FIELD VISIT SUMMARY | Dinkey Collaborative Full Group

June 17, 2011

Dinkey Landscape Restoration Project, Sierra National Forest

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Action Items

1. **SNF STAFF BY SEPTEMBER 1** to develop a media protocol for pictures and other materials used in descriptions for the Haslett Basin and the Aperson Ridge project.

1. Welcome and Introductions

Mosé Jones-Yellin, Dinkey Collaborative project manager for the Sierra National Forest (SNF), welcomed the participants to the group's second field visit. He explained that the day would include time in the Haslett Basin (part of the Aperson Ridge project) and Soaproot. The objectives for the day included better understanding cultural resources issues and insect impacts ("bug kill").

2. Pigeon Saddle Overlook

Ramiro Rojas, District Silviculturalist, SNF, oriented the group and pointed out the ponderosa pine to chaparral to oak woodland transition visible. He briefly reviewed the history of logging, noting the 1932 Davis fire and subsequent increase in incense cedar and canyon live oak; frequent fire has been removed. He noted that insect-induced tree mortality (caused by western pine beetle) from the previous three months was visible and increased moving upslope.

- Chad Hanson took issue with Mr. Rojas's characterization of increasing disease as "worse", noting that tree mortality is a good element of the ecology. Mr. Hanson noted that existing studies on ponderosa pine who mixed intensity fire regimes including individual and patches of dead trees caused by fire and insects.
    - Mr. Rojas disagreed, suggesting that the impact of western pine beetle was not consistent with reference stands or stands with analogous conditions, or objectives associated with increasing the amount of larger pine trees.

    - Carolyn Ballard, District Fuels Manager, explained that this area's fire history can be traced back to the 1700s through scars, it historically had a fire return interval of 2-5 years, with small fuel loadings and open stands. Ms. Ballard also noted that trees killed by bugs collapse rapidly and will not create snags. This area also is near urban areas. This means bug-induced mortality creates a fuels hazard.
    - Mr. Hanson noted the distinction between fire interval and fire rotation,[1] and disagreed with Ms. Ballard's characterization that trees killed by beetles and fire will fall rapidly.
- Craig Thomas suggested that joint fact-finding was needed around the stand structure and fire mortality characteristic of this area.
- Eric Smith asked about the planned treatment for this area and noted that there is a small amount of young pine. With climate change and more shrub growth, he felt that the lack of seedlings has important, including to keep up with insect infestation.
- Sue Britting asked whether the area had the expected level of hardwoods, or two much incense cedar, and the basis for this characterization. She also noted that treatments would be needed 10-20 years down the road even if trees were harvested here and a more open stand were desired, but limitations on treatments might limit the ability to achieve desired conditions.
    - Mr. Rojas commented there was not a lot of hardwood, noting that less disturbance meant that canyon live oak occurred under black oak or pine, along with incense cedar. He hence saw waves or mortality and the pine distribution moving upslope as they die off. In terms of treatment for more open stands, he noted that most small biomass would need to be consumed to also consume the shade intolerant species. Fire was the cheapest option but limited by logistics.
- Mr. Hanson suggested that greater recognition was needed of snags. He saw 3-4% basal area mortality on the far slope, and felt that prescriptions calling for 20-25% removal would be harmful, not restorative.
    - Mr. Rojas agreed that mortality was part of the system and not all dead trees were bad, or all live trees good. Citing a paper by Stephens, in analogous pine stands there were 2 snags per acre on average, and small snags were often consumed by fire. He stressed that the structure here was developed under a

[1] Firewords.net defines fire interval as "the amount of time between successive fire events in a given stand or landscape," and notes, "Documenting individual *fire intervals* can be useful for some purposes, such when documenting the number of years since the last fire in a stand or landscape subjected to long-term fire exclusion. However, when planning for scheduled prescribed fires or developing fire management plans, most managers and researchers prefer to use metrics that yield longer-term perspectives of fire frequency, such as those provided by the mean fire interval." It defines fire frequency as "1) A mathematical expression of fire occurrence or rate, such as the average time interval between successive fires or the number of fires within a specific period of time; 2) A generic term referring to general fire occurrence or rate." and mean fire interval as "An arithmetical index of fire frequency, expressed as the average number of fire intervals within a given time period." It does not provide a definition for fire rotation.

frequent fire regime. He supported mortality consistent with frequent fire, and suggested the need to identify how many pockets of mortality and their associated scale was important for planning.
    - Mr. Hanson disagreed with considering 2 snags per acre a reference condition because these may not have been measured historically and may not have included what was burned. He felt this estimate was extreme low.
- Mr. Thomas suggested that the landscape context and landscape change was important when considering the levels, placement, and trends in downed and dead logs.
- Kent Duysen agreed that a sense of larger acreage was needed to design proper treatments.
- Rich Bagley commented that the fire return interval was historically more frequent and that Southern California Edison also had evidence of this it could share. He suggested that the mortality here was driven by overcrowding, which increased insect success compared with a healthy forest. He reiterated Mr. Thomas suggestion that the group needs a common understanding of acceptable levels of snags and biomass.
- Elissa Brown asked what size trees were needed to generate revenue, and what cultural products were on the landscape.
    - Larry Duysen replied that commercial conifers were a minimum of 12 inches diameter.
    - Mr. Smith asked whether logging increased the amount of shrubs and forest temperatures, commenting that Tribal elders point to invasive beetles and mistletoe.
- Mr. Thomas commented that his vision was of an older, resilient forest that included insects, disease, and climate change processes. Whether the beetle mortality trend was significant depended on the desired levels of mortality, and consideration of the role of fire not just in fuels treatment but in the promotion of biodiversity.

3. Haslett Basin

Dirk Charley, Tribal Liaison for Sierra and Sequoia National Forests, oriented the group to the area. He noted that the traditional bear dance location had been relocated and provided with a special use permit. Mr. Smith noted that the area had a lot of significant rock paintings and pictographs that could be cracked or damaged through fire. Ms. Ballard noted that the Forest Service worked with an archaeologist to avoid impacts. She also noted that private lands and were located downslope.

- Bill Bettison, Sierra Foothill Conservancy, noted that his organization had received a grant for a partnership with Cold Springs Rancheria, and would work with the Forest Service to treat for 120 acres of land according to archaeological, cultural, and biological standards. There were many sensitive areas in the area. Parts of the property were fenced so they could be flash grazed to help control invasives. District Ranger Ray Porter had signed the memorandum of understanding.
- Mr. Smith noted the importance of having maps illustrating dozer plans to ensure roundhouses and pits and sacred areas were not disturbed directly or by the heat. Ms.

Ballard reiterated the Forest Service's commitment to protecting cultural resources, and also noted that Pacific Gas & Electric had a transmission powerline atop the ridge.

- Ms. Britting asked about owl activity, to which Tom Munton, USFS, replied that there was spotty use. A male had female had used the other side of the drainage. Sometimes there are night detections. The area is used occasionally, mostly along the riparian area. The Forest Service does not monitor winter use, but Mr. Munton was sure that owls pass through the area at that time.
- Mr. Rojas noted that in planning for burn piling there was a need to better coordinate with Cold Springs Rancheria and the Sierra Foothills Conservancy. This could create opportunities for additional buffers or improved timing. He asked whether maps and a sense of the desired plants were available.
    - Mr. Smith emphasized the importance of recognizing his Tribe's goals for the land, which Mr. Bettison echoed. Mr. Smith clarified that the area is sacred and timing is of the essence. The bear dance typically takes place during the third week of March and October – which might be when the Forest Service desired to conduct burning. He supported the idea of designing the project to restore resources that were no longer available or in decline, like plants used for basket weaving. He also noted problems with trash and debris from campers using the creek, which affected the fish as well. He also noted that the area was grazed.
    - Mr. Charley noted that Kim Sorini-Wilson, District Wildlife Biologist, had helped develop the grant and could provide information on its boundaries and goals.
- In preparation for further walking in the area, Mr. Charley asked Collaborative members to ask permission before taking photographs.
    - **ACTION ITEM: SNF STAFF BY SEPTEMBER 1** to develop a media protocol for pictures and other materials used in descriptions for the Haslett Basin and the Aperson Ridge project.
- Mr. Hanson asked for more information about the objectives of the existing project, asking whether the power line was an important element. He stressed the importance of coordinating and consulting with Cold Springs Rancheria.
    - Ms. Ballard explained that the Watershed Habitat Improvement Project was designed for hazardous fuels reduction, not power transmission. The work also presented the opportunity to improve wildlife habitat.
- Steve Marsh, District Archaeologist, noted that the Haslett Basin Traditional Committee had an agreement with the Forest Service from 20-years ago provided special use permits. They worked together for the purpose of fire control and water and facility improvement. The historical logging camp was moved to the bottom. The permit is within the proposed Aperson Ridge project and could be improved accordingly.
- Mr. Smith noted that the protection of turtles was important in the riparian area. The western pond turtle was a sensitive species, and could be impacted by off-highway vehicle use. Historically there was conflict with bear hunters working and making noise all night long, threatening the public and not respecting the animals. Nonetheless they were granted permits and sold their goods.

    - Mr. Marsh noted efforts to reduce hunting activities during ceremonial times. He also noted that grazing negatively impacts wild mushrooms and introduces diseases to deer populations.
    - Mr. Hanson asked whether hunting could be reduced and grazing allotments reconsidered.
    - Mr. Marsh noted the permit lasted 20 years and was reissued a few years ago. More could be done to educate and inform bear hunters, and that temporary closures for ceremonial purposes were included in the 2008 Farm Bill. Additional efforts should involve permittees.
    - Mr. Thomas suggested that perhaps areas could be fenced to protect cultural resources.
    - Mr. Smith noted the difficulty of closing off even small areas because the land was considered public.
- Mr. Charley noted that people could attend the bear dance and those interested should contact Chairman Ron Alec of the Haslett Basin Traditional Committee.
- Mr. Smith suggested the potential for replacing grazing with an elk reserve. Ms. Ballard noted that the California Department of Fish and Game manages deer populations but not the land.
- In response to a question from Mr. Rojas, Mr. Smith noted that open areas that were less flammable were desirable.
- Mr. Charley then led the group around the riparian area including sweat lodges and other areas, responding to questions about how the area is used. Afterward the group ate lunch at the main facility.

4. Debrief During Lunch

After lunch participants shared their observations from the walkabout.

- Ms. Britting noted that in the absence of fire, vegetation in the drainage could shift from riparian to evergreen and hardwood species. She wondered whether treatments could avoid this.
    - Ms. Ballard noted that the Forest Service typically did not burn in riparian areas because diesel fuel would contaminate the water. Under the right conditions propane might be used.
    - Mr. Rojas added that there are also stringent restrictions on what can be done in riparian areas.
    - Mr. Thomas suggested that a pre- and post-survey would be worthwhile, and that fire could be allowed to back into the area.
- Mr. Bagley noted the amount of water in the drainage, noting that redbud and other fire dependent species might undergo local extinction, while growth of other species decreases the volume of water available.
- Mr. Thomas suggested that if the Forest Service were to burn around these areas they would have to integrate Tribes to the extent they desire.

    - Ms. Britting noted the potential of fire to reintroduce or create greater opportunities for cultivating plants used for traditional practices. Mr. Marsh noted that Big Sandy Rancheria had ethnobotanical resources and information as well.
- Mr. Smith noted the challenge that air quality standards posed for burning.
- Mr. Charley noted that he and Mr. Jones-Yellin would share the concerns with SNF Supervisor Scott Armentrout, including the importance of government-to-government relations and basketweaving, at the August 11 Tribal Forum.

5. Roadside Stop between Sites

Ms. Ballard oriented the group, noting that the area had been underburned between 1990 and 1994. Clarence Burn had occurred twice to the south, Barnes Mountain twice, and Virginia Burn three times. The area has a wildland-urban interface threat, with a defense zone at the top. Burns typically occur in late spring or early summer. A wildfire occurred once in May.

- Mr. Smith asked about burn windows.
    - Ms. Ballard replied that funding and airshed restrictions typically limit burning to 20-50 acres per day. The Forest's fire crews are also burn crews, but they cannot match the CFLRA funding. Historically there was better funding.
- Mr. Hanson asked whether more staff and money would increase burn capacity.
    - Ms. Ballard replied that this would help to a point, because a set number of crews were available and air quality restrictions remained in place. Sometimes a burn will be called off the night before. Seasonality is also important. The airshed closes at the end of summer, there is no burn window in the fall, and in the late fall storms roll in preventing any burning.
    - Mr. Rojas that a more natural fire regime would be more in season.
- Mr. Thomas suggested that the importance of fire for a forest needed to be framed as parallel to the importance of water for fish, and that a broader social agreement was needed about this.
- Mr. Thomas asked whether insect-induced mortality had been examined pre- and post-burning, given that fire kills insects.
    - Ms. Ballard replied that not much had occurred until the past winter. While damage was visible here, across the street in Barnes burn there was none.
    - Mr. Bagley suggested that insects were not a primary stressor, but if a stand was already stressed in other ways they could cause problems.
    - Mr. Rojas added that hardly any insect-induced mortality was seen after prescribed burns in the mid and late 1990s, either before or after treatment. The trend began about five years ago, with insects following burns and mortality increasing. Mr. Rojas felt there was a relationship between crown damage and insect damage. He noted that a relationship between density and insect damage had been demonstrated for pines. He reiterated that an assessment of insect damage was

forthcoming and would be shared as soon as available, as mentioned the previous month.

- Ms. Britting asked what desired conditions were envisioned, noting the thick bear clover and that this might inhibit regeneration and point to the need for cutting or hotter fires.
    - Mr. Hanson noted that more mortality and pockets of mortality would likely increase regeneration opportunities.
- The group requested to visit the other side of the 10-S burn at a future field visit, if possible.

6. Road 10S43 within Soaproot Project

Mr. Rojas oriented the group, noting the tree mortality caused by western pine beetle that surrounded the road. He added that trees produce pitch to combat insects, but with drought conditions less water was available to produce pitch. The trees in this area were approximately 90 years old.

- Mr. Hanson noted that tree mortality may mean that the commodity and aesthetic values of a tree are lost. Ecologically at the landscape level, however, he felt that tree mortality was not well represented, including a combination of individual trees and patches with high mortality. The western pine beetle is a native species that serves as food for woodpeckers and other species, which in turn create cavities and nests that have secondary users. So beetles play a role in maintaining biodiversity. Large snags are particularly important, especially those greater than 20" in diameter. He felt what was occurring here was positive, and it would be good to have more similar activity elsewhere on the landscape.
- Ms. Britting asked whether these are places that should be treated today, or just as examples of places to avoid in the future.
    - Mr. Rojas replied that he supports mortality that advances desired mortality rates. Thinning could help replicate mortality rates more similar to those associated with frequent fires.
    - Mr. Hanson agreed that pockets of mortality are natural and beneficial, and represent meaningful treatments. At the same time, beetle mortality happens episodically. Not all the trees will die, and this will not occur systematically throughout the forest.
    - Mr. Hanson also stressed that beetle mortality needs to be included in basal area prescriptions. If a 25% thin is determined, for example, beetle mortality might add another 3%, making it effectively a 28% cut. The base should instead be 22%.
- Mr. Thomas stressed that a conversation about historical species composition and desired conditions was needed at the landscape scale, not individual stands. The historical composition appears to be different than the current, with pine now being replaced by cedar.
    - Ms. Britting echoed that one site did not provide enough information for assessing the landscape. The concern about large trees dying from bugkill needed to be thought about with regard to landscape management.

- Mr. Rojas noted that if large pine are desired, then their growth needs to be fostered. His concern was about the amount of bugkill, and differences in mortality from insects as compared with fire.
- Mr. Thomas commented that snow and wind snapping seems to increase at high densities. Perhaps treatments and thinning could examine rates of insect attack in areas that have higher amounts of snapping than elsewhere.
- Mr. Rojas added that ips beetle affect the tops of trees, and western pine beetle affects the middle areas, and that density, crown health, and the strength of the bole are related.
- Mr. Hanson noted that more large trees and snags are needed, and that this will occur over time without cutting. The trees that survive the insect attacks will grow faster and stronger.
- In response to a question from Mr. Van Velsor, Mr. Rojas noted that generally speaking, lower density would support larger trees.

- Given the late hour in the day, the group adjourned.

7. Attendees

1. Bill Bettison, Sierra Foothill Conservancy (guest)
2. Elissa Brown
3. Rich Bagley
4. Carolyn Ballard
5. Sue Britting
6. Dirk Charley
7. Kent Duysen
8. Larry Duysen
9. Pamela Flick
10. Dorian Fougères, facilitator
11. Chathurka Goonawandeva
12. Chad Hanson
13. Mosé Jones-Yellin
14. Steve Marsh
15. Tom Munton
16. Ramiro Rojas
17. Eric Smith
18. Craig Thomas
19. Mandy Vance
20. Stan Van Velsor