



Sierra Nevada Adaptive Management Project Integration Team Meeting Detailed Notes
Division of Agriculture and Natural Resources Building, Plum Room, Davis, CA
May 27th 2008, 10:00 to 1:00 pm

In Attendance:

Reg Barrett	Amy Fesnock	Anne Lombardo	Gary Roller
Tim Biddinger	Ann Huber	Dave Martin	Richard Rypinski
Steve Brink	Lynn Huntsinger	Gary Nakamura	David Saah
Sue Britting	Marek	Larry Peabody	Mike Skuja
Mike Chapel	Jakubowski	Audrey Powell	Adriana Sulak
Brandon Collins	Maggi Kelly	Tony Rodarte	
Jan Cutts	Susie Kocher	Kimberly	
Marie Davis	Nick Konovaloff	Rodriguez	

Summary of Key Agreements:

1. The group recognized that there are constraints in implementing SPLAT theory in its ideal spatial arrangement and scale on the selected study sites.
2. The group recognized issues involved in modeling from inventoried forest data from plots 500 meters apart. The FFHT may use Lidar data in between plots.
3. The group recognized issues involved with the effects on the larger landscape. Dave Saah will be looking at larger scales to predict effects on fire behavior in SPLATs and DFPZs.
4. The group recognized that information flow is working well with the UC Science Teams and USFS District staff but that fisher data information sharing between the USFS and the public could be improved. Dave Martin agreed to work on improving this and to send out the prescriptions and fisher design features of the Sugar Pine project to the group.
5. An IT meeting will be held focusing on work of the fisher team before the final planning decisions are made by the USFS on September 19th. Kim and Susie will work with the District Rangers and staff to determine possible dates for future IT meetings.

I. Introduction: The goal of this Integration Team (IT) meeting was to further the definition of the adaptive management loop, in this case focusing on the fire and forest health team data collection and analysis process.

II. SPLAT implementation update

Last Chance: Staff from the Tahoe National Forest gave an update on their planning to implement SPLATs. Goals of the Last Chance project are to modify the surface flame length that would occur during a wildfire (a good indicator of tree mortality) and to increase the wind speed that would be needed to generate a crown fire. The project encompasses both tractor and cable ground treatments. Mastication will be used on the west side of the project and in plantations.

USFS planning involved taking the SPLAT theory with its ideal spatial pattern, and imposing it on a landscape with many constraints. One important constraint is their need to have access to the project sites to remove logs. Another is cost. Fuel costs have increased the costs of transportation and so the work that can be done profitably. One consequence of these constraints is that the proposed treatments are more concentrated than in the ideal pattern.

Another design factor is the heterogeneity of the existing forest. The treatment areas are located in stands with variable stand density in both basal area and trees per acre. Some areas will need more intensive treatments to get to the same level of fire behavior effect. Designing a project within these constraints will be fairly typical for application of SPLATs on the Tahoe. They face these same constraints for every project.

District staff is using data from the SNAMP UCST Fire and Forest Health Team in project design. This data is much more intensive than would normally be collected because of USFS staffing and funding limitations. It shows that some areas close to wildland-urban interfaces (WUIs) have higher forest stand density than anticipated. No additional data, such as the common stand exam (CSE) is being collected by the Forest Service.

The original public comment period on the project was designed using the Healthy Forests Restoration Act timeline. But in a desire to open up the process, the District is now using the traditional 30 day comment period and subsequent appeal period. Substantial comments were received during the first comment period. Jan Cutts will work with Maggi Kelly to clarify dates on her timeline graphic.

Sugar Pine: Dave Martin from the Sierra National Forest gave an update on the Sugar Pine project. The district is designing their SPLATs to be as close to the ideal theory as possible. Their whole project is in the WUI. There are also defensible fuel profile zones (DFPZs) along highway 41. This combination of treatment types is typical.

Their timeline has changed due to several factors. Delays have been caused by contracting. They now hope to have the Draft EIS out by the end of June. This will delay planning but probably not implementation, which he expects will begin next spring.

Other changes are due to the economy. With the timber market collapsing, the timber value of several other projects on his district has shrunk by 70%. They decided that a timber sale may no longer be feasible and so have asked permission from the regional office to accomplish the project through a service contract rather than a timber sale. Now the entire project will be

completed in one step with both logs and biomass removed at the same time, rather than accomplishing these in two separate phases. Dave anticipates that this may help save up to a year in implementation time.

The discovery of up to four denning fishers by the UCST Fisher Team also affects the project. The 2004 Record of Decision (ROD) says only ground and ladder fuels may be removed within a protected area covering 700 acres for each den. This would reduce thinning in the project by 70%. However, not much is really known about whether these dens are moved. The District may be getting interim guidelines to move forward. These are being developed by Mark Smith, Kim Sorini-Wilson and Kevin Williams from their district. Another option may be doing a forest plan amendment. Dave offered to send out the specific prescriptions and wildlife design features to the group (available at the SNAMP website and attached to an email sent at meeting attendees by Anne Lombardo).

II. Fire and Forest Health Team (FFHT) research: Gary Roller and Brandon Collins gave a brief powerpoint presentation on the Fire and Forest Health Team's work so far. Treatment plots were inventoried last summer. Control plots will be inventoried this summer. The crew will be at the southern site through the middle of July and at the northern site after that through October.

Data collection: The baseline grid has plots 500 meters apart and a few areas have plots 250 meters apart. The Frazier Creek area, being used by the water team as a control area, has plots installed 125 meters apart on lines 250 meters apart. Basal area, basal area by tree size and tree class, hardwood basal area, canopy cover, understory density and structure, and snags are important habitat components for fishers and are all metrics being collected by the forest team. Course woody debris is being inventoried. The diameter of both the small and large end is measured as is the length.

The goal of the treatment and control plots is to identify effects on fire behavior from SPLAT treatments. Treatment plots should be treated the same as the rest of the SPLAT area so that post treatment data collected will reflect SPLAT conditions. The only treatment modification or contract specification the FFHT researchers requested was for tree identification tags. Tags have been attached at breast height to each tree greater than 8 inches in diameter at breast height (dbh). Gary and Brandon requested that the tags be removed before cutting and placed on the stumps after to help in post treatment data collection. The plot centers are monumented with a one foot long rebar stake pounded flush into the ground. These should require no special care during treatment.

Modeling: Models to be used include FARSITE and FlamMap. Forest Vegetation Simulator (FVS) is being used with Arc Fuels. Stand definitions from the Forest Service timber strata maps were used as a beginning point to define stand boundaries for modeling. These were modified based on collected data. Brandon looked at collected tree lists to see if they were consistent at the plot level. Plantations (previously clearcut areas) were combined. The 300 stands from the FS strata map were combined into 180 for fire modeling. The minimum unit has been defined as 4 or 5 acres. Polygons were drawn using a heads up digitizer.

The team will be doing modeling based the fireshed approach. They will be getting specifications from USFS District staff about the fire of most concern (with specific wind and temperature).

Fire scar analysis: Another component of the project is fire scar mapping. 1000 trees will be cored and many will be analyzed for fire scars. Tree sections will be collected by cutting rings from coarse woody debris and stumps, as well as cutting out sections of up to a 1/3rd of the bole of standing snags. This may weaken these snags. In another area, every tree will be mapped and cored.

Fire scar data will be interpreted based on data of historical fires (probably not within this century). Growth ring analysis will be used in conjunction with tree health or mortality over the last 40 years to build a tree mortality model both before and after treatment. Survival probability will be estimated using ring width changes over time. Past research has shown that disruptions and changes within the last 5 to 10 years show a decline in tree health. Probability of tree mortality is affected by many factors, but research indicates that a probability of greater than 1 or 2% is a problem.

This methodology is somewhat novel in that it extends the typical range of data used from 5 to 40 years. A new paper by FFEHT researchers is coming out in the journal Ecology. Although the science team cannot put the paper on the SNAMP website, they can provide a link to the author who may forward it on to those who request for it.

Heterogeneity: Maintaining forest heterogeneity has been identified as positive in a paper for the Southern Sierra by Malcom North, Scott Stephens, Peter Stine and Kevin O'Hara. Heterogeneity is positive for fishers and possibly for owls too. The ability of the sampling plan to capture forest heterogeneity was discussed. Inventory plots 500 meters apart do not characterize the forest in between the plots very well. The risk is that data from plots that is used in modeling may not reflect the conditions in the broader forest. There may be a need to also use pre and post treatment Lidar data to characterize conditions in between plots. This can then be used for modeling.

How fire models interpret variability was discussed. Models simplify a complex forest into a discrete stand type. Fine resolution of forest conditions is lost, but the ability to grow stands into the future and predict their fire behavior is gained. Pilot work at Sagehen field station was done at pixels of 5 meters. FlamMap modeling can be done a fine scale, but has other limitations.

Scale: One concern in modeling is the effects of scale. Some tests of SPLATs in other areas are being conducted on a landscape of at least 50,000 acres. Some recent work by Norm Johnson and Jerry Franklin has suggested that treating 50% to 70% of the landscape is necessary to actually affect fire behavior. Dave Saah from the UCST is looking at larger scales to predict effects on fire behavior in SPLATs and DFPZs. Different data is available at different resolutions and scales. He is looking for a pattern that might inform a trigger or threshold. Scale has been a challenge since the beginning of the SNAMP program because different resources such as fishers and water are best studied at different scales.

IV. Adaptive Management Discussion: The design of the classic adaptive management loop also seems to be more theoretical than practical. Data from the UCST is being used before treatments and is affecting the project design.

Information sharing between the UC Science Teams and the US Forest Service seems to be going well. The fisher team reports their den findings to the USFS District the day they are discovered. It would be good if this kind of information was also shared with the public at the same time. The USFS does not necessarily notify the public when the information is available. Dave Martin said he was willing to discuss making information available more quickly to the public, but was not sure how often he would be able or expected to do this.

The Cedar Valley project is also a good example of the iterative nature of information flow between the science teams, US Forest Service and the public. Developing this project helped broaden the thinking about the fisher. However, there are still unresolved issues including how to modify the Sugar Pine project design in response to the fisher den discoveries. Although the UCST is not taking a role in project design, members of the public are interested in playing a role.

An in-depth IT meeting is needed to explore the work of the fisher team. Members of the public have a high level of concern about fishers. Management standards for the fisher are included in the 2004 ROD. However, when the ROD was signed, not many fishers had been found. In part this is because it is expensive to look for them. Now that some have been found, specific prescriptions for managing around them are more relevant. The work of the fisher team may be more suited to defining triggers and thresholds. However, if treatments are not carried out, then there will be no way to know what the effects are. NEPA allows halt due to “new information” when risks are high (like for fishers at the southern site). The Conservation Biology Institute (CBI) is doing a fisher project in the southern Sierra. The process is on going. However, this new report is not yet available. The UCST fisher team is coordinating with them and testing their assumptions.

V. Meeting evaluation and next steps: Comments about the meeting were positive. Real data was presented within a context of the reality of implementation constraints. More information on the FFHE team’s workplan and methods of collection was presented in a good level of detail. The difference between this meeting and previous ones is that there was the opportunity for discussion and ideas to influence management. There was more possibility for feedback.

Additional information wanted or needed includes the differences in stream constraints (RCAs) in the different sites, more on the interaction with forest health and tree mortality and fishers, when a decision must be made over a threshold or trigger. Putting links to the projects and project info on the SNAMP website would be appreciated by group members. Additional comments included that the group has a great potential but that it is important to bring in more diversity and public members.

Meeting location can be a problem. The fisher IT meeting can be held in the south and the owl meeting in the north. The southern site is a long drive from most of the IT participants. Conference calls and video conferencing may be an option. Every national forest office has

video conferencing capability. Phone conference calls with powerpoint presentations distributed ahead of time can also work well.

Timing of the next IT meeting on fishers is important. It should probably occur before the final planning decisions are made on September 19th. Reg Barrett and his team are ready to present their information to the IT. Kim and Susie will work with the District Rangers and staff to determine possible dates for future IT meetings, and then will involve the UCST for planning. Ideally members of other UCST teams will attend the meetings focusing on other disciplines since these resources are all integrated. The water team should be ready by the late fall.