

Summary of SNAMP Key Project Goals and Agreements

Last updated October 7, 2010

Purpose: This document is a summary of past key agreements and guiding principles that direct the operation and project goals of the Sierra Nevada Adaptive Management Project. This is intended to be a working document; as new agreements are made they will be added by the group(s) involved in the agreement (UCST, MOUP, or Integration Team). Tasks or next steps are generally not included.

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1. List of SNAMP Guiding Documents

- 1.0 Memorandum of Understanding. February 2005. USFS, USFS PSW, USFWS, CA Resources Agency.
- 1.1 SNAMP workplan. January 16, 2007. UC Science Team.
- 1.2 UCST Statement of Neutrality. August 15, 2007; updated October 2010 and FAQ added October 2010. UC Science Team.
- 1.3 SNAMP UCST Data Sharing Agreement. Final version March 2010. UC Science Team.

2. Integration Team Guiding Principles and Agreements

Integration Team Purpose Statement. 2009. Integration Team (UCST, MOUP, Public)

"The purpose of the SNAMP Integration Team is to engage the public, the University of California, and natural resource agencies in a process of mutual learning as we proceed through the adaptive management cycle. Part of the work is to learn about UC research and data, as well as USFS treatments, so that the IT can evaluate and understand the tradeoffs as research information is integrated within the adaptive management project and into Forest Service management. Ultimately, the goal is to address the part of the adaptive management cycle where scientific information and public input is integrated into future management decisions."

3. SNAMP Guiding Documents: Principles and Agreements

- 1.0 Memorandum of Understanding. February 2005. MOU Partners.
 1. Establishes stated common goal of developing an active multiparty adaptive management and monitoring plan consistent with the Sierra Nevada Forest Plan Amendment.
 2. States the recognized value of the UC "as a neutral third party with expertise in projects of this sort to assist in developing a process with the Forest Service and interested stakeholders to refine an active adaptive management and monitoring system. This refined adaptive management and monitoring process will inform and contribute to the improvement in

implementation of land management practices, as prescribed, that will restore and protect valued natural resources and reduce the threats to them and communities at risk.”

1.1 SNAMP workplan. January 16, 2007. UC Science Team.

1. Goal of research is “to learn how to use an adaptive management and monitoring system to understand ecosystem behavior, incorporate stakeholder participation, and inform the implementation of adaptive management for Forest Service lands in the Sierra Nevada of California.”
2. States that the UC Science Team will measure the impact of strategic fuel management at the landscape level (SPLATs).
3. Proposes “to apply an adaptive management framework that describes how to collect and integrate information across scales, disciplines, and stakeholders in order to create a synthetic understanding of forest ecosystem responses to the proposed treatments and generate an inclusive appreciation of the inevitable trade-offs involved in forest management decisions.”
4. Explains the UC Science Team’s conceptual framework for adaptive management: 1) involves deliberate experimentation rather than a passive trial-and-error approach; 2) collaborative and participatory management; “must be a participatory process that engages scientists, stakeholders, and managers in a long-term relationship grounded in shared learning about the ecosystem and society” and defines the 7 steps in adaptive management for SNAMP.
5. Suggests that products from UC research are to be used to inform further experiments, refine ecosystem understanding, used to shape management initiatives. “Thus experimental design is a crucial part of management and monitoring because it ensures that outcomes are meaningful and provide feedback on a rigorous basis.”
6. Commits the Science Team to transparent decision making.
7. Commits the Science Team to ongoing analysis of the creation, adoption, and application of stakeholder and researcher information in the Forest Service adaptive management process.
8. RESEARCH DESIGN
 - Experimental unit is a fireshed. Fireshed is subdivided into two subfiresheds, one to receive treatment and the other to be the control.
 - The Science Team will look for consistent responses SPLATs in northern and southern study sites.
 - BACI design (Before After Control Impact) is used to compensate for sparse replication (2 sites) and non-random assignment of the treatments by providing robust longitudinal controls.
 - The Science Team will have no major management intervention to USFS projects during the course of the study.
 - 2-2-1-2 schedule of research (2 years of pre-treatment data collection, 2 years of treatment implementation, 1 year of “ecosystem recovery”, and 2 years of post treatment data collection).
 - Meta-replication is a priority.
 - Replicated studies from multiple sources; extend inferential implications from SNAMP’s study sites to other sites in the Sierra Nevada.

- Likelihood approach instead of traditional hypothesis testing to evaluate effect size of management impact.
 - Information theory approaches to quantify the strength of competing models.
9. Reporting schedule – written quarterly updates and annual reports made public to all parties. Also report findings in peer-reviewed publications.

1.2 UCST Statement of Neutrality. August 15, 2007; updated June 1, 2010; FAQ added ----- 2010. UC Science Team.

1. The UC Science team will establish and maintain expertise.
2. The UC Science Team's third party status dictates that:
 - Results generated in open and transparent process.
 - Endeavor to reach consensus in scientific interpretation and meaning.
 - Report this consensus at minimum one report per year.
 - Document evidence and reasoning if consensus is not achieved.
 - No member of UCST promote or defend management practices of any MOUP, or positions taken by stakeholders, concerning the scope of research defined by UCST within SNAMP. Geographic scope defined in June 1, 2010 revised Statement of Neutrality. Exception given to legal testimony when compelled by law to provide it.
3. Neutral
 - UCST members will strive to avoid conflicts of interest.
 - Make public via posting on SNAMP website all agreements, decisions, and documents relevant to UCST research.
4. External Oversight
 - An external committee will provide guidance to UCST regarding its efforts to act as a neutral third party of experts, and report to Vice-President of ANR regarding performance of UCST.
5. Conflict Resolution
 - Resolutions achieved in an open and transparent process.
 - Stakeholder concerns regarding UCST member neutrality should go to the Academic Coordinator who will direct to lead PI if necessary.
 - Oversight Committee will provide guidance to UCST when conflicts cannot be resolved.

1.3 SNAMP UCST Data Sharing Agreement. Final version March 2010. UC Science Team.

- Within science team data sharing:
 - Proprietary rights to the data begin with the lead PIs of teams that collected it.
 - Limited time period of proprietary rights, 12 mo. post date of last post-treatment data collection.
 - Written data requests and approvals by PIs.
 - Vote if conflict when 2 parties propose similar analyses using SNAMP data.
 - Annual data archive.
 - Consistency in publication acknowledgements (SNAMP pub no. and funders).
 - Exception for data that originated before SNAMP.

- Consider others on team when writing proposals. Proposals must be submitted to the Academic Coordinator prior to submission.
- Sharing data with the public
 - Team will share data with the public whenever possible and/or appropriate.
 - Proprietary rights to the data begin with the lead PIs of teams that collected it.
 - Exception for data that originated before SNAMP.
 - Spatial team review and recommendation on format for sharing spatial data common to all teams.
- Publication of scientific results
 - Manuscript conceptualization and proposals to be discussed with data's PI.
 - Authorship will be determined by contributions to the paper.
 - To be an author a person has to have made an intellectual contribution.
 - Order of authorship should be determined by relative degree of contribution.

4. Topic Specific Summary of Key Agreements and Shared Understandings

1. Expansion of Owl team study area

On August 20, 2007 the SNAMP Owl team proposed to expand the Last Chance study area to include the Eldorado Spotted Owl Demography study area, which includes portions of the Eldorado and Tahoe National Forests, because of the small sample size of owls living in the Last Chance area. The process to alter their scope of research followed the general process for presenting new or altered SNAMP research (as documented in the notes from the 2007 Q1 meeting on August 20, 2007):

1. Discuss proposal within science team. Attempt to reach consensus on a decision.
2. Propose to MOUP and Public, and request input. Incorporate suggestions from MOUP and/or Public if science team agrees.
3. Share decision with MOUP and Public.

A detailed account of the decision making process for expansion of the Owl study area follows below.

The Owl Team first proposed the idea to the MOUP and public at the 2007 Q1 (Quarter 1) public meeting on August 20, 2007. It was decided that the UCST needed to discuss the idea first before continuing the public discussion. It was also decided that the Owl Team would work with Mike Chapel to come up with sampling alternatives.

The revised Owl Workplan, dated November 13, 2007, explained the rationale and options for expanding into Eldorado. It was posted to the SNAMP website for review by MOUP and public before the 2007 Q2 public meeting on November 29, 2007.

The revised Owl Workplan was presented at the Nov. 29, 2007 Q2 meeting. It was discussed privately in a morning session with MOUP members, and then presented to the public in the afternoon. The Owl team needed more information from the USFS before deciding which alternative to use, but at this

meeting the conversation was moving past whether there was a need to expand into Eldorado and more about how specifically to expand.

A conference call was held on January 28, 2008 between the Owl Team and interested SNAMP stakeholders to get feedback on the revised workplan.

The February 26, 2008 (2007 Q3) public meeting and report present an update to the Owl research with the study area expansion.

The May 16, 2008 Q1 report to USFS and MOUP present the revised Owl Workplan that includes portions of Eldorado (pg.7).

The expanded study area / revised workplan was revisited at the July 25, 2008 Owl Integration Team meeting.

The expanded study area was presented at the Annual Meeting on November 5th, 2008.

The SNAMP Newsletter Fall 2008 focused on the Owl Team clearly includes the Eldorado study. This was posted to the website and sent electronically to the SNAMP distribution list.

2. SNAMP Data and Information Sharing

The UC Science Team has often been asked by the US Forest Service to provide data and management recommendations related to the SNAMP study areas. This has spurred many discussions within the science team and within the Forest Service about what kind of information is required or acceptable to disseminate and when.

Because the UC Science Team is studying the USFS application SPLATs, the team has made it a general policy not to become directly involved in the design of treatments in SNAMP study areas, in order to minimize their influence on treatment design as much as possible. At the same time, the team has shared data and baseline findings (pre-treatment) with the USFS, other MOU agencies, and with the public. In the SNAMP UCST Data Sharing Agreement (March 2010), the Science Team states that it will strive to make data available to the public whenever possible.

At the beginning of the SNAMP project, Scott Stephens (co-PI of the FFEH team), was asked to assist the USFS with the design of SPLATs on the SNAMP project, but he declined because he did not want to influence the treatment design. The FFEH team has shared its forest inventory plot data with both the American River and Bass Lake Ranger Districts. This data was also made available to the public through the SNAMP data server website (<https://snamp.ucmerced.edu/>).

Rocky Gutiérrez, co-PI of the Owl team, was asked to provide management recommendations for SPLAT design on the Eldorado National Forest in 2009. Instead of providing specific management

recommendations that might influence the design of treatments, Dr. Gutiérrez met with USFS biologists in the field to answer questions and show them what he has learned about preferred habitat conditions for spotted owls. In this way, he was able to provide the USFS staff knowledge of what he has learned without providing specific management recommendations. Dr. Gutiérrez and other scientists from the Owl Team (as well as all other SNAMP science teams) regularly report their findings and knowledge about spotted owls to the public through field trips, Integration Team meetings, and quarterly and annual reports.

Rick Sweitzer, co-PI of the Fisher team, was asked by the Bass Lake Ranger District to help design Limited Operation Period Buffer Areas for Pacific fisher in the southern SNAMP study area. Again, because he did not want to become directly involved in designing treatment areas, he declined the request. However, the SNAMP Fisher team did share data on core home ranges and fisher den sites with the Forest Service. Because of the sensitive status of the animals, the Fisher team does not make specific location data available to the general public.

The SNAMP UCST Data Sharing Agreement (March 2010) outlines the guidelines for how and when members of the UC Science Team will share data within the team, and with the public and MOU Partner agencies.

On May 26, 2010, a conference call was held between members of the UC Science Team and the Forest Service to come up with a mutually agreed upon policy to help guide future requests from USFS for SNAMP information and management recommendations. Participants on the call included Mike Chapel, Patricia Flebbe, John Battles, Rocky Gutiérrez, Zach Perry, Reg Barrett, Rick Sweitzer, Susie Kocher, Adriana Sulak, and Ann Huber. One of the reasons for the call was that the Forest Service was requesting management recommendations for spotted owls from the Eldorado Demography study. Citing study design and Statement of Neutrality limitations, Dr. Gutierrez did not want to provide specific management recommendations for Eldorado National Forest.

The main outcome from this meeting was the agreement to judge whether an information request from the Forest Service is in conflict with the SNAMP study design (of not becoming directly involved in designing treatments) should be made on a case by case basis. Mike Chapel suggested that the Integration Team meetings could be used to consider these issues.