The Location and Size of SPLATs

In 2006, District and Forest Fire and Fuels managers, along with the District Silviculturist, identified areas for SPLAT (strategically placed land area treatments) consideration. SPLATs may be natural, constructed, or the result of unplanned disturbances. The SPLAT pattern for the American River Ranger District was developed using an interdisciplinary approach. Specialists from fire, wildlife, soils and water, heritage resource, and vegetation management gave input as to the size, shape, and location of SPLATs based on topography, fire history, fuel characteristics, and the presence of existing features that afford opportunities to develop areas with vegetative and fuels conditions that would produce low fire intensities and severities. The SPLATs were primarily located to function as "speed bumps" slowing the spread and reducing the intensity of oncoming fires thereby reducing damage to both treated and untreated areas and the impacts of large, uncharacteristically severe wildfires. The factors influencing SPLAT locations include but were not limited to: severe fire behavior potential, existing tactically favorable conditions or features (such as roads or rivers), proximity of threatened and endangered species habitat, proximity of unique natural or historic values, and the presence of economic values. It is important to note that SPLATs are not a fixture on the landscape. Over time, future projects may develop "new" SPLATs within the watershed. The ones being proposed by the Last Chance Project Area may be maintained, their shape and/or size could be altered, or they could be replaced by "new" SPLATs during the development of future vegetation and fuels projects within the North Fork of the Middle Fork of the American River Watershed. This direction comes from the Fireshed-Stewardship group. Size, shape, and location of the proposed SPLATs in the Last Chance Project Area were developed using the same factors and are described below.

Action is Needed to Reduce the Adverse Effects of a Potential Wildfire in the North Fork of the Middle Fork of the American River Drainage.

When treated, these areas would help reduce wildland fire behavior indices, help protect nearby Wildland Urban Interface (WUI) areas, and create anchor areas for future wildland fire suppression operations. During the development of future vegetation and fuels management projects, the Interdisciplinary Team reviews the baseline SPLAT pattern and makes the necessary modifications needed to meet resource management direction and objectives. Figure 1 illustrates the proposed Last Chance SPLAT treatment areas (green fields) developed by the Interdisciplinary Team compared to the draft SPLAT pattern (red lines) for the area.

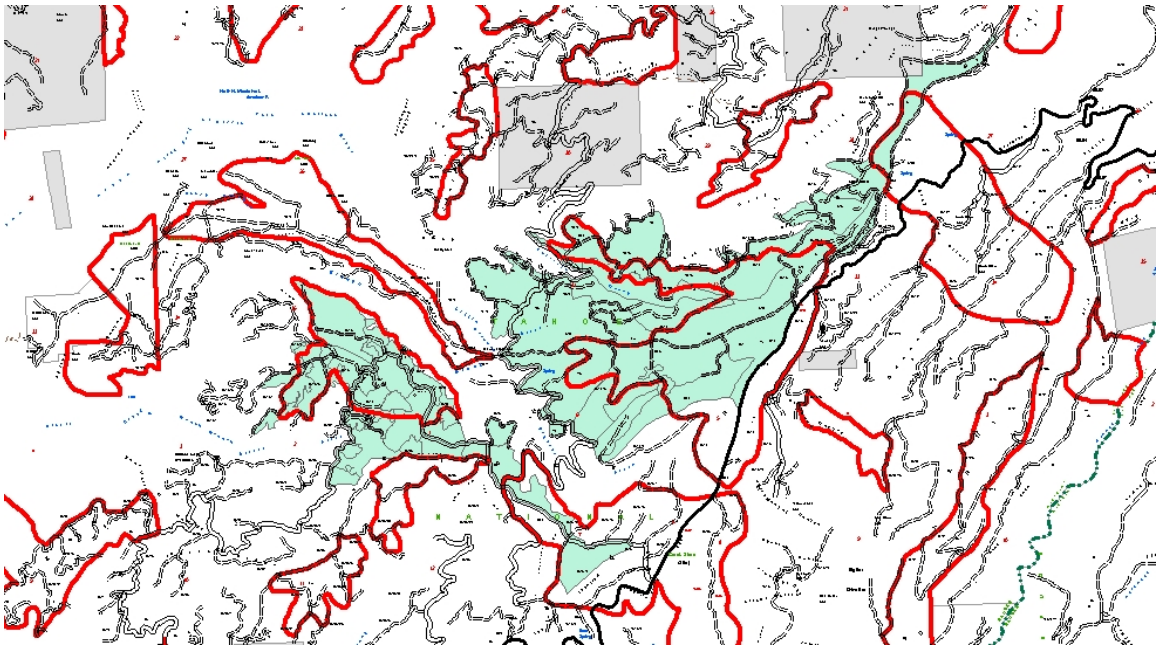

Figure 1. SPLAT treatment areas (in red) and the Last Chance SPLAT treatment areas (in green)

The SPLATs proposed in the Last Chance Project Area continue the ongoing process of development of a pattern of treatments across the landscape. Effective SPLATs are characterized by more open stands of larger fire resistant trees with reduced ladder and surface fuels. Such conditions would reduce the extent and severity of wildfires in the area, allowing for a reduced risk of damage to forest resources, including wildlife habitat and water quality. The Last Chance Project Area proposed treatments, the nearby 2001 Star Fire burn area (a proven fire deterrent in 2008), and naturally light fuel load areas surrounding the Last Chance Project Area will contribute to a future fire regime more representative of historic natural conditions.

Severe Fire Behavior Potential

All wildland fires vary in intensity in response to fuel, weather, topographical, and suppression/management factors. Large wildfires typically occur in locations with high ignition probabilities, topographically complex terrain, and propensity to warm, dry, and windy conditions (Graham et al. 2004, Sugihara et al. 2006, Bahro et al. 2007). Within any fire perimeter, effects may range from completely unburned areas to near total mortality of surface organisms, soil sterilization, and soil structure decomposition. Safford & Schmidt (TNF Historic Reference Condition Summary 5-2007) found the Last Chance Project Area in a moderately to severely departed state with respect to pre-settlement fire frequencies, even using "maximum" fire return intervals. This implies an unnatural accumulation of fuels and the potential for a wildfire to exceed historic levels of moderate to high severity, even under moderate burning conditions.

The District defines "catastrophic wildfire" as being any wildland fire with high severity percentages and areas that exceed the probable historic range of variability for the pre-European forests considered to support a fire regime of frequent low to moderate severity fires. This accepted fire regime is documented in the papers written for the Sierra Nevada Ecosystem Project (1996, Vol. II, Chapters 37,38, and 39) and numerous other scientific papers (Skinner et al 2005, Skinner 2006 - unpublished Red Star data, Moody et al 2006, Beaty & Taylor 2007, Skinner & Stephens 2004, Stephens & Collins 2004, Stephens et al. 2007, Safford et al. 2007). An example of what the District considers a catastrophic wildland fire is the Star Fire (2001). This fire had overall percentages of moderate to high severity fire significantly outside the historic range of variability.

Figure 2 below shows the Last Chance Project Area location, with fire perimeters obtained from the State Fire History Database (http://www.frap.cdf.ca.gov/data/). The Canyon of the North Fork of the Middle Fork of the American River is well known as a "problem fire" area. The towns of Foresthill, Michigan Bluff, and other small communities, as well as numerous rural residences, roads, and mining claims, are found along the canyon rim and in some cases, in the canyon bottom. In addition, the area receives heavy recreational use. These factors lead to many ignitions every fire season. Although most ignitions are successfully put out before they become large enough to be represented in the fire history database, the canyon is aligned with the prevailing direction of wind during the summer, slopes are steep, the topography is complex, and a relatively high number of fires escape control. In the vicinity of the proposed Last Chance Project Area, the Middle Fork American River drainage has supported a large wildland fire approximately every seven years on average (the median is three years). Access for fire suppression is difficult, and fires often escape initial attack. Action is needed in this area to slow fire spread and lower fire severity in a remnant of unburned forest that has been accumulating fuel for many decades.

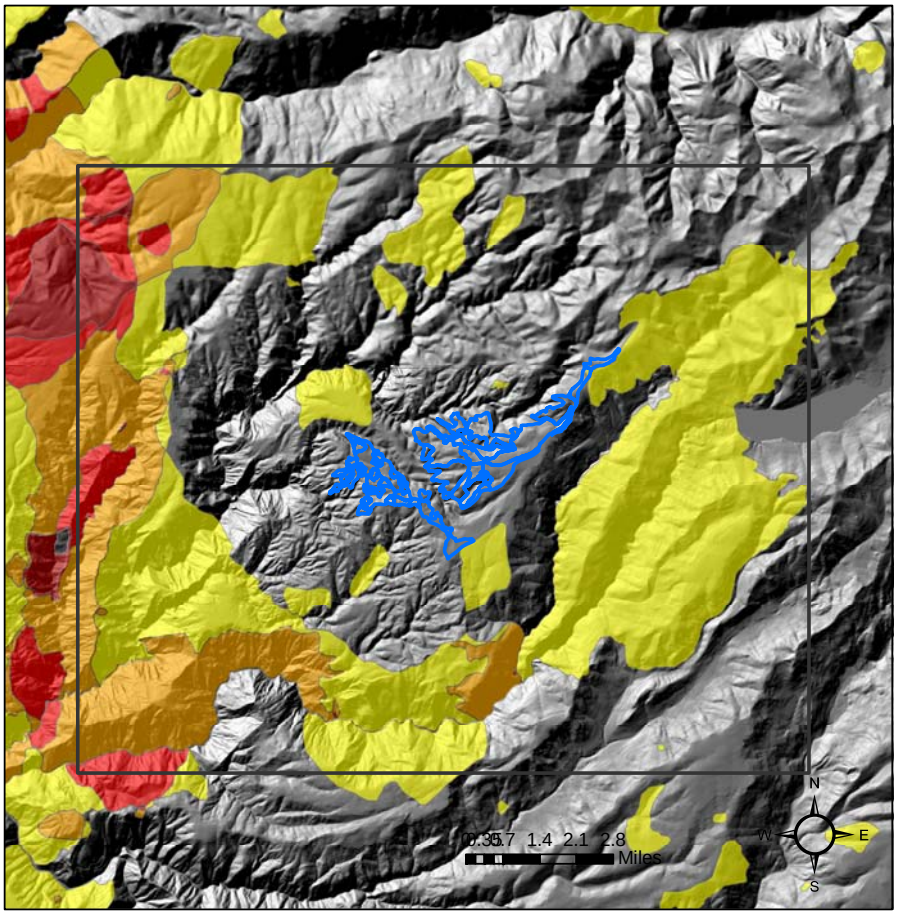

Figure 2. Last Chance Project Area location, with fire perimeters obtained from the State fire history database. Yellow = burned one time during the period of record (1910-2005); Orange = burned twice; Red = burned three times; Dark Red = burned four times; Black = burned five times. This map is missing the Ralston Fire (2006), which burned most of the unburned area in the bottom of the map.

Existing Tactically Favorable Conditions or Features

Although remote, the proposed treatment area presents advantages as a location for fire suppression operations. Treatment units are located on or near broad flat ridge tops bisected by relatively wide, drivable forest roads. These features may be used as anchor points or fuel breaks for future wildfires, especially after the proposed fuel reduction treatments are completed.

Proximity of Sensitive Species Habitat

The proposed treatments within the SPLATs are designed to provide protection of identified sensitive habitat areas in the immediate area with a minimum of disturbance. The three Last Chance Project Area SPLATs surround the California spotted owl Protected Activity Center (PAC) located near Frazier Creek. There are 2 sensitive species, California spotted owl and northern goshawk and their associated habitat present within the Last Chance Project Area. The two maps below, Figures 3

and 4, display the location of the goshawk PAC and the spotted owl PAC and their spatial relationship to the SPLAT locations.

There are a series of SPLATs to the southwest to protect these PACs and reduce the effects of a potentially stand replacing fire driven by the prevailing winds that come out of the southwest. There are also a series of SPLATs located to the north designed to reduce the effects of a potentially stand replacing fire driven by a north wind event.

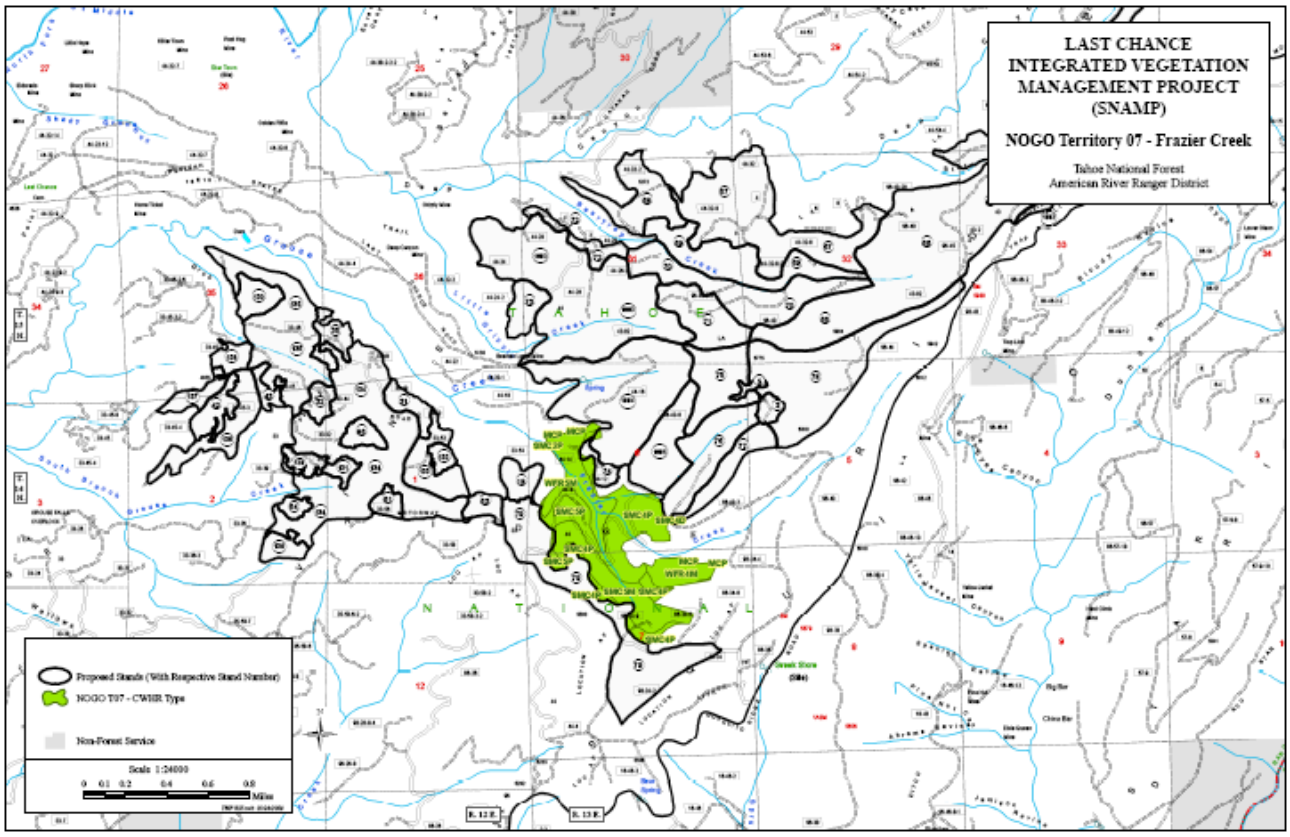

Figure 3. Last Chance Project Area with the Northern Goshawk PAC

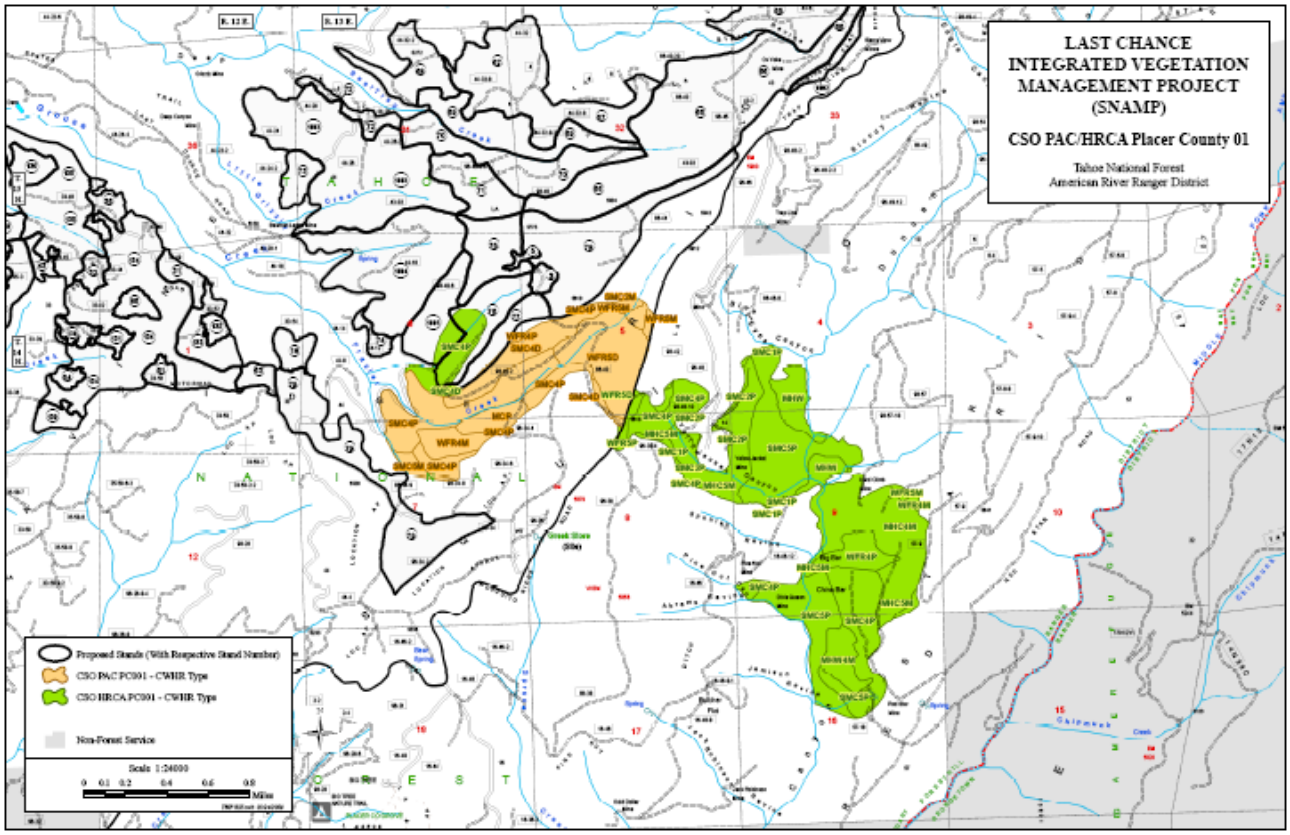

Figure 4. Last Chance Project Area with California spotted owl PAC and HRCA

Proximity of Unique Natural or Historic Values

Historic structures at Robinson Flat Campground and historic guard station, which is 2.1 miles north of the project area, Duncan Peak, 1.2 miles northeast, and the Placer Grove of Big Trees, 1.3 miles south, are among the values considered for enhanced wildfire resilience through SPLAT development in the Last Chance Project Area. Area treatments in the Last Chance Project Area could enhance the feasibility of stopping a wildfire spreading upslope toward Duncan Peak or Robinson Flat. In a north wind scenario, the SPLATS could enhance the feasibility of stopping a wildfire that is north or east of the project area from spreading toward the Placer Grove of Big Trees.

Watershed and wildlife habitat values, which are typically severely affected by wildfire, remain high in the unburned areas of the drainage. Action is needed to change the outcome of a potential "problem fire" and its resulting effects on these and other resources. If and when the project area burns, thoughtfully planned and implemented fuels management actions can ensure that fire behavior would be moderate, and fire effects would be largely beneficial rather than destructive.

Presence of Economic Values

The 2004 ROD requires consideration of cost efficiency in treatment design to maximize area treated under limited budgets. Collaboration with contractors should offset the expense of SPLAT construction, provide forest products, and maximize the actual acres treated.

We plan to enter a stewardship contract with a private company for implementing treatments in areas with marketable sawtimber. The goal would be to use the value of the timber to offset the cost of treating the hazardous fuels. A private company under a service contract will treat areas of small conifers by masticating hazardous fuels. Forest Service employees will prepare and implement prescribed burning of hazardous fuels.

Conclusion

In conclusion, according to Bernhard Bahro, Klaus H. Barber, Joseph W. Sherlock, and Donald A. Yasuda in their paper titled *Stewardship and Fireshed Assessment: A Process for Designing a Landscape Fuel Treatment Strategy*, "…the primary objective of strategic treatments is to reduce the wildfire risk to communities in the wildland urban interface, treatments must also be designed to integrate broader stewardship objectives, such as improving forest health, meeting habitat needs, and maintaining and improving watershed conditions."