



**Summary Notes**  
**11/29/07**  
**SNAMP Q2 meeting**  
**Power's Mansion Inn, Auburn**  
**Morning session**

The morning session began with an update that the UCST had grown to 22 team members since the last Quarterly Meeting. These members are listed on the afternoon PowerPoint handouts as well as on the website.

To update the MOU Partners lists, a list was passed around with names, organizations, and SNAMP roles for review and updating.

Quarterly Meeting Format:

Several questions were presented to help think about the format of future Quarterly meetings.

- 1) The first Q1 meeting had a similar format between the morning (MOUP and UCST) and afternoon (MOUP, UCST, and public) sessions and there were concerns that this was too redundant. Should the morning and afternoon meetings be the same or different?
- 2) What are the benefits and costs of connecting public with quarterly updates?
- 3) How do the Quarterly meetings support open and transparent communication?
- 4) UCST prepares a written report for MOUP that details results and spending to date. Can these be provided to the public?

During discussion, it was proposed that the MOUP/UCST have a 1-2 hour meeting on budgets and logistics followed by the rest of the day devoted to public discussion of the measures of success (results, processes, and relationships). This would allow for more time for deeper discussion of the project. Times proposed were 8:30-10:30 for the UCST/MOUP meeting followed by two public sessions: 10:30-12:00 and 1:00-4:00 pm. Roger and Martha requested that the meeting not start before 9am if they need to commute to Sacramento or Auburn for the meeting.

**KEY AGREEMENT:** There was a strong commitment from UCST/MOUP to maximize time with the public during the Quarterly meetings.

It was also suggested that the UCST/MOUP group discussions continue with more of the frequency used during the workplan development. These UCST/MOUP group discussions

were proposed at the midpoint between the Quarterly meetings (Q.5). This would allow more frequent communication between UCST and MOUP in order to address logistic and budgetary issues in a timelier manner, and provide more time for dialog with the public during Quarterly meetings.

**KEY AGREEMENT:** There was a commitment by MOUP and UCST to Q.5 meetings (Meetings midway between the Quarterly meetings).

It was pointed out that support for these meetings (agenda development, logistics, follow-up) needed to be developed with other sources other than the PPT as they are not currently budgeted for these activities. The MOUP members present at the meeting agreed to staff and facilitate this process by forming a core logistic team. It was suggested that each agency with a representative on the core logistic team rotate the work on a yearly basis. Current funding was believed to cover the efforts of the partners to participate Q.5 meetings. It was also pointed out that unfortunately only one public meeting is currently budgeted per year. The MOUP made a commitment to work with UCST and make sure that the public Quarterly meetings happen. It was also noted that the first week of each month is a bad time to schedule. This is when all of the state board meetings happen.

**KEY AGREEMENT:** There was an MOUP commitment to create a small logistic team (core team) within MOUP to support Q.5 as well as monitor SNAMP to make sure that communication and issue management are effective. UCCE is committed to training of this core team.

**KEY AGREEMENT:** UCST and MOUP are committed to working together to keep costs down for quarterly meetings.

**ACTION ITEM:** Based on comments received from this meeting, a second UCST report to the MOUP will be edited and posted on the website within a week.

#### Update on Funding Development:

A summary of the morning budget breakfast was presented. Several items were highlighted. These included:

- 1) A focus of the breakfast meetings was to discuss the current delays in funding. The original start date was 5/1/07. Without complete funding there has been a major impact on the water research regarding the first two years of pre-monitoring (as called for in the BACI experimental design). The first spring runoff will not be monitored until 2009. It was pointed out that while the agency commitment is there, the logistics of implementing the contract are challenging. The reason for the delay was that the contract between UC and the California Department of Water Resources (DWR) had all of the provisions, but did not have the correct scope.
- 2) There are two tracks to address the funding delays.
  - a. Continuing to develop umbrella contract that will hopefully speed the awards in the future and

- b. Get the committed money through existing channels (i.e. UCB contract with USFS) to provide funds needed today and for Year 2.
- 3) There is also a need for funds from Year 1 to be committed to Year 2.
- 4) Funding for the Lidar imagery needs to be delivered within 2 months so that the UCST can use the existing Lidar company for future imagery.
- 5) It was also pointed out that if these funding delays continue it could impact the integration of the science teams. To date, the Fire/Forest Health Team, Spatial, and Owl team are on track as planned in their workplan.

It was reported that everyone has been surprised how difficult it is to move committed money to needed organizations and research teams. The MOUP reported that the current logistic hang-ups are not acceptable to the agencies. The MOUP also reiterated their interest in developing foundation support to augment the federal and state dollars that have been committed to the project.

It was also pointed out to the MOUP partners that the Universities are just as big a bureaucracy as the agencies. It was suggested that the MOUP needs to get the Governor, Senators, etc. to write to the Presidents of the Universities to reinforce the importance of SNAMP in both the short and long term.

It was also clarified that the USFS is funding the bulk of this project to address the demands of the ROD. However, it was pointed out that this project goes beyond the expectations of the ROD for adaptive management and that these additional elements (science team research, UC Cooperative Extension outreach, and support of integrated MOU Partners, UCST, and publics) can be used as a means to justify funding requests to foundations.

The group discussed the need for ongoing dialog about how foundation and fund raising components need to be integrated into the logistic teams (Core MOUP team) in a way that represents the diverse perspectives in the MOUP. It was also pointed out that Dean Gilles from UCB has agreed to take a lead role in the development of foundation support for SNAMP.

#### Impacts of the Funding Delays:

There was also discussion regarding the effects of funding delays on the function of the teams as well as the districts. On the Sugar Pine Project, it was clarified that the treatment sub-watershed (Big Sandy) researched by the Water team is located within Fish Creek Project area. As a result the USFS believes that they can move forward on the Sugar Pine Project as planned and delay the timber sale contracts within Big Sandy until 2010 (see results of discussion at lunch between USFS and Roger to work out a solution on page 10). On the Last Chance Project at the northern SNAMP study site, USFS initially discussed that 2010 is too late for treatments because the timber sales contracts need to be out by the end of summer 2008. After further conversation, USFS indicated that it may be possible to delay treatments in the Water Team's treatment catchment (Bear Trap) until 2010. This will be confirmed at the Q.5 meeting.

**Action Item:** Roger and Martha will work with USFS personnel at northern study site (Jan Cutts/and or Karen Jones) to allow the Water team 2 years of pretreatment data. This timeline will be resolved in the next two months.

Owl Team Sampling Strategies:

Rocky Gutiérrez introduced the discussion on the Owl team's proposal for alternative sampling strategies to address the need to increase owl sample size due to the low number of owls they found last summer. Rocky explained the rationale for each option in the proposal.

Proposed Options:

- 1) Use existing data (22 years long) from the Eldorado Study Area in a retrospective study. This is a no cost option. The disadvantage is that it is confounded by time. Rocky was not too worried because the research is now focusing on occupancy (vs. survival). Specifically, it is easier to monitor occupancy and the data is more robust to temporal variation than reproduction and, probably, survival parameters.
- 2) Also determine what SPLATs planned within the same time frame as SNAMP on the Eldorado Study Area and then monitor these simultaneously with the SNAMP project owls. This is another no cost option.
- 3) Expand study area beyond Eldorado Study Area to include Owl Protected Activity Areas (PACs) within the Eldorado National Forest and Tahoe National Forest that are near areas that have SPLAT treatments planned within the same time frame as SNAMP. Additional funds would be needed for this option and requires cooperation with USFS to inform the Owl team of where SPLATs are planned within this larger area. This information is also needed to estimate costs and evaluate sample size issues.
- 4) Expand survey effort to include any SPLAT treatment sites within the Eldorado National Forest and the Tahoe National Forest, regardless of historic presence of owls (not just known PAC areas as suggested in option 3). This option also requires additional funds and cooperation from USFS as noted in alternative 3 above.

The Owl Team hopes to determine whether option 1 or 2 will work by April 1, 2008. It was pointed out that the owl study brings up interesting challenges about integrating multiple study scales for the final conclusions. In addition, it was also pointed out that expanding the Owl Study to a larger area actually strengthens the study by increasing the ability to generalize results.

The group then discussed whether MOUP or Ranger Districts had any concerns with the proposed options. At this point, the MOUP or Districts did not bring up any issues.

**Key Agreement:** Agreement that Rocky will present his sampling alternatives in the afternoon meeting.

Discussion of MOUP issues/questions/comments regarding UCST activities over the last Quarter

It was pointed out how great it was for the USFS districts to have a liaison to the UCST (First Dave Saah and now Ann Huber). The importance of this position was reconfirmed by the UCST. Several points were discussed regarding the UCST Liaison Position (Academic Coordinator, Ann Huber).

- 1) A question was raised and then confirmed: If districts share something with the Liaison does it then go to the full UCST? The answer was yes and if something comes in with restrictions (locations of sensitive areas, pre NEPA) then Ann will restrict that information as requested.
- 2) John Battles confirmed that the UCST Academic Coordinator (Ann) should be the main contact for MOUP members and USFS districts. The Academic Coordinator is the central repository of information for MOU partners. If any data from USFS should not be immediately passed on to UCST, Ann requests that USFS annotates it to let her know. Ann pointed out that the Mark Lemon at the southern site has done a good job of sharing information with her.
- 3) It was also pointed out that as the project continued to ramp up staffing, especially in the field, Ann will have all schedules and contact information. As any questions arise, MOU partners should feel free to ask Ann questions.
- 4) Ann is also responsible for monitoring the UCST compliance with the Neutrality Statement. If there are any complaints, bring them up with Ann first. She will then pass this info onto John. If things cannot be resolved, the final step is to engage the ombudsman designated within UC.

Adriana Sulak, of the PPT, was commended for her excellent work on developing the Sierra Nevada Conservancy proposal for \$123,000 over 2 years to support PPT. Adriana led this grant through a complicated process and should be commended for her efforts. Next week, SNC Board will meet to approve staff recommendations.

### Community Outreach

This was followed by a discussion of the next steps to Community Outreach. Several topics were covered, including:

- 1) Anne Lombardo was introduced as the UC Extension Advisor for the Southern Site. Her outreach activities with local communities, schools, District Staff, and the UCST were highlighted.
- 2) It was pointed out that the search for an Advisor for the Northern Site had been put on hold due to lack of delivery of funds to UC Davis. The goal now is to hire a UCCE Academic Advisor to work with PPT and District Staff. An important role of this position is to provide more of the UCCE project support that Kim Rodrigues has been providing over the last 3 years. By April 2008, Kim will have a more narrowly defined role as a PI on the UCST PPT.
- 3) A question was asked as to the role of other MOUP partners in the USFS outreach to the public(s) for these two sites. When should the MOUP partners be at public meetings and how should they interface with the public(s)?
  - a. One answer is that from the early agreements within the UCST and MOUP, the MOUP were in fact to be treated like any other stakeholders.

- b. It was also pointed out that while the MOUP are stakeholders in the public meetings, they are also partners in the development of the project, so this is a unique situation. The result is that this is an evolving process and the expectations from the SNAMP team for the MOUP to show up to public meetings are still in a “grey” area.
- c. This was reinforced with the perspective that in the Quarterly meetings MOUP are partners as part of the larger whole of the SNAMP group. Furthermore, at public meetings the MOUP represent their individual agencies. It really is up to each individual MOUP to choose to come to the public meetings or not.
- d. It was suggested that the public(s) should let the UCST and the MOUP know if they think agency folks are missing at public meetings. It was pointed out that Q1 participants voiced concerns about missing UCST personnel at that meeting and the result is that the full UCST team is here today. To support further public comments, Anne L is now reaching out to communities to make sure they know these Quarterly Meetings are happening.
- e. It was also suggested that the MOUP can come to the public meetings when technical advice is needed. For instance, UFWS could come to a public meeting that focuses on fisher studies. Cal Fire could come to a fire planning workshop that focuses on integrating multiple fire planning efforts with the public.
- f. Additionally, another venue has been developing that can support MOUP dialog with the public(s). The Triggers and Threshold group is an emerging vehicle for Adaptive Management data sharing. This provides a potential structure for the MOUP and interested public(s) to come together for focused conversation.
- g. An important point was brought up regarding the need for all partners to be present at public meetings if the project is to be fully integrated. A question was raised as to the effect on the research methods if the MOUP (other than the USFS) are only present at the Quarterly Meetings. This concern is also an issue for the UCST. The question for the UCST is can we entrust members of our team to represent us while having a process for questions from the stakeholders/MOUP to be answered?

**Key Agreement:** The PPT is proposing the development of a process that can inform all partners and stakeholders of coming gatherings as well a means to direct questions to appropriate staff.

**Key Agreement:** The UCST is committed to an on-going discussion about what is the role of UCST in public outreach and how best to address outreach.

**Action Item:** Kim will explore last of Feb or second week of March Tues, Wed, or Thurs for next Q meeting.

Other Issues/Concerns/Questions:

Fisher Monitoring Winter 2007-08: The issue on fisher monitoring is that the Fisher Team can be ready for aerial monitoring in 2 weeks. The existing plane will not be ready for 6 weeks. The USFS is interested in how to get it ready short term. There was agreement between MOUP and UCST to work together to develop a plan to provide air support that allows radio telemetry work to begin ASAP (note added 12/18/07: this has been done.)

**Key Agreement:** Revisions to the SNAMP timeline for research and treatments will be developed as soon as possible and presented to the stakeholders.

Preparation for Research in the Field: The researchers asked USFS to help clear roads and identify priority areas to clear roads. They mentioned that there is a significant safety issue regarding tree cutting by researchers and assistants. They emphasized the need to be good in communication and planning.

**Action Item:** Jan Cutts agreed to work with the UCST on the preparation for the Winter/Spring research prep (ie clearing roads).

Support for Eldorado Owl Project: The Owl Team requested help from MOUP regarding the budget for the existing Eldorado Owl Project. There have been reductions in overhead to the University. At the same time, the workplan has the same deliverables plus an added educational component without tuition support. The MOUP needs help to figure out how to keep the Eldorado Project going to support SNAMP work. Furthermore, Univ. Minnesota has not been paid by USFS for last billing of previous two years work.

It was also pointed out that stakeholders have been concerned that money is not taken from other studies to fund the SNAMP.

**Action Item:** Beth Pendleton will follow up with Rocky to clarify funding issues on the Eldorado Owl Projects. Note added after meeting: Mike Chapel followed up on this issue.

Changes to the Cedar Valley Fire/Forest Health Budget: The Forest Health Team has surveyed 1/3 of Cedar Valley to date. The budget for finishing this project has a 10% increase for Years 1 and 2. There is a need for retro payment on this increase or a 20% increase for next year.

**Action Item:** The Q2.5 meeting will focus on budget clarification for year 2.

Housing for Field Staff:

There is need for housing trailers at the Northern Site. Fisher is in temporary housing in Southern Site and there is an overall need for a site for trailers throughout the year. Roger has in the past acquired FEMA Surplus Trailers (\$4k/trailer to move, taggers must be on site to get them)

**Action Item:** Jan Cutts agreed to serve as a federal contact for science teams that would like to pursue acquiring FEMA trailers.

## **Afternoon Public Session: 1:00 pm**

The Afternoon session began with an overarching question of how do we measure success in SNAMP? Several elements were then reanchored from prior meetings.

- 1) Is the process working for you? Does it provide info open and transparent process?
- 2) Are you building relationships that work?
- 3) Are we producing results that matter to you?

This was followed by the re-anchoring of the structural boundary to the project, the Record of Decision 2004. At a more detailed level, SNAMP is evaluating Strategically Placed Landscape Treatments (SPLATs) by Forest Health/Fire, Water, Wildlife, and Public Participation Research Teams. It was also clarified that SNAMP employs an active experimental approach to Adaptive Management.

Led by John Battles, the UCST then began to present their PowerPoint summaries of the project to date.

The presentation began with an explanation of the Adaptive Management cycle as defined by SNAMP. The slide with the AM cycle summarized the specific USFS and UCST roles and responsibilities.

The timeline illustrated that the project started in 2005 with MOUP signing agreement on how to effect forest treatments. UC agreed to function as a neutral third party in the process and has been working on SNAMP research for 6 months.

The PowerPoint slides described the personnel from the research teams plus integration team as well as the two study sites (Last Chance and Sugar Pine Sites). The BACI design process was then explained. It was pointed out that neither of these sites is exceptional; the forests are similar between two study sites and they are representational of much of the Sierra Nevada; big trees with some fire issues.

The next slides detailed research questions and UCST commitment to the process. In general the UCST is committed to moving toward more fire-safe, healthy forests. There is a strong commitment to involving the public in the process (The back seat drivers in John's analogy). While the UCST cannot always follow everyone's directions simultaneously, the researchers are fully committed to telling you the reasons that they have made a certain decision (Why they are driving in a certain direction). Furthermore, the UCST is also committed not just to research, but also to building on the capacity of the UC Cooperative Extension Program for effective outreach to the public(s).

Details of the UCST commitment include:

- 1) Peer reviewed, high quality research relevant to managers
- 2) Open and transparent process and posting of all non-confidential information in multiple forms
- 3) Information tracking throughout the process
- 4) Public participation

## Project Integration Team Presentation: John Battles

### Accomplishments

- 1) Over the last quarter there has been a shift from a “planning group” to a “doing group”.
- 2) There has been success in the coordination of research projects and outreach across multiple campuses.
- 3) A process for integration of UCST has been created via consensus and neutrality statements. This includes specific steps on how to address “non-neutrality” by any UCST members.
- 4) Understanding that communication with MOUP is an important element to overall project success.
- 5) Organizational chart has been developed.
- 6) Purchasing procedures have been developed.

### Project Challenges:

- 1) Funding commitment is there from the partners, but logistics of funding delivery are still not in place.
- 2) The result of the funding delays is a one year delay before treatments can go in. The impact on the integrated research has to be watched closely.

### Next steps:

- 1) Development of data sharing agreements both internally and externally (MOUP and public).
- 2) Integration of complementary research projects outside of SNAMP. The goal is to encourage other researchers to collaborate as a means to increase synergy with other projects.
- 3) Improved communication between the UCST and the MOUP.

### Discussion: Issues/Concerns/Questions

- 1) The UCST was thanked for all their open communication with “folks on the outside”.
- 2) Questions were raised if 100% of the funding was there for the first year, and what does future funding look like?
  - a. John Battles responded that with DWR funding in place, all Year 1 funding is developed.
  - b. Year 2 is already funded for \$900k from USFS to start out the year, but the total Year 2 allocation is not finalized (SNC grant recommended, but does not have final approval from the Board yet). By Feb/March year 2 budget will be finalized.
  - c. Year 3 is not developed yet due to the yearly allocation of state and federal monies. However, there is a commitment from agencies to raise money for the seven years of approved budgets (see workplan for details).
- 3) It was suggested that a fund raising plan needs to be developed. This would determine what the funding needs are and identify funding sources. If state and

federal agencies are committed to funding Years 3-7, these need to be developed so that external folks can see it.

**Key Agreement:** Funding gap will need to be addressed by February 2008 to keep the UCST integrated and moving forward.

**Key Agreement:** The original funding plan will need to have specific funding sources identified to share with stakeholders.

Water Team Presentation: Roger Bales

Roger began by stating that the sites for the water research have been selected but equipment has not been purchased due to funding delays. Currently, DWR is working on a no cost extension to help keep the project moving forward.

From Roger's perspective, the major issue to these funding delays (especially on the UCST as an integrated team) is the need to get equipment bought and people paid. The stream instruments may not be ready for 2008 runoff. USFS is willing to hold off treatments until 2010 for the two small catchment sites. The delay impacts both sites to allow for two years of pre-monitoring.

USFS addition to notes: Roger worked with USFS over lunch and they worked out a plan to proceed as planned with the Sugarpine Project while providing two years of pre-treatment water monitoring. Catchments will be built by UC and District fire crews before next spring. Two years of runoff will be monitored. The timber sale contract will specify that the harvest units in the treatment areas will not be logged until 2010.

**Key Agreement:** Treatments in the Water Team's Big Sandy catchment at the southern study site will be delayed to 2010, the treatments in the rest of the SNAMP study areas will move forward as planned.

Discussion: Issues/Concerns/Questions

- 1) The proposed delay in treatments of water catchments brought up a question. Because two catchments will be delayed for a year while treatments begin on the rest of the study sites, are you looking at two or three years of treatment implementation? If you are looking at three years of treatments then is it because of hydrologic study or is there also an issue on implementation timeline for the USFS?
  - a. John Battles reiterated that the third year of the BACI design is for recalibration of the study sites.
  - b. Mark Smith, Bass Lake Ranger District (Southern Site), followed up that Sugar Pine is not included in the water catchment basin for 2008-2009 treatments but will be included in 2010. Treatments are scheduled for a 24 month period within 3 operating seasons.
  - c. Jan Cutts, American Ranger District (Northern Site) reiterated that two years of treatments will also be with the two year time period.
  - d. It was pointed out that there is a need for an "über" timeline that connects UCST and USFS timelines.

**Key Agreement:** UCST needs to adjust the research timeline (due to the funding delays) and mesh this with USFS project timeline. This will be prepared for the next quarterly meeting.

Spatial Presentation: Maggi Kelly

To date, Lidar has been flown but waiting for data until the funding is freed up. This Lidar data will be used to determine forest structure. This data will be augmented with remote sensing data.

Discussion: Issues/Concerns/Questions

A series of questions were raised as to the relationship between vegetation data layers and analysis.

- 1) What types of analysis is the UCST planning on doing?
- 2) Maggi clarified that SNAMP is not funded to help design SPLATs, but to evaluate them
- 3) Both Ranger Districts will be developing or have developed vegetation layers and they will be doing their own analysis. How will these layers and analyses be in alignment with the UCST results? Are you running the analyses parallel?
  - a. The Spatial team will support cross walking between the analysis of the existing data by the Districts and the high resolution data of the small footprint from the Lidar imagery.
  - b. The Districts will not just receive the Lidar data layers, the UCST will interface with the Districts.
- 4) Both Districts held field trips with the Public. Linda Blum expressed surprise regarding the context on the landscapes as it related to the vegetation types and well as recent events, etc. She wanted to know how the analysis between the two districts will be congruent.
  - a. Maggi responded that this is why integration of all the research teams is critical. It is important to capture heterogeneity within sites. The UCST analysis is not going to happen in a vacuum.
  - b. John Battles also pointed out that forest data was shared with American Ranger District on the Last Chance. This can be used to address concerns that tree plantations may have been improperly classified in the past.
- 5) Another question addressed how the UCST checked the quality of the larger scale data.
  - a. Maggi that the primary goal of the Spatial Team is to answer the objectives of the other research teams. The other research teams will tell the Spatial Team what variables are important, and then they will ask if they can pull it out of the existing data and if it is good data. Result is an accuracy assessment matrix.
  - b. Maggi also stated that accuracy assessment has evolved and that new methods are able to address compiled data (vs. assessment of individual accuracy)

- 6) It was also proposed that a way to enhance the information exchange between UCST and USFS, a retrospective analysis of the USFS environmental analysis might be a good exercise.
  - a. Maggi stated that treatments will be placed based on existing data. The Spatial Team is not collecting data to guide treatments but rather to evaluate the effects of treatments.
- 7) There was also a request for a summary of the results of other Lidar projects to be posted on the web.
  - a. Maggi stated that she has a graduate student doing this analysis.

**Action Item:** Maggi will post a literature review of Lidar data on the web site.

- 8) There was then a discussion of the major points and questions to moving forest planning forward with regard to the spatial data.
  - a. The USFS will use existing information to continue the planning process.
  - b. The next step is to ask: What does Lidar data tell USFS about the quality of existing information?
  - c. Then we will ask: What are current errors in existing information (i.e., plantations misidentified as Class 2 forests)?

It was also pointed out that USFS has disturbance layers that track cumulative effects analysis showing new polygons of plantations. To do the analysis for environmental impacts, relevant data can be mapped in a way to show the three steps to the analysis of USFS data listed in #7.

- 9) Another question was raised regarding other activities in/near other research sites. How does the team address this impacts of multiple activities in time, especially when we know that wildlife impacts are larger than the research areas?
  - a. The UCST responded that this is definitely a spatial scale issue and there is a need to quantify the effects of these impacts.

**Key Agreement:** In addition to the timeline, other related activities that might impact SNAMP research and monitoring will be mapped to explore potential impacts. These will be prepared by the next quarterly meeting.

Fire Presentation: Scott Stephens

Scott began by stating that “a lot of stuff got done this summer” at Forest Hill, Sugar Pine, Cedar Valley 500 m grids were set up. In the sub-watersheds, they created higher density measurements to complement high density of water monitoring. He also pointed out that Cedar Valley is ahead of the other study sites with treatments beginning now.

Scott then presented data on the different sites. Since there is different land use on each sites, it is not surprising that the % species composition, canopy cover, shrub cover, and basal area (all relatively high) are different between sites.

Scott then stated that all Fire Team work plans and field protocols are up on the web site.

This data will feed into spatial, wildlife and water teams. He reiterated the FFEH Team's interest in sharing data with all USFS partners for their planning activities.

#### Wildlife Presentation: Reg Barrett

Reg began with a summary to date: There are currently 40 cameras in the field. 11 of those sites have pictures of fishers.

The Fisher team is waiting for an airplane to arrive in Jan before they start trapping (20 collars). They will start trapping sooner if the plane becomes available.

The Fisher team can have public involved in radio telemetry but not in trapping or collaring.

The field protocol calls for the camera to be stationed for a month in one location with weekly changes in bait. Photographs triggered by heat and motion at the stations are captured on memory cards and removed during monitoring visits for analysis.

The team expects to record data during commercial thinning in Cedar Valley. This is immediately adjacent to the SNAMP study site.

It does not appear that the timing delay will impact the Fisher team as they will be able to monitor the behavior of the animals during the treatments.

The goal is to keep 20 animals collared at all times. The overall goal is a sample size of 40 animals with complete survival histories by the end of the 7 years. The team will monitor health, movement, etc. and then overlay results with other research factors and analyze. It is expected that 100% of all animals in the study area will be monitored.

#### Discussion: Issues/Concerns/Questions

- 1) Monitoring of fisher with cameras. During the 9/29/07 field trip to Sugar Pine Study Site, stakeholders observed that most of the treatments were in brush fields and forests. USFS staff had reported that they had seen fisher running out of shrub with prey into the forests. If the fishers are foraging in shrub fields and then are monitored in the trees, then what is the impact of shrub removal on their habitat and can you detect it with tree monitoring?
  - a. We need to understand what kills the fishers. This will help understand the limiting factor (food, cover, prey for others).
  - b. The planes will be used to detect mortality signals. A research team will be on the ground to collect carcasses for necropsy.
- 2) Because of the treatment schedule at Sugar Pine, harvest is scheduled to begin in 2008. This will only provide one year of base line data. What is the impact of the single year of base line data on the fisher study?
  - a. We are analyzing fisher data without full experimental design. There is no way to squeeze the fisher study into the current experimental design because of the large home ranges of fisher. The Wildlife Team is doing a correlation study rather than full experimental design.

- b. The Fisher team does not need two winters in order to determine winter mortality prior to treatments. They can compare fisher in treated areas with non treated areas in National Parks and within non-treated areas within and near the southern SNAMP study area.
- c. The Fisher team will monitor fisher survival before, during, and after treatments have been applied. They will be able to determine if the fisher are avoiding areas that have been treated. This will provide the data needed for successful analysis.

The Fisher team will also be able to use existing telemetry studies as long as they also have aerial support to provide data on cause of death. It was pointed out that the PSW study in Kings River has always had the intention of sharing data to expand sample size. Rick also stated that from rulers on trees, it appears that both males and females are present in the photos.

- 3) A discussion regarding detection of mortality then detailed several issues.
  - a. Regarding analysis of mortality, Reg stated that a project goal is to find dead animals within 24 hours of death and immediately take the carcass to UC Davis for analysis.
  - b. A channel fox study uses receivers to satellites rather than planes. It was also suggested that some newer technologies may be coming on line from the CIA in the near future.
  - c. The Fisher team stated that satellite monitoring was a problem because of the weight of the transmitters and the fact that the fisher like to stay where signals are blocked out.
  - d. It was also pointed out that the fisher team will continue to look into the development in technology of satellite transmitters but it currently is not adequate for the purposes of the fisher study.

**Key Agreement:** Fisher team will continue to explore the use of satellite transmitters and other new technologies that can effectively determine mortality of fisher while reducing costs.

Owl Presentation: Rocky Gutiérrez.

The updates to workplan have been posted on the web for review.

Rocky explained that he presented a need to develop alternative sampling strategies at the Q1 meeting because their results from the 2007 field season suggested that there were not enough owls in the northern SNAMP study site for an adequate sample size. Rocky was charged by UCST/MOUP/Public to develop some alternatives.

Rocky mentioned that he was responding to a question posted on the web: What effect does expanding the owl study have to do with conclusions that can be drawn from the study? His response was that the greater you expand your study site, there is a greater increase in the generality of conclusions.

Rocky laid out that the overarching question for SNAMP was: what effect do these SPLAT's have on owl occupancy of nests? They decided to use occupancy because it is directly related to survival (in spotted owls) and easier to measure.

He then presented four proposed study designs in his PowerPoint presentation. The Owl Team will find out by April which options will be needed.

After reviewing the options in his PowerPoint presentation, Rocky laid out implications of revised study design.

#### Discussion: Issues/Concerns/Questions

Several comments then addressed the public engagement in the Owl Study.

- 1) Roost and nest sites would be interesting to share with the public. The public can be shown where these sites are to better understand the habitat needs of the owls.
- 2) There are always issues about birders or others returning to the site and desensitizing the birds to calls and to disturbance of the birds. One possibility is to take the public to areas behind locked gates, if possible, so that returning would be difficult.

Appreciation was also expressed regarding the Owl Teams effort to stay with the proposed experimental design.

- 1) It was that with the theory of SPLATs, the amount and placement of treatments are important to effectiveness. It was also pointed out that CASPO treatments may not have the same demands. It was suggested that the Owl Team needs to develop criteria on how much was treated to make sure that they document the intensity of the effect.
- 2) The Owl Team stated that they will consider the distance to treatment and size of treatment as covariates. Occupancy can then be easily modeled with these covariates. The Owl Team is not going to know how many covariates there are until they consider the possible response variables.
- 3) A question was raised as to the possibility of an Option 5. What about a meta-analysis that also looks at Plumas-Lassen disturbance data? This might give the statistical size that is needed for analysis.
  - a. Rocky responded that if the data is similar then meta-analysis might work.
  - b. It was also pointed out that there are very different treatments and monitoring strategies at Plumas and Lassen.
  - c. Rocky also pointed out that none of the past meta-analysis of spotted owl population data have used such covariates because of difference in habitat typing methods and the amount of work it entails.
- 4) Another important issue was the public desire to “watch the habitat analysis carefully.” It was stated that this analysis needs to be transparent. A critical question is how much of this type of habitat does any given pair of owls need to be reproductively active and occupy an area?
  - a. Rocky responded that this is a difficult question. In the past most studies have used assumptions about core area size based on biological factors: half the neighbor distance is the unit of analysis. To get at this question you will need telemetry and determine actual habitat use by radio-marking birds, but even using telemetry this leads to comparison of areas with unequal core area sizes.
- 5) Another observation was reported where owls like to nest on the edge of the old growth. The result is that these birds appear to get food from the edges and

ecotones rather than old growth. This is the pattern on Plumas and Lassen where owl activity is on habitat edges.

- a. Rocky responded that the problem is that the question is confounded on the need to have a particular nest site. Owls will choose sites for nesting that have the best nest site even though it might not be nearest the best food source. One can't make the inference unless you know what the owl is doing.
- 6) A question was then raised: how do you look at the impacts before and after in options 2,3,4?
  - a. For analyzing residual trees (owl habitat in earlier seral stage forest usually contains residual old trees), USFS does not have accurate information on the presence of residual trees. 20 years of sampling and satellite imagery have been needed to create highly accurate maps on the Eldorado study area. Maggi's maps are critical for cross-walking between existing data.
- 7) Another question was raised on the difference between the two-year pre-monitoring for occupancy modeling vs. BACI experimental design. The answer was nothing except that the element of randomization might be different depending on how the BACI is designed. It was a semantic confusion of design issues.
- 8) It was pointed out that the current depth of dialogue was exactly what the SNAMP team is looking for in these public meetings. It was then proposed for the sake of time, a phone conference would be set up to talk about the four research options, meta analysis, etc.

**Action Item:** Kim Rodrigues will facilitate a meeting/phone conference to further explore the options in the owl research.

#### Public Participation Presentation: Lynn Huntsinger

Lynn began by introducing the Public Participation Team.

It was pointed out that the PPT has not defined triggers or thresholds and they recognize that this is critical next step. The Trigger and Threshold (T/T) sub committee has begun to evaluate this. Please let Kim Rodrigues know if you are interested in participating.

#### Public Meeting Format: Kim

No concerns expressed

#### Data Sharing: Maggi

PI's need to guide the team on how data can be shared.

There was a comment that the data sharing presentation was in a great table!

**Action Item:** Data sharing guidelines, constraints, and data table will be posted this week on the web.

Celebration Presentation: Beth Pendleton

Beth introduced the celebration as a time to acknowledge that we have all come to work together as a partnership with UC scientists as neutral 3<sup>rd</sup> party facilitators. The goal is to build greater trust as we work on a project that has the potential for real impact and helps us move from conflict to better information. The public is integral to this project in the sharing of information and science. While there continue to be challenges to annual funding, there is a full commitment from the agencies to develop the funding for the approved work plan. Beth was very glad to be here to celebrate the successes of the project and she expressed how proud she was of how everybody in the room has been working together.

Celebration Presentation: John Battles

John began reiterating the incredible opportunity that SNAMP provides all the partners. It is truly a collaborative project thanks to everyone's efforts. He also pointed out that we will build on the collaborative nature of the project to now begin to come together on difficult information. This will take patience from everyone.

Celebration Presentation: Crawford Tuttle

SNAMP is an exciting project that can demonstrate adaptive management via a larger MOU partnership. Crawford has watched the partner commitment to SNAMP grow over time and he reported how pleased the State is with the progress that has been made. Crawford then details some of the important results of the SNAMP process. These included 1) testing the ability to look at the multiple impacts of different types of strategies on management decision making, 2) the development of an open and transparent public process, and 3) how strong science can be used in key policy making. Crawford also highlighted his appreciation regarding UC's willingness to step into the project and commended them for their great leadership. This demonstrates what a fine university system that we have (as well as including Minnesota) to support state and federal government as well as the public.

The meeting ended with a quick summary of what worked and what could be changed. The only comments were how great it was to have the PI's at the Quarterly meetings.