



**Sierra Nevada Adaptive Management Project Integration Team Fieldtrip Notes**  
U.S. Forest Service, Batterston Station, Highway 41 Oakhurst, CA  
October 17<sup>th</sup>, 2008, 9:00 to 3:30 pm

***In Attendance:***

Dan Applebee	Tom Eliason	Anne Lombardo	Dave Smith
Keith Ballard	Lisa Gymer	Dave Martin	Mark Smith
Sue Britting	Terry Johnson	Rick Messier	Jon Sturdtevant
Mike Chapel	Leonard Kelly	Darca Morgan	Rick Sweitzer
Larry Duysen	Linda Kelly	Anae Otto	Kevin Williams
Glen Duysen	Susie Kocher	Kim Rodrigues	
Tom Efird	Mark Lemon	Gary Roller	

**Action Items:**

- Data is needed to clarify the difference between managing for stand density and managing for fire and fuels in the Sugar Pine project. Stand data including pre and post comparisons of oaks, clumps and 20" trees would illustrate differences between option 1 & 2. GIS layers for den sites, home range boundaries and unit boundaries were also requested.
- Fisher and forest teams will need to collaborate in quantifying den habitat characteristics.

**I. Introduction:** Kim Rodrigues welcomed the group and gave an overview of the purpose of the field trip. Her goals for the day were to:

1. Clarify certain aspects of the Sugar Pine Project; including:
  - What treatment options are available in fisher buffers? S & G 86
  - What are the economic impacts of different options?
  - What are the contracting issues of different options?
  - What are the ecological impacts of different options?
2. Examine current stand densities and how are these quantified
3. Illustrate the desired conditions through examination of the treatment mark
4. Illustrate the specifics of habitat around dens

Dave Martin, District Ranger of the Sierra National Forest said his goal for the day was to explore the range of reasonable alternatives for the project in light of new information about fisher den locations. Staff did not have forest data for the project available because they were diverted to work on travel management planning. The forest data from the UCST has been received by the district, but not yet analyzed.

Sugar Pine as a location was chosen as part of a landscape planning process that selected strategic areas for SPLATs. Goals are to reduce the risk of catastrophic fires and increase the resilience of the forest to drought and insects. The current plan is to treat about 1,200 acres out of 4,000. Treatments include commercial thinning, mastication and biomassing. Masticated areas were kept separate in the analysis because they cause fewer ground impacts since equipment is run over slash. Little controlled burning was suggested because it is very difficult to predict when this can be accomplished due to air quality concerns. This would have jeopardized the project's ability to get the treatments done within the study time frame.

Goals are:

1) To manage for fire and fuels and so protect the Sugar Pine community from fire. The community has limited access and receives up canyon afternoon winds causing dangerous fire conditions. It is also near Hwy 41 so has a high risk of ignitions from heavy Yosemite traffic.

2) To manage forest density to encourage healthier and more resilient forest in times of drought. Density management allows larger trees to be removed than the surface and ladder fuel removal done for fire and fuel treatment. This is done to promote growth of remaining trees and reduce water stress and potential insect infestation that can result from stress.

Fire and fuels treatments include removal of vegetation up to about 10-12 inches in diameter, especially those with bushy canopies or structure that could carry the fire into the larger canopy. Density management involves removing excessive clumping of small trees up to 30 inches in diameter. Both treatments involve large tree and understory clumping goals as set out in the interim Fisher guidelines. The removal of fir and cedar is preferred. Mastication of brush is included in both. Defensible fuel profile zones are being implemented in other areas of the district.

The discovery of fisher dens has complicated the project by adding 700 acre buffer zone requirements around den sites. In these buffer zones, only treatments for fire and fuels are allowed, since the treatment area is in the wildland urban interface. Three trees were found associated with the denning female triggering about 850 acres of buffer. With 14 females collared, more dens may be found next year, requiring even more den buffers.

Options to accommodate the fisher within the Sugar Pine Project include:

1. Changing the treatments to manage for fire and fuels only. This will allow for testing the effectiveness of Standards and Guidelines in the SNFPA Record of Decision 2004. Specifically it would allow testing of S&G #86 which requires only fire and fuels treatments within den buffer zones in the WUI.
2. Changing the treatments to include some smaller amount of density treatment. This would allow increased thinning efforts to improve long term stand health.
3. Not changing the treatment and going forward with density treatment (ignoring the den information. It was decided that option 3 was not possible now that the den information has become public.

Dave said there are no contracting issues at this time since bids will be made after an option is chosen. Once the project is determined, the sale is advertised, trees are marked, and roads to be

used are specified. The bidders appraise the sale and bid accordingly. The less treatment done, the less cost recovery from lumber is possible and the more expensive the project becomes. The market is down which makes it less feasible as well. It is also a little complicated to change contracts when a new fisher den is found. Tom Efird explained that this can be done either with a contract adjustment once new information is available. Volume removed from the sale can be traded for additional volume from less sensitive areas.

**II. Field Visit:** Those in attendance traveled to two stops in the Sugar Pine project to look at stand conditions and the treatment mark. A goal was to understand how the mark would be changed if only fire and fuels treatment was allowed. A visit to the identified fisher natal den tree was also made.

**First stop:** The group looked at the mark in a stand with numerous large trees bigger than 30". The mark in this area was designed to promote and protect larger conifers but remove smaller trees. Also, two to three of the largest oaks per acre were marked with blue dots to signify retention of the oaks and an understory buffer around them of 35 feet. No treatment will be allowed in the oak buffer to maintain hiding cover for fisher and prey. Other oaks will be retained and fuels treatment will occur around them.

**Second stop:** The strategy for preserving larger trees in clumps was discussed at this stop. Gary Roller also shared some of the data collected by the UC fire and forest health team. They installed 114 plots 0.05 hectares in size and collected information on the number of trees per acre, basal area, canopy height and cover. He presented data on the number of trees per acre and the density of each tree species for six different forest types (classified according to the dominant tree species). Trees visible at this stop matched well with the data collected by the team.

**Lunch stop:** Riparian protections were discussed at the lunch stop. Slopes greater than 35% will not be treated. No treatments are allowed within 50 feet of the stream. Up to 150 feet out only 12 inch trees can be removed. Canopy cover must remain at least 60% up to 300' from the stream. This is to allow for habitat connectivity, although there have been growing concerns that over protection of riparian areas have allowed them to serve as "wicks" under fire conditions.

**Den tree stop:** The group visited the single maternal den tree identified by the UCST in spring 2009. Locating the actual tree was challenging and took radar, cameras and repeated visits on foot. The tree, a large white fir, was used for several weeks before the female moved her single kit to a nearby oak. In a kit's first 2 weeks, the mother needs to stay close to den yet still meet foraging needs. She comes into estrus soon after birthing which attracts males and endangers the young. Therefore dens must have cavities with an opening small enough to accommodate females but not males, which are almost twice as large. Ranges for females are 2,000 to 5,000 acres. Ranges for males are twice as big. 22 animals are currently collared, with 3 or 4 in the Sugar Pine area. Most are near the edges of the treatment area although there is one right in the middle at the present time.

The fisher team is using USFS stand data and CBI data to describe habitat. Den areas are mostly ponderosa pine area classified as 5M to 5D. They are also using SNAMP forest team data for details. Data collected by both teams will match. LiDAR will be used too.

**III. Discussion:** Discussion at the last stop focused on the different options for moving forward on project planning.

An argument for Option 1 (managing for fire and fuels only in den buffers) is that this will allow for testing the effectiveness of the current Standards and Guidelines in the SNFPA Record of Decision 2004. Specifically this would allow testing of S&G 86 which requires only fire and fuels treatments within den buffer zones in the WUI.

This S&G was developed by biologists who knew that fishers moved their dens around. They also anticipated that buffers around each tree would overlap. A conscious decision was made in the ROD to preclude density management in buffers. This would be the ideal opportunity for testing S&G 86 to see if it is workable.

On the other hand, fishers have survived through periods of intense forest management in the past. Exactly how is not known, however. It's possible that past activities occurred slowly enough to allow fisher to migrate to unharvested areas. Still, according to the Conservation Biology Institute report, "no treatment" is worse for the fisher because increased fire risk can lead to destruction of their habitat through fire.

The Cedar Valley project was discussed as a potential for monitoring fisher when more intensive density management is practiced. Treatment in the Cedar Valley project included about 1,000 acres without den buffers (only about 2/3rds of the project was treated). The problem is that there was very little pre treatment information collected because fisher collaring didn't occur until after treatment. The Sugar Pine project will be the first with pre treatment data.

Another option may be to implement more intense thinning within the WUI (closer to communities) and less intense farther outward from them.

Actually, fuels treatment goals and density management goals are not mutually exclusive; rather they are points on a spectrum that overlap. However the lack of common stand exam data for the treatment area makes understanding the conditions created for the different goals somewhat difficult. The USFS marking guidelines used basal area only, which does not promote understanding of the subtleties of treatments. So far, the USFS has only used pre-cruise data which is not intended to be very accurate. Planning is driven by other resources rather than data on the treatment area. Treatment locations are chosen because of constraints on treatment in other areas, not by stand conditions in the chosen treatment areas. The UC forest team shared their stand data with the Forest Service but it tends to be on a larger scale than needed to describe density of particular stands.

Sue Britting requested stand data including pre and post comparisons of oaks, clumps and larger trees as well as GIS layers for data for den sites, home range boundaries and unit boundaries.