would occur on NFS land adjacent to the Wilderness. No project activities are planned in the Emigrant Wilderness. The temporal bounds of the 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

¹ The Interagency Wild and Scenic Rivers Coordinating Council interprets **Protect** as elimination of adverse impacts and **Enhance** as improvement in conditions (IWSRCC 2002).

ASSUMPTIONS SPECIFIC TO WILDERNESS

- No treatment actions are proposed in designated wilderness.
- Action alternatives will not cause long-term changes to recreation opportunities or access to wilderness.
- Action alternatives will not cause long term changes to wilderness character.

DATA SOURCES

- Stanislaus NF GIS Library
- National Visitor Use Monitoring data
- Project GIS maps

WILDERNESS RESOURCE INDICATORS

- Wilderness character—the degree to which the untrammelled, natural, undeveloped, and opportunities for solitude and/or primitive and unconfined recreation qualities of wilderness are diminished.

Wild and Scenic Rivers

The geographic extent of this analysis for direct and indirect effects is river corridor boundary, one quarter-mile on either side of the high water mark of the rivers.

The analysis for cumulative effects includes those effects within the river corridor and, given that nearly the entire project area drains to these rivers, cumulative effects of this project occur at the watershed scale. Chapter 3.XX (Watershed) displays potential cumulative watershed effects (e.g., sedimentation and other impacts to water quality).

The analysis of each alternative considers whether the activities would alter ORVs of the associated river segments. The short-term timeframe for this analysis is three years, an appropriate temporal boundary because the activities associated with this project should be completed within three years. The long-term timeframe for this analysis is ten years, an appropriate temporal boundary which allows effects of completed activities associated with this project to be established.

The potential direct and indirect effects to the proposed scenic river 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 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.

ASSUMPTIONS SPECIFIC TO WILD AND SCENIC RIVERS (WSR)

- No treatment actions are proposed in WSR or proposed WSR corridors
- Proposed treatments would not affect the free-flowing condition of each river.

DATA SOURCES

- Stanislaus GIS library
- Stanislaus Forest Plan WSR Study (USDA 1999)

- Tuolumne WSR Plan (USDA 1988)
- Project GIS maps

WSR RESOURCE INDICATORS

Indicators of direct and indirect effects include:

- Long-term changes to the ORV qualities of proposed and designated WSRs.

WSR Methodology by Action

The WSR indicator identified and compared the effects of the alternatives on the river ORVs. The analysis discussed the changes in ORVs as a result of each alternative.

Wilderness Affected Environment

Existing Conditions

The Emigrant Wilderness is located in Tuolumne County. It is characterized by large expanses of bare, glaciated granite and sub-alpine vegetation types, numerous glacial lakes, high quality scenery and Wilderness recreation opportunities. It is bordered on the east by Toiyabe National Forest and Yosemite National Park. The Emigrant Wilderness became part of the National Wilderness Preservation System in 1975. The California Wilderness Act of 1984 added 5,855 acres to the original area. Most of the recreation use in the Emigrant Wilderness Area is for hiking, camping, backpacking, and horse-back riding; pack-stock are also commonly used. Fishing is popular at most lakes, but hunting use is light.

Commercial livestock grazing occurs in some areas. Tungsten mining in the Snow Lake area has occurred in the past. Portions of several streams which are eligible for Wild and Scenic River designation and include Kennedy Creek (proposed Wild and Scenic River), Relief Creek South Fork Stanislaus River, Buck Meadow Creek, Summit Creek, and the Cherry Creek system.

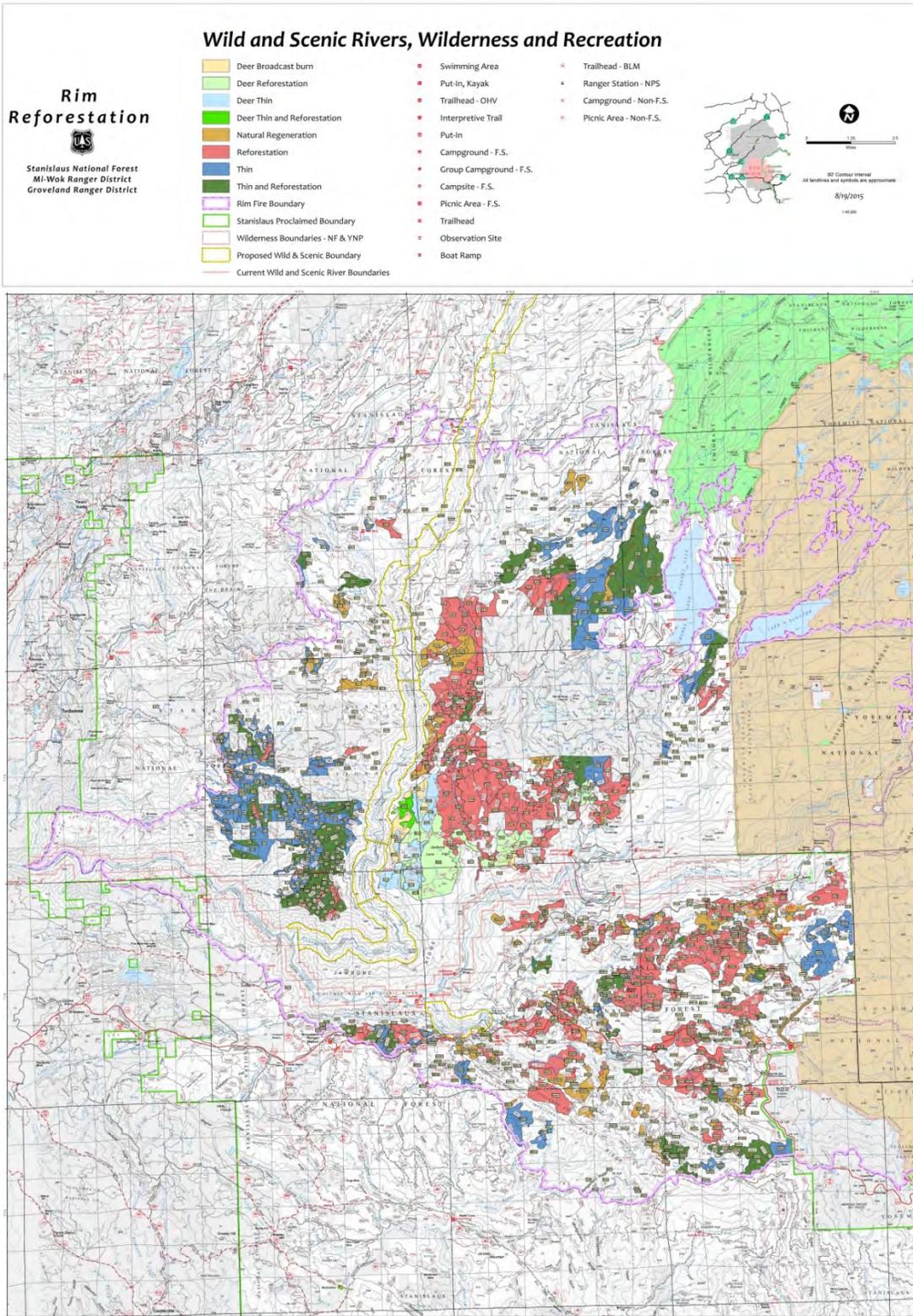
A majority of Wilderness recreation use occurs from early July through early September. Kibbie Ridge Trail can be an exception because of exposure to summer sun and heat. Recreation use does occur outside of the peak times, but visitation is considerably lower due to weather, access, school schedules, and deer hunting season. Because of the popularity of equestrian activities the Aspen Meadow and Kennedy Pack Stations operate under Outfitter and Guide Special Use Permits to provide horseback riding and pack and saddle service to Wilderness visitors.

The Emigrant Wilderness is contiguous with Yosemite Wilderness to its south. Most recreation within the area originates from the Kibbie Ridge and Lake Eleanor Trail Heads. Popular destinations from these trail heads include Eleanor and Kibbie Lakes in Yosemite National Park (Wilderness). (USDA 2014b)

Environmental Consequences

Alternative 1 (Proposed Action)

Figure 1. Alternative 1 treatment units with Wilderness and WSR



DIRECT AND INDIRECT EFFECTS

Proposed actions within a mile of the wilderness boundary include thinning and reforestation to the south and southwest. A reforestation unit is located within a half mile of the wilderness boundary, and the nearest deer broadcast burn is over two miles to the southwest.

Thinning

In the geographic extent, visuals (project activity), noise and dust produced during ground based activities may negatively disrupt the solitude qualities of wilderness character. The sounds of chainsaws may be audible until visitors travel further into the interior. These effects are expected to be short term and only persist near the wilderness boundary. Some visitors may temporarily change their activities and destination, particularly those who want to camp near the boundary. There would be no effects to the untrammelled, natural and undeveloped qualities of wilderness character.

Reforestation

Reforestation units are located within a mile of the wilderness boundary. This work will be done by hand and on foot, and is not expected to affect wilderness character.

Broadcast Burning:

Wilderness visitors may be able to see and smell smoke from high points or vistas within the wilderness. However, due to the distance from the proposed units, this is not anticipated to negatively affect wilderness character.

Herbicide/Noxious Weed Eradication

Herbicide use and noxious weed eradication activities do not occur within the wilderness boundary and would not affect wilderness character.

CUMULATIVE EFFECTS

Anticipated and reasonably foreseeable activities occurring in Wilderness and near the boundary include road and trail maintenance, visitor use monitoring, campsite rehabilitation, and fire suppression. The Reynolds Creek Ecological Restoration project is occurring to the east and includes thinning and burning. Most visitors expect to see increased presence of humans near boundary and transition areas. When considered with other activities occurring in the area, implementation activities are not expected to have a cumulative long term effect on wilderness character

Alternative 2 (No Action)

DIRECT AND INDIRECT EFFECTS

Under this alternative, no treatments would occur. Choosing this alternative would not impact the outstanding opportunities for solitude, untrammelled, natural and undeveloped or primitive and unconfined qualities of wilderness character.

CUMULATIVE EFFECTS

There are no direct or indirect effects, so there are no cumulative effects.

Alternative 3

DIRECT AND INDIRECT EFFECTS

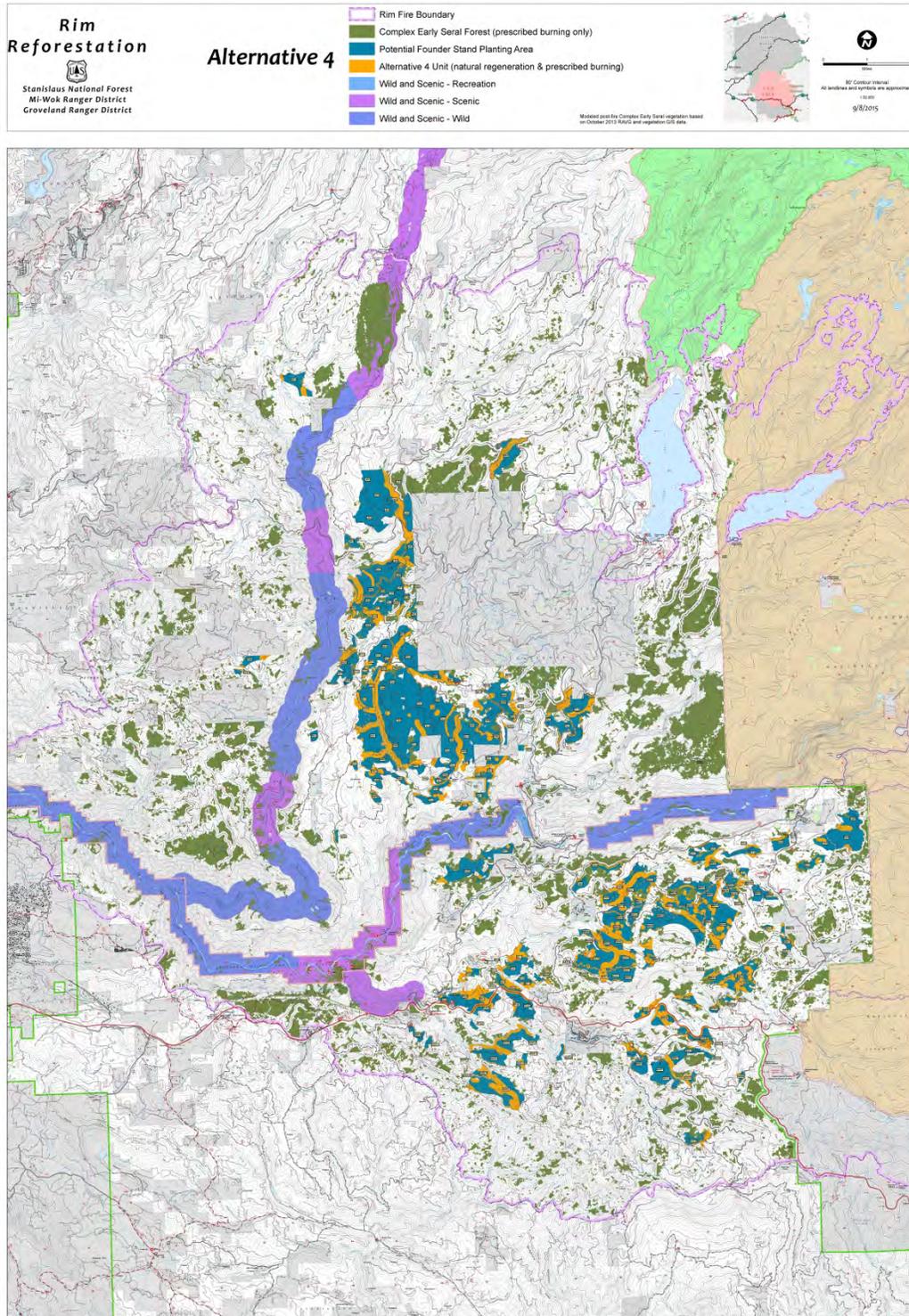
Impacts would be similar to Alternative 1.

CUMULATIVE EFFECTS

Same as Alternative 1.

Alternative 4

Figure 2. Alternative 4 with WSR Corridors and Wilderness.



DIRECT AND INDIRECT EFFECTS

This alternative would propose no other treatment units adjacent to wilderness except for the early seral units. There are several early seral forest units (prescribed burning) directly adjacent to the wilderness boundary on the southern end. The presence of smoke could temporarily bother wilderness visitors depending on prevailing winds. Depending on the length of time for burning, presence of large fuels smoldering, and atmospheric stability, smoke could linger for a few days. Some visitors may alter their plans and choose different routes of travel. However, only 50% of the complex early seral forest units will be burned, and in a moderately long fire return interval (10 years), so effects would be minor. No long term effects are expected.

CUMULATIVE EFFECTS

Same as Alternative 1.

Alternative 5

Direct and Indirect Effects

Impacts would be similar to Alternative 1.

Cumulative Effects

No cumulative effects are expected.

Alternative 5

DIRECT AND INDIRECT EFFECTS

Impacts would be similar to Alternative 1.

CUMULATIVE EFFECTS

Same as Alternative 1.

Summary of Effects Analysis across All Alternatives

Wilderness character is not expected to change or diminish from project activities. There may be short-term, minor effects to solitude from the sights and sounds of workers or equipment; however, this would be limited to the areas near the wilderness boundary where most visitors have expectations of encountering people and activity. The presence of drift smoke could obscure views and temporarily change the unconfined nature of the wilderness experience, but this is expected to be minor and not cause long-term effects to this quality. Most activities would take place outside of the regular wilderness season of use.

WSR Affected Environment

Existing Conditions

One congressionally designated and two proposed Wild and Scenic Rivers lie within the Rim Fire perimeter. This includes all 29 miles of the designated Tuolumne Wild and Scenic River on NFS lands; the lower half of the Clavey Proposed Wild and Scenic River (24 miles); and, all of the South Fork Tuolumne Proposed Wild and Scenic River (2 miles).

About 98 percent of the Rim Fire burned within the Tuolumne River watershed. The remaining 2 percent burned in the North Fork Merced River watershed along the southern edge of the fire. Table 3.12-1 displays the river segments affected by the Rim Fire (USDA 2014b)

Table 3.xxx-1 Wild and Scenic River Corridors Affected by the Rim Fire

| Wild and Scenic River | Classification | Segments | Total Miles ¹ | Miles within Project Area | Total Acres ¹ | Acres within Project Area |
|---------------------------|----------------|----------|--------------------------|---------------------------|--------------------------|---------------------------|
| Clavey River | Wild | 3 | 33.0 | 16.2 | 10,560 | 4,822 |
| | Scenic | 3 | 14.0 | 7.3 | 4,480 | 2,377 |
| Tuolumne River | Wild | 3 | 24.0 | 21.5 | 7,680 | 6,050 |
| | Scenic | 1 | 4.7 | 4.7 | 1,381 | 1,381 |
| | Recreational | 1 | 1.0 | 0.6 | 320 | 96 |
| South Fork Tuolumne River | Scenic | 1 | 2.5 | 2.5 | 681 | 681 |

¹Within Stanislaus NF

CLAVEY PROPOSED WILD AND SCENIC RIVER

The Clavey Proposed Wild and Scenic River includes 33 miles of Wild and 14 miles of Scenic segments, including its tributaries Bell Creek and Lily Creek. It was proposed for its free-flowing characteristics, abundance and quality of life zones and vegetation, elevation range, and relative remoteness and lack of development. The Rim Fire affected half (23.5 miles) of the 47 mile river corridor: 7.3 miles of Scenic classification and 16.2 miles of Wild classification are within the analysis area. The 5 miles of Wild segments within Wilderness were not affected by the Rim Fire. The primary ORVs of the Clavey River inside the Rim Fire perimeter include ecological, fish, scenic, wildlife, and recreation (USDA 1991, p. 46-50) as described below.

Ecological

The Clavey River (including Bell and Lily Creeks) has a combination of landscape ecology features making it distinct within the Sierra Nevada Mountains: 1) free-flowing characteristics; 2) abundance and quality of life zones and vegetation; 3) elevation range; and, 4) relative remoteness and lack of development.

The Clavey River is one of the longest remaining free-flowing streams in the Sierra Nevada. It is 47 miles from source to mouth, including both headwater forks, Bell and Lily Creeks. Free-flowing condition is an important value because little remains in the Sierra Nevada. From the Feather River on the north to the Kern River on the south, all but one (the Consumnes) of the 15 major rivers in the Sierra, are impounded. Of 90 major tributaries, only four streams greater than 40 miles are free-flowing with no impoundments or diversions from headwaters to mouth. The Clavey River contains all but one Sierra Nevada life zone within its watershed. Elevation ranges from 1,200 feet at its mouth to 9,200 feet at its headwaters, allowing for all life zones except true alpine. At its headwaters, sub-alpine forests of red fir, lodgepole, western white pine and mountain hemlock combine with mountain meadows and granite-bound lakes. All forest habitats are found as elevation decreases, ending with the California chaparral type at the mouth of the river. Within the Clavey's wide variety of high to low elevation vegetative types, one is truly unique: Bell Meadow, at 6,500 feet along Bell Creek, contains the largest stand of quaking aspen (110 acres) in the southern half of the Sierra Nevada.

Another feature of the Clavey River is its minimal development. It is almost entirely under federal ownership; even the portions outside of Wilderness are relatively undisturbed and remote. Private lands and developments such as towns and roads line portions of most other rivers in the Sierra. The Clavey, although crossed by several roads, has remained relatively undisturbed because of its remoteness, rugged nature and its north-south geographic orientation. For much of its length, the Clavey runs perpendicular to the east-west trend of major roadways in its watershed.

Fish

The Clavey was one of the first streams in California to be designated as a Wild Trout Stream, representing a mid to low elevation trout stream in a remote location. It is also now designated as a state Heritage Trout Water. See Watershed Report in the project file for details.

Wild Trout streams provide self-sustaining trout fisheries which are not supplemented by hatchery stocking. It is believed that almost the entire basin contains only fish native to this portion of the Sierra Nevada. About 95 percent of the basin has an original fish assemblage. Rainbow trout is the only trout species in the basin (Lily Creek is reported to have some non-native brook trout and non-native brown trout may spawn at the confluence with the Tuolumne River). Rainbow trout are found in all of the Clavey and its tributaries capable of supporting coldwater fish.

The lower portion of the Clavey also contains a native assemblage of warm water fish including Sacramento suckers, Sacramento squawfish and hardhead. Due to extensive planting of non-native trout species and the illegal introductions of non-native warm water fish species, few other streams in the Sierra contain the original assemblage of fish species. The Clavey River may be the only "rainbow trout" river left, in the Sierra Nevada, with its original fish assemblage still intact and relatively unaffected by introduced species.

Scenic

Outstanding Variety Class A landscape includes a deep, V-shaped, river-cut canyon through metasedimentary rock. The river provides a variety of water forms including rapids, cascades and pools. Vegetation patterns are varied, including scattered ponderosa pine and oak-grass woodland. The scenic values of the lower Clavey are similar to those of the lower Tuolumne Wild and Scenic River.

Wildlife

A large tract of late seral stage forest habitat is centered on the Clavey River between Reed Creek and Road 3N01.

Five SOHAs and two fisher reproductive units are located on or adjacent to the river, within 8,000 acres of older mature forest habitat. It is unusual to have this much older mature forest habitat at this elevation in the Sierra.

Recreation

Hiking and fishing are the popular dispersed activities. Access is limited and portions are remote and wild, resulting in a rare opportunity for solitude and non-motorized recreation experiences, below the snow and available all year.

This portion of the Clavey has been traversed by expert kayakers. It is a native trout fishery, and a State designated Wild Trout Stream which is significant to anglers. Hiking and swimming are the popular activities near the Clavey's confluence with the Tuolumne Wild and Scenic River.

The Rim Fire burned with varying intensity along the one-half mile wide river corridor, consuming vegetation with a basal area loss of less than 50 percent in 17 miles of the corridor, and a basal area loss of greater than 50 percent in the other 12 miles. Loss of vegetation has seriously altered the Scenic ORV of the river corridor and resulted in reduced visual diversity and wildlife habitat.

SOUTH FORK TUOLUMNE PROPOSED WILD AND SCENIC RIVER

The South Fork Tuolumne Proposed Wild and Scenic River, located in the south-central portion of the Forest, includes the 2 mile Scenic segment from the Middle Fork Tuolumne River to the Tuolumne River. ORVs include Scenic quality and Other. There are no water-related ORVs for the South Fork. (USDA 1991, p. 51):

Scenic

Outstanding Variety Class A landscape includes a deep, rugged canyon. The river provides a variety of water forms including rapids, cascades, waterfalls, and pools. Rim of the World Vista, located above the river area on Highway 120 (Big Oak Flat route to Yosemite National Park), provides

outstanding scenic views of the deep river canyon, all the way to its confluence with the Tuolumne Wild and Scenic River.

Other

Other: The areas are considered sensitive because they are fragile or nonrenewable. About 65 percent of the viewshed in the one-half mile wide river corridor is affected with a basal area loss of over 75 percent due to the Rim Fire. The remaining 35 percent of the river corridor viewshed sustained 25 to 75 percent basal area loss. Some randomly scattered and small (less than 1 acre) patches of less than 25 percent basal area loss exist along the corridor. Loss of vegetation severely compromised the scenic ORV for this river.

One electricity transmission line crosses over the river corridor and an aqueduct (tunnel) crosses under and parallel to the river corridor. Two un-numbered roads totaling about one-half mile access the transmission line in the river corridor.

TUOLUMNE WILD AND SCENIC RIVER

The Stanislaus National Forest portion of the Tuolumne Wild and Scenic River includes 24 miles of Wild, 4 miles of Scenic, and 1 mile of Recreational segments. The river is located in the south-central part of the Forest. ORVs include fish, geologic, historic and cultural, recreation, scenic, scientific and educational, whitewater boating and Wilderness characteristics.

Lumsden Road (1N10) runs 5.9 miles along the south and west sides of the river within the scenic corridor, crossing once at the Lumsden Bridge. Routes off the Lumsden road within the river corridor include the 0.1 mile 1S52, 0.1 mile 1N10A, and 0.2 mile 1N10E. Two hiking trails, 17E40 and 17E56, run parallel to the river on the south side and are in a Wild classification segment of the river. One trailhead, one put-in for boating, 3 camping sites, and one gaging station are the only facilities within the Scenic segment of the river. Dispersed camping associated with boating occurs along the river west of Merals Pool.

The Rim Fire burned with varying intensity along the one-half mile wide river corridor, mostly consuming vegetation greater than 50 percent of the basal area. Because of steep canyon walls, an estimated 10 to 15 miles has a view from the river corridor where over 75 percent of the vegetation has been consumed. This is both the west end of the river and the easterly end of the river. In areas where the corridor is flatter, about 19 miles have basal area consumption of 0 to 50 percent. Loss of vegetation has seriously compromised the Scenic ORV of the river corridor, reduced visual diversity and wildlife habitat, and created an increased risk of soil erosion within the steep slopes of the canyon.

The Tuolumne Wild and Scenic River was divided into eight segments for planning purposes, with boundaries between segments based on the types and levels of existing development, access, recreation opportunity, and the potential for classification as a unit separate from adjacent segments. Table 3.XX shows the eight segments, their length and classification.

Table 3.XX-2 Tuolumne Wild and Scenic River Classifications

| Segment | Classification | Length (miles) |
|------------------------------|----------------|----------------|
| Yosemite to Early Intake | Wild | 5 |
| Early Intake to Cherry Creek | Recreational | 1 |
| Cherry Creek to Lumsden Area | Wild | 4 |
| Lumsden Area | Scenic | 4 |
| Lumsden Area to Clavey River | Wild | 4 |
| Clavey River to Indian Creek | Wild | 3 |
| Indian Creek to Mohican Mine | Wild | 6 |

| Segment | Classification | Length (miles) |
|--------------------------|----------------|----------------|
| Mohican Mine to Terminus | Wild | 2 |
| Total | | 29 |

Recreation Use

Hiking and fishing are popular dispersed activities in all three river corridors. Access is limited due to topography and lack of roads. Rainbow Pool, just upstream of Highway 120, is a popular picnic and swimming area for day use visitors and the City of Berkeley Family Camp located upstream. The pool was also the location of an historic stagecoach stop and former resort. Whitewater boating (rafting and kayaking) is popular on the Tuolumne River. Expert kayakers have floated the Clavey River.

At the confluence of the Tuolumne and South Fork are the popular Lumsden and South Fork campgrounds, which are accessed via the visually bracing and not-for-the-driving-challenged Lumsden Road. This area is also the put-in for the Tuolumne's world famous class IV whitewater run.

The Rim of World Vista on Highway 120 provides outstanding views of the South Fork's precipitous drop all the way down to the main stem of the Tuolumne.

Environmental Consequences

Alternative 1 (Proposed Action)

DIRECT AND INDIRECT EFFECTS

Clavey Proposed Wild and Scenic River

Proposed actions adjacent to the proposed WSR boundary include a variety of treatments, including thinning, broadcast burning, and reforestation. The vast majority of treatments near the WSR corridor are reforestation units. None of the ORVs are expected to be permanently affected by the treatments proposed, although smoke from burning could linger over the area for several days, potentially affecting Scenery in the short term. The Wildlife ORV would be indirectly enhanced due to the beneficial effects of activities that target deer habitat enhancement, although the treatments would occur outside of the WSR corridor.

Though treatments would not occur within the corridor, there could be impacts to aquatic biota in tributaries of the proposed WSR due to sedimentation and herbicide use. Due to the spatial distribution of project units, measurable impacts in the Clavey River would likely be minimal; tributaries in those watersheds are more likely to be measurably affected. See the Fisheries Section XX for more information on these potential impacts.

The ORVs of Ecological and Recreation would not be affected. The free flowing characteristic of the river would be maintained. Where project activities are proposed within sight distance of the proposed WSR, distance and geographic features would obscure most treatments from the casual observer or users of those areas.

South Fork Tuolumne Proposed Wild and Scenic River

Treatment units are proposed to the south of the proposed WSR boundary. The two units immediately adjacent are a reforestation and a reforestation and thinning unit, near Rim of the World and Colfax Spring. These units are located well above the river. Additional units proposed for thinning are located near the high point of the boundary to the south. As these are located well above the river and

outside the boundary, impacts are not expected to occur to the Scenic ORV of this river. Where project activities are proposed within sight distance of the proposed WSR, distance and geographic features would obscure most treatments from the casual observer or users of those areas.

Tuolumne Wild and Scenic River

There are no treatment units proposed immediately adjacent to the WSR boundary. A cluster of units are located to the south, approximately half a mile from the southern boundary and to the north of Highway 120. These units are proposed for reforestation and thinning. Due to their location, the ORVs of Geologic, Historic and Cultural, Recreation, Scenic, Scientific and Educational, Whitewater boating and Wilderness characteristics would not be affected. Due to the spatial distribution of project units, measurable impacts in the mainstem Tuolumne to the Fish ORV would likely be minimal – tributaries in those watersheds are more likely to be measurably affected. See Fisheries, Section 3XXX for more information on these potential impacts.

CUMULATIVE EFFECTS

Ongoing or recent past actions within WSR corridors include salvage harvest, road maintenance and removal of hazard trees. Vegetation management is proposed to occur along powerlines in the Tuolumne WSR corridor. The Scenic quality of the Clavey has been degraded due to the fire intensity in that area and temporary drift smoke from burning could contribute to short term degradation of the Scenery ORV in site specific areas. However, effects from drift smoke would be minor and not long-lasting. No cumulative effects are expected to the other ORVs of the designated or proposed WSRs.

Alternative 2 (No Action)

DIRECT AND INDIRECT EFFECTS

Since no actions are proposed, this alternative would not change most ORVs for any of the proposed or designated WSRs. There would be no wildlife benefit from deer habitat enhancement; however, the Wildlife ORV for the Clavey Proposed WSR is not expected to degrade as a result of the no action alternative.

CUMULATIVE EFFECTS

There are no direct or indirect effects, so there are no cumulative effects.

Alternative 3

DIRECT AND INDIRECT EFFECTS

Effects would be similar to Alternative 1.

CUMULATIVE EFFECTS

Effects would be similar to Alternative 1.

Alternative 4

DIRECT AND INDIRECT EFFECTS

Clavey Proposed Wild and Scenic River

The units adjacent to the proposed WSR boundary are composed mainly of early seral forest treatment units. The presence of smoke from burning could temporarily affect scenery in these locations, but would not permanently alter this ORV. Only 50% of the complex early seral forest units will be burned, and in a moderately long fire return interval (10 years), so effects would be minor. No long term effects are expected.

A few natural regeneration units and potential founder stand planting units are proposed to the east of the proposed WSR corridor (see Figure 2). Site preparation and plant and release treatments could be used in the natural regeneration units if results are not achieved in five years. Proposed founder stands

are small in nature. These units are outside of the proposed WSR boundary and treatments would not affect Scenery.

The other ORVs for this proposed WSR are not expected to be affected by treatment actions (see Watershed and Fisheries report for information on effects to tributaries). Though early seral forest exists (and are shown on the map) within the corridor, no treatments to these units are proposed during the life of this project.

South Fork Tuolumne Proposed Wild and Scenic River

Less than ten treatment units are located near or adjacent to the proposed WSR boundary, and are composed of early seral forest treatment units. The ORV of Scenery could be temporarily affected by smoke but would not permanently alter this ORV. Only 50% of the complex early seral forest units will be burned, and in a moderately long fire return interval (10 years), so effects would be minor. No long term effects are expected.

Tuolumne Wild and Scenic River

Treatment units adjacent to the WSR are early seral forest units. Effects to the Scenery ORV are similar to the Clavey Proposed WSR. The ORVs of Geologic, Historic and Cultural, Recreation, Scientific and Educational, Whitewater boating, Fish and Wilderness characteristics would not be affected.

CUMULATIVE EFFECTS

Effects to Scenery would be similar, but less than Alternative 1 since burning would occur on a less frequent basis and on a smaller scale. There would be no cumulative effects to the other ORVs.

Alternative 5

DIRECT AND INDIRECT EFFECTS

Clavey Proposed Wild and Scenic River

Effects would be similar to Alternative 1, although since fire would only be used in existing plantations, smoke would be less than in the other action alternatives. The differences in spacing prescriptions would not affect the WSR ORVs.

South Fork Tuolumne Proposed Wild and Scenic River

Effects would be similar to the Clavey WSR.

Tuolumne Wild and Scenic River

Effects would be similar to the Clavey WSR.

CUMULATIVE EFFECTS

Effects would be similar to Alternative 1.

Summary of Effects Analysis across All Alternatives

With the exception of minor, short-term impacts to the Scenic quality from drift smoke, none of the alternatives are expected to change the free-flowing quality of any of the designated or proposed WSRs. Maintaining high water quality is also needed to maintain Wild and Scenic values. Management requirements have been designed to minimize water quality impacts in all of the action alternatives. ORVs of each river are expected to be preserved in each alternative.

References

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