



## **SNAMP 2013 4<sup>th</sup> Quarter MOU Partners Meeting**

Wednesday, January 22, 2014, 1:00 pm to 2:30 pm, conference call

### *Notes*

#### ***In attendance:***

Michael Anderson – CA Dept Water Resources	Russ Henly – CA Resources Agency
John Battles – UC Berkeley	Peter Hopkinson – UC Berkeley
Rebecca Ferkovich – CAL FIRE	Chris Keithley – CAL FIRE
Patricia Flebbe – USFS Region 5	Anne Lombardo – UC Cooperative Extension
Frank Gehrke – CA Dept Water Resources	Chris Nota – USFS Region 5
Cay Goude – US Fish and Wildlife Service	Adriana Sulak – UC Berkeley

#### **1) Update on UC Science Team progress: Lidar data processing and vegetation map production**

John Battles: To review briefly, there have been SNAMP lidar flights over both SNAMP sites. For Sugar Pine, we have both pre- and post-treatment lidar and also NAIP imagery (from USDA's Farm Service Agency). For Last Chance, we have 1) pre-treatment lidar data, 2) post-treatment, pre-American Fire lidar data, and 3) post-treatment, post-American Fire lidar data. The Sugar Pine post-treatment flight was completed in one year. The Last Chance post-treatment, pre-American Fire lidar flights were completed over two years; in the first year, the flights were shut down by early snowstorms so only 2/3 of the lidar were collected in 2012. Early in 2013, the rest of Last Chance was flown.

The Spatial team is using the lidar data, NAIP imagery, and the on-ground vegetation plot data to make vegetation maps. The maps will allow us to upscale to the entire watershed. One challenge is that lidar is a new technology with which to make vegetation maps. It may have

been easier for us to make plot-data vegetation maps but that also would have been difficult at this scale.

With the lidar, we are making unsupervised classification of the vegetation. Then after classification, we check that the types make sense, that there is meaningful classification.

An advantage of this method is that unsupervised classification makes mapping larger areas or adding further lidar flights easier. I have been validating the types. Another challenge is that the purpose is to detect change after treatment; we don't want to confound treatment changes with classification method artefacts.

We are using pre-treatment maps and using USFS District treatment maps to look for actual changes in structure. This change detection has been a challenge.

The Fire team is now running the vegetation maps with fire behavior modelling. A challenge is that the interval between pre-treatment and post-treatment was longer than we'd planned for: 3-4 years rather than 1-2 years. There has been some natural change during that period that we'll have to account for in our analysis.

Unsupervised classification will be useful for future applications like the large lidar flight of the Tahoe National Forest recently undertaken by Forest Service.

We are a little bit behind especially with the Last Chance lidar; there are a few holes in the dataset because the lidar flight crew was rushing to beat the American Fire.

## **2) Update on UC Science Team progress: Owl team “dry run” habitat analysis**

John: We are on a tight schedule to finish the SNAMP report by December. The biggest log jam is the lidar work and the vegetation maps. For the Owl team, the next step is to take the vegetation metrics and figure out the impact on the owl. The Owl team used Collins et al.'s modeled fire effects [<http://snamp.cnr.berkeley.edu/publications/>] to run with owl habitat requirements so they can work out the analytic infrastructure prior to their analyses with the full fire modelling dataset. They figured out the linkages with this simple approach. Last week, Brandon Collins, Scott Stephens, and the Owl team had a phone conversation to figure out how to make a detailed habitat analysis.

The firehed scale seems big for FFEH analyses but is actually small for habitat analyses; this dry run analysis was limited to owl PACs within the lidar footprint – the same challenges exist for the fisher analysis.

Q: Does the dry run analysis include post-treatment lidar data.

A: The dry run was based on early model results so it does not include post-treatment lidar – its purpose was to get the analysis working. The next step is to include post-treatment results.

### **3) Announcement: acceptance of Organized Oral Session at Ecological Society of America 2014 Annual meeting in Sacramento, August 2014.**

Patricia Flebbe announced that the Ecological Society of America's Annual meeting in Sacramento, August 10-15, 2014, will include an Organized Oral Session on adaptive management. John Battles and Peter Hopkinson submitted a proposal for the session, and it was accepted. The session will include representatives from the UCST, MOUP, and stakeholders, as well as Bernard Bormann, who will give a broad perspective on adaptive management projects in the Pacific Northwest, and 2 other speakers selected by ESA meeting organizers.

Patricia asked the other MOU Partners representatives whether any of them would like to be a co-author for the MOUP talk; Patricia would like to include perspectives other than the Forest Service's.

**Cay Goude said that the US Fish and Wildlife Service would be interested in participating in the MOUP talk at ESA. Cay and Patricia will discuss this later.**

Talk abstracts are due on February 27.

John noted that several of the talks will be SNAMP UCST teams talking about their research, but three of the talks will examine the adaptive management process – the MOUP talk, the stakeholder talk by Sue Britting, and a talk by John, Peter, David Saah, and Ann Huber presenting the University's perspective.

**Peter will email out the ESA session description to the MOUP.**

### **4) Timeline and process for review of individual and integration reports**

#### **a. Identify potential reviewers among MOU Partners.**

Peter made the following corrections to the final report timeline sent out with the agenda:

The FFEH IT meeting will occur on May 12 or 15, 2014 [the date selected is **May 15, 2014**];

The Water IT meeting will occur on **September 4, 2014**;

The Fisher IT meeting will occur sometime in July 2014, date TBA [the date selected is **July 31, 2014**];

The SNAMP Annual meeting will take place in October 2014, date TBA [the date selected is **November 6, 2014**].

As the timeline indicates, there will be multiple opportunities to provide input into various stages of the final report.

The entire draft final report will be available for review on **September 15, 2014**, with all reviews due back to the UCST by **November 1, 2014**.

As decided in the July 2013 MOUP meeting, Cay Goude will lead the MOU Partners' response to the SNAMP final report. Cay suggested that while each agency should write its own response to the report, she would be willing to create a structure for the response which other agencies could link into.

Patricia suggested that at the next MOUP quarterly meeting, Cay could present the basic structure for the MOUP response. Cay and Patricia will talk about this.

Peter will send out the excerpt from the July 2013 MOUP meeting notes regarding the MOUP response to the final report.

John suggested that it would be good if there were some consensus part of the MOUP response. This would be really helpful to the UCST and would provide great closure for the MOU and SNAMP.

Cay suggested that the MOUP response could have two parts: 1) a general consensus response by the MOUP, and 2) individual agency responses.

Peter will also send out the 2005 Memorandum of Understanding to the MOUP.

##### **5) Fisher field team transition from SNAMP to USFS Sugar Pine Project.**

John: The transition from the pre- and active fuels treatment part of SNAMP to the post-treatment USFS Pacific Southwest Research Station-led (PSW) Sugar Pine fisher project took place on January 1, 2014; it was a successful transition and is largely completed. SNAMP has no more personnel on site. All equipment has been transferred to PSW, except vehicles. Title-

transferred research equipment and supplies stayed on site. Only used power tools, e.g., chainsaws, and the trucks were retained by the University because of liability issues.

It was a very smooth transition thanks to Gary Roller working closely with Craig Thompson.

The University has a data-sharing agreement with the PSW.

PSW's Craig Thompson will take the lead on the intellectual work for the SNAMP fisher team: analyzing data and so forth.

Also, a new manuscript by Viorel Popescu, Perry de Valpine, and Rick Sweitzer has just been accepted for publication by the journal *Ecology and Evolution*. The paper is titled: Testing the consistency of wildlife data types before combining them: the case of camera traps and telemetry.

## **6) Data-sharing for fisher listing review**

### **a. How to provide the best available science if data are not yet published.**

John has spoken with Wayne Spencer, who is a member of the Southern Sierra Nevada Fisher Conservation Strategy (SSNFCS) Technical Team, about sharing unpublished SNAMP data with them; the challenge is that this could contravene SNAMP's neutrality agreement

(<http://snamp.cnr.berkeley.edu/documents/335/> and

<http://snamp.cnr.berkeley.edu/documents/333/>), in which the UCST agreed that it would not share data that were not ready to share with everyone, i.e., in a peer-reviewed publication or at a SNAMP Annual meeting or in the SNAMP final report. The Technical Team needs access to the data.

However, most of the major parties seem okay with SNAMP sharing the fisher data in this situation.

John wanted to make sure that the MOUP agrees that the UCST should release the fisher data in this instance.

Cay: The SSNFCS and the USF&WS listing are separate processes. The listing is strictly a USF&WS action; the listing group is supposed to use the best scientific information available. It is fine from our standpoint for the SSNFCS Technical Team to have access to these data.

**Patricia asked the MOUP on the call whether anyone was in disagreement with sharing data with the SSNFCS Technical Team. No one spoke up in disagreement.**

## **7) MOUP quarterly meetings in 2014**

- a. Format: face-to-face or conference calls?**
- b. Scheduling the meetings.**

Patricia asked the MOUP whether they wanted face-to-face meetings or conference calls for the final year's quarterly MOUP meetings. It was suggested that the July 2014 MOUP meeting might be a good time for the MOUP to get together to talk about the MOUP response to the SNAMP report.

Suggested scheme for quarterly meetings:

April Q1 – conference call

July Q2 – possibly a meeting

October – Annual meeting

Jan Q4: Probably no call or meeting because SNAMP will have finished.

Peter will send Patricia potential dates for the MOUP quarterly meetings, and she will send them out to the MOUP for selection. In general, Mondays and Fridays should be avoided.

## **8) Forest Ecosystem Health team briefing (Battles).**

The focus of FEH work in the initial workplan was tree growth response post-treatment. Our basic hypothesis was: treatment reduces canopy and understory, thereby lowering overall competition so we would expect positive, faster tree growth. Sometimes treatments themselves can lead to growth problems not related to competition: 1) machinery can damage trees, and 2) there is a risk with damaged or dead trees, that it will lead to bark beetle outbreak.

With the delay in treatment in the SNAMP sites, it did not make scientific sense to redo tree rings analysis after treatment because the post-treatment period would have been so short. It certainly does make sense to redo the tree rings analysis in the future, after several years have passed, but that will be post-SNAMP.

For 2014, FEH will assess forest health and forest vegetation changes. The analysis will be constrained by vegetation type; there are not many types in the two SNAMP sites – analysis will

be constrained to middle elevation conifer forest, by and large in mature second-growth forest. There are only 4-6 vegetation types, but they capture differences across sites.

We will compare fire-treated areas and untreated areas. What has been the impact over the last five years: how did things change? Compositional changes, either from natural change or by treatment? We will use metrics such as number of trees per hectare and size distribution of different tree species.

FEH will also calculate individual tree response for the thousands of trees we've measured:

-relative growth rate for trees in treatment vs. untreated areas;

-mortality rates in treatment vs. untreated areas;

-differences in recruitment in treatment vs. untreated areas.

That is our overall approach. In the treated areas, we will look at actual treated locations as compared to the locations not actually disturbed by treatment activities – a finer scale analysis.

We will look at response along the treatment intensity gradient.

Timing for forest health is bad. We will not see drought effects, for example, until later.

These are metrics that will be extrapolated to the fire-treated scale. They are not direct measures but synoptic measures. FEH is well along in our analyses.

We do have a lead for funding for remeasuring the American Fire area at Last Chance, but such research would be post-SNAMP: NSF Rapid program funding; we are in the second round.

Q: Rapid program funding – where are you in the process?

John: The NSF Rapid program asked us for a proposal submission. However, we need to have all the permissions ready to go. We need to get into the American Fire area as soon as possible because of salvage logging.

We plan to remeasure SNAMP plots and use a fire severity protocol.

We will continue data-sharing with the Forest Service.

It would be helpful to have a letter of support.

### **DECISIONS and ACTION ITEMS:**

1) Cay Goude said that the US Fish and Wildlife Service would be interested in participating in the MOUP talk at ESA. Cay and Patricia will discuss this later.

Peter will email out the ESA session description to the MOUP.

2) As decided in the July 2013 MOUP meeting, Cay Goude will lead the MOU Partners' response to the SNAMP final report. Cay suggested that while each agency should write its own response to the report, she would be willing to create a structure for the response which other agencies could link into.

Patricia suggested that at the next MOUP quarterly meeting, Cay could present the basic structure for the MOUP response. Cay and Patricia will talk about this.

Cay suggested that the MOUP response could have two parts: 1) a general consensus response by the MOUP, and 2) individual agency responses.

Peter will send out the excerpt from the July 2013 MOUP meeting notes about the MOUP response to the final report and the 2005 Memorandum of Understanding to the MOUP.

3) Patricia asked the MOUP on the call whether anyone was in disagreement with sharing unpublished SNAMP fisher data with the SSNFCS Technical Team. No one spoke up in disagreement.

4) Suggested scheme for 2014 MOUP quarterly meetings:

April Q1 – conference call

July Q2 – possibly a meeting

October – Annual meeting

Jan Q4: Probably no call or meeting because SNAMP will have finished.

Peter will send Patricia potential dates for the MOUP quarterly meetings, and she will send them out to the MOUP for selection. In general, Mondays and Fridays should be avoided.