

# SIERRA NEVADA ADAPTIVE MANAGEMENT PROJECT

## UCST 2008 QUARTER 1 REPORT TO MOU PARTNERS

May 16, 2008

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### Work Plan Updates since Q3

Note that work plan updates in this report covers the period from the time of the most recent quarterly report (February 21) to April 17; which is a two month period rather than the three months that a quarterly report typically covers. This is in an effort to shift the quarterly reporting to a calendar year cycle.

### **Project Integration and Management Team (John Battles)**

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#### **1. Adjustments to Work Plan**

- No adjustment

#### **2. Completed Work Plan Tasks / Accomplishments since Q3**

- Budget, contracts & grants administration
- Internal UCST communication
  - Bimonthly UCST conference calls
  - Weekly communication science teams
  - Regular update posted to UCST
  - Maintain online collaborative tools website (bSpace)
  - Participate in data integration workshop between Forest and Spatial teams
- Communication with MOUP
  - Represent UCST at Q.5 meetings
  - Liason between USFS and science teams
  - Quarterly reports
- Coordinated:
  - Follow-up on key agreements from Q3 meeting
  - UCST data integration meeting
- Grants team
  - Serve as communication link to UCST

- Logistical support to science teams
  - Housing & equipment issues

### 3. Outstanding Work Plan Tasks / Next Steps

- Coordinate Yr 2 DWR contract for Spatial and Water teams
- Continue all other contract and grant administration work
- Write and submit grant proposal to Resources Law Group
- Site visits to Last Chance and Sugar Pine, meet with FS personnel and field crews
- Participate in Integration Team meeting May 27
- Continue metareplication work
- Foster and coordinate science integration between science teams

## Forest Fire & Ecosystem Health (Scott Stephens and John Battles)

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### 1. Adjustments to Work Plan

- We have no adjustments to the work plan.

### 2. Completed Work Plan Tasks in 2008

Continued summary and analysis of field data collected in 2007 from all inventory plots located in treatment areas:

- Sugar Pine – 115 plots
- Cedar Valley – 71 plots
- Last Chance – 199 plots

### 3. Outstanding Work Plan Tasks in 2008 / Next Steps

- We will continue field data collection in both study areas. The 2008 field season will be focused on collecting forest structure, species composition, fuels, and shrub data within the control areas.  
Proposed number of sample plots in the control areas for the sites are as follows (approximate):
  - Sugar Pine – 200
  - Cedar Valley – 50
  - Last Chance – 200
- Continued analysis of fuel inventory data.
- We will also begin a systematic collection of fire scars and tree mortality data throughout both study areas.
- We will be obtaining high accuracy GPS coordinates for each of the 2007 and 2008 inventory plots. This data will be shared with the spatial team to calibrate LiDAR data.
- Concurrently, we will use the data collected during the 2007 field season to begin modeling fuel treatment effects on potential fire behavior. This will involve a dynamic vegetation model that can simulate the modifications in forest structure and fuels caused by the SPLAT treatments, and subsequent impacts on fire behavior across each landscape.

- We have scheduled a training workshop with the developer of ArcFuels, a package that runs in ArcGIS which is used to design and evaluate fuel treatments across a landscape or fireshed. We will use ArcFuels in combination with the fire behavior model FlamMap to test the impact and longevity of various fuel treatment alternatives (e.g. intensity and arrangement) on modeled wildfire behavior.

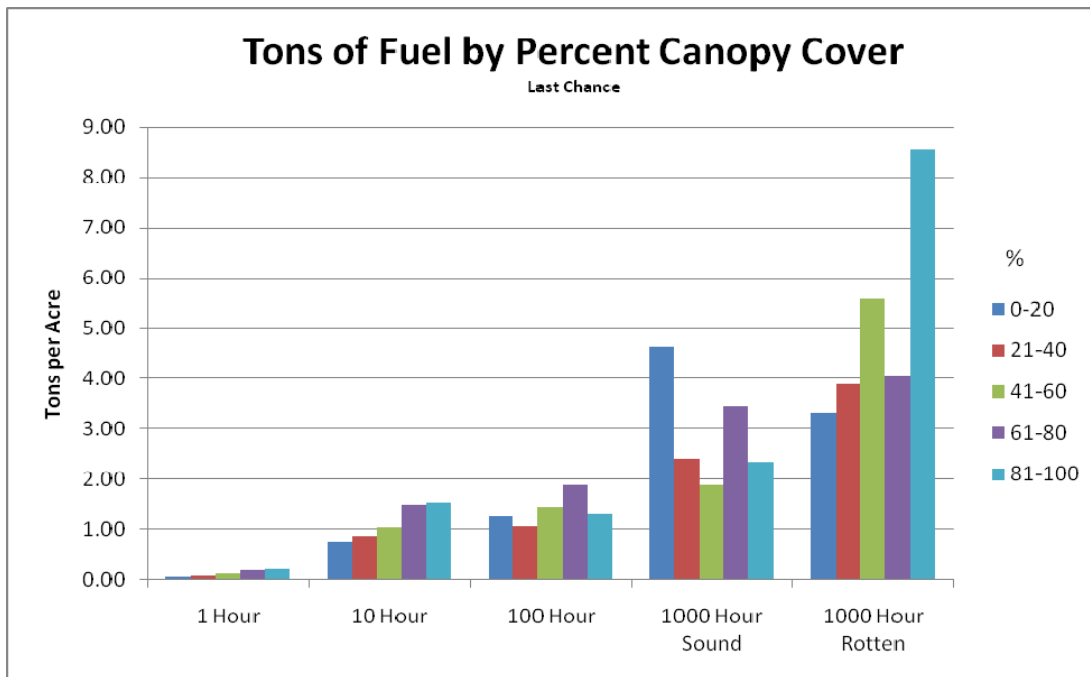
### Fuel Load Summaries for Sugar Pine and Last Chance

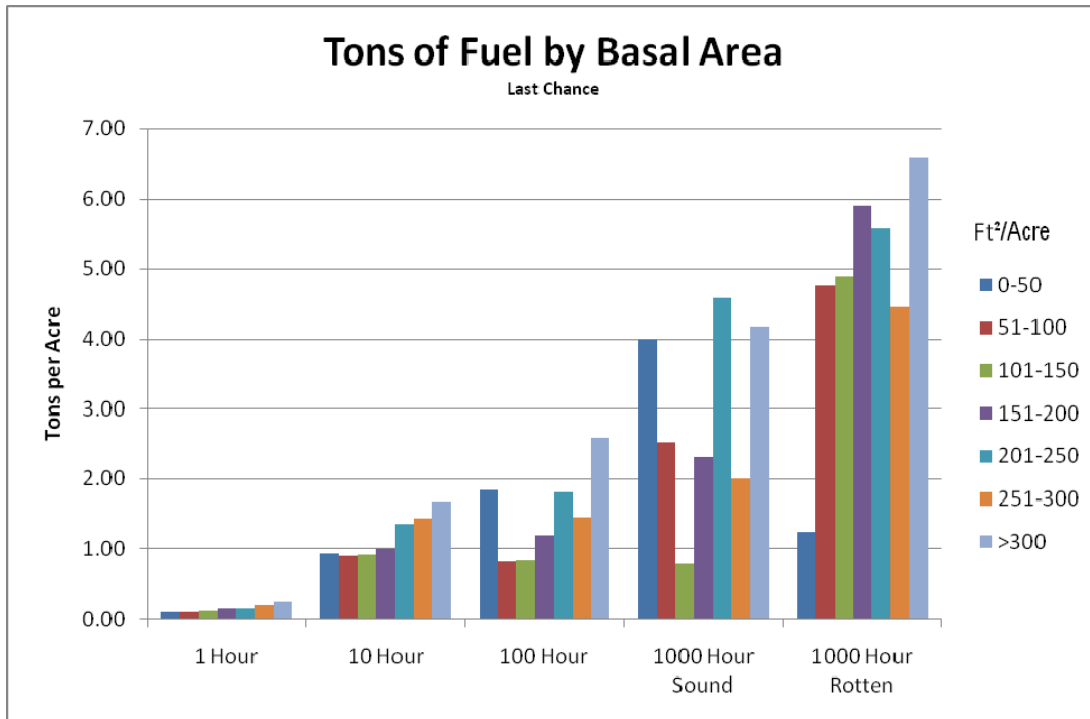
The following is a summary of fuel load data collected on the proposed treatment areas of the Sugar Pine Project in Sierra National Forest and the Last Chance Project in Tahoe National Forest. Fuel, or downed woody material is measured by size class on three, 41-foot transects per plot. The fuel load is calculated by size class using equations from Brown 1974 and reported in tons per acre by percent canopy cover and by basal area. All forest attribute and fuel data is collected in metric units and can be summarized and presented in either English or metric units. Fuel size class and moisture time lag definitions are as follows:

- 1 hour=< 0.25 inch diameter
- 10 hour=0.25-1.0 inches diameter
- 100 hour=1.0-3.0 inches diameter
- 1000 hour=>3.0 inches diameter

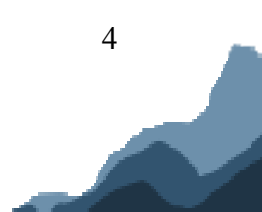
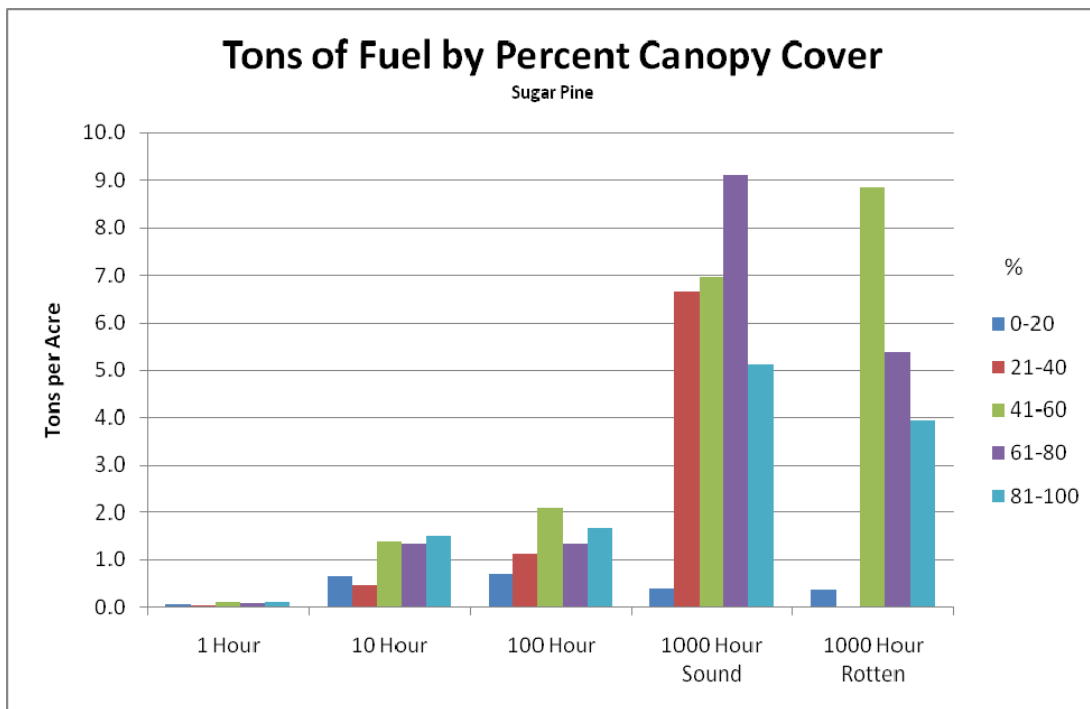
Additional information or questions may be addressed to the Fire and Forest Health Team.

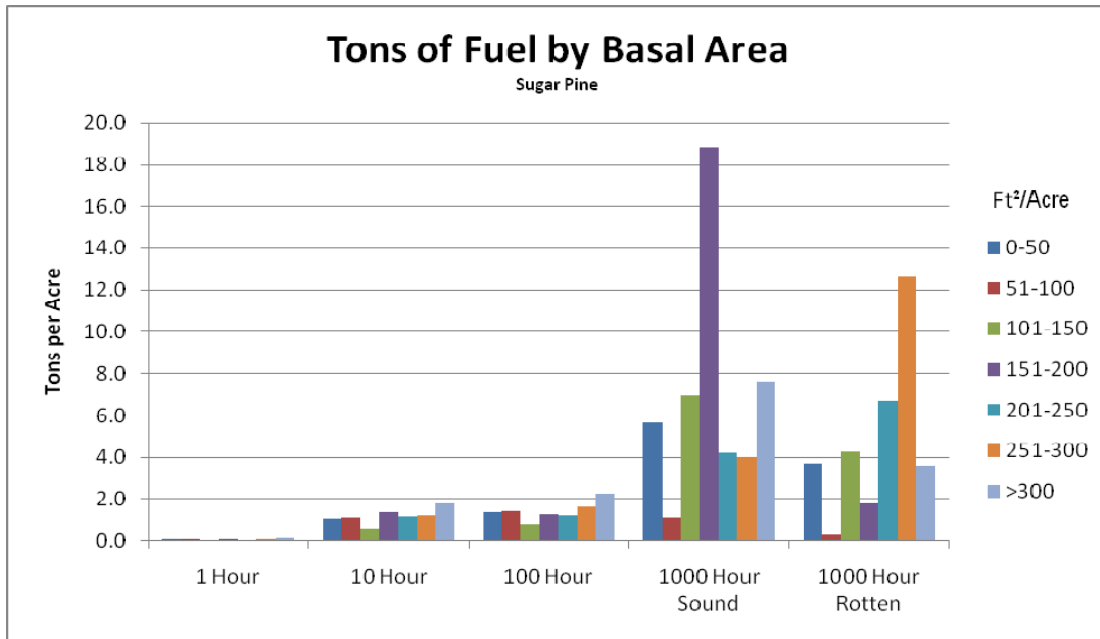
The following two figures show fuel load data collected from 199 inventory plots on the proposed treatment area in the **Last Chance** project area.





The following two figures show fuel load data collected from 112 inventory plots on the proposed treatment area in the **Sugar Pine** project area.





## Public Participation Team (PPT)

The following summary includes updates for STRATEGIC FACILITATION (Kim Rodrigues), PROGRAM ANALYSIS (Lynn Huntsinger), and INTERNET DISCUSSION BOARD AND WEBGIS Internet Discussion Board (Maggi Kelly).

### 1. Adjustments to Work Plan

- No adjustments to the work plan per se. In response to feedback from stakeholders, UCST, and MOUP, we are proposing a change to one public meeting per year, with more emphasis on trainings, local activities, and the integration team (IT). The public meeting will be held in November of each year, after the field season when UCST can report their recent findings, and we can give an update to the agency leaders as well as the rest of MOUP and Public. We are awaiting comment from public stakeholders for two weeks before the decision is considered final (Ann Huber for more info).

### 2. Completed Work Plan Tasks since Q3 (main contacts are listed for each for more information)

- The IT team meeting agenda is under development and it is scheduled for May 27 (Kim).
- Working on a white paper review of issues of administrative discretion under the existing legal framework for USFS for the IT team to use (Adriana & Lynn).
- Facilitation training dates were developed working with MOUP. They are:
  - April 24 in Oakhurst
  - April 29 in Auburn
  - (Kim)
- We developed our interview protocol and it has been approved by UC for the SNC grant and is underway for the USFS grant. Interviews will begin shortly. Interviews will

include experience with SNAMP and other collaborative and forest management programs, attitudes towards science, and local forest history (Lynn & Adriana).

- Beginning investigations of county recorder's offices, local historical societies, USFS district office, local libraries to find materials about local historical events focusing on forest and wildlife management and events (Lynn & Anne).
- Newsletters, flyers, and other outreach materials are being produced (Maggi).
- We are scoping for the possibility of introducing webGIS oral histories to the SNAMP site. Community members and others respond to key concepts (place, conservation, history) on video on a strictly voluntary basis. Funding seems to be a limitation here (Maggi).
- Our local community work continues with a variety of outreach activities, including contact with local watershed groups and Board of Supervisors. A Fisher presentation is scheduled for May 21 at a high school in Oakhurst. (Anne Lombardo). Thank you Reg!
- The job description for the northern site was developed and posted, interviews are beginning soon. There is a strong pool of 10 applicants (Kim).
- The website is being maintained and monitored, improvements implemented (Maggi).
- The PPT team would like to reinforce principles of sharing data when it can be made public—we will help to track when that point is reached—and keeping up with stakeholder questions from the website (Anne & Kim).
- Participated in UCST development of data sharing protocols (Adriana).

### **3. Outstanding Work Plan Tasks / Next Steps**

- A powerpoint presentation will be developed to introduce newcomers to SNAMP that can be previewed by attendees, so that we do not need to spend so much time on this at each meeting (Anne).
- Hire program representative for northern site (Kim).
- Begin interviews (Adriana and Lynn).
- Complete white paper (Adriana and Lynn).
- Conduct trainings and IT meetings (Kim).
- Continue local outreach, development of outreach materials, website maintenance and development (Maggi).
- Beginning planning workshop to share interview and evaluation results (Lynn & Adriana)
- Coordinate Forest team and Water team field trips with public stakeholders this summer (Anne).

## **Wildlife**

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### **A. FISHER (Reg Barrett)**

#### **1. Adjustments to Work Plan**

- None

#### **2. Completed Work Plan Tasks / Accomplishments since Q3**

The fisher team has moved its field station closer to Oakhurst. It has completed 122 camera trapping stations with fisher detected at 72 stations (59%). Nine fisher have been radio-collared and

tracked almost daily from the air. Three of these died and necropsy results are pending. Two females have been documented in natal den trees.

### **3. Outstanding Work Plan Tasks / Next Steps**

The fisher team continues to camera trap and live trap in hopes of maintaining 20 radio-collared fisher throughout the study. The focal point is the Nelder Grove area, but the entire study area will be determined when we have collared 20 fisher.

## **B. OWL (Rocky Gutierrez)**

### **1. Adjustments to Work Plan**

- Per the revised owl workplan submitted in fall 2007, the Owl study area currently includes:
  - 1) the core SNAMP study area in Tahoe National Forest which includes the Last Chance SNAMP study area and surrounding Owl study buffer area;
  - 2) the Eldorado Population Monitoring Study area in Eldorado National Forest; and
  - 3) USFS-planned SPLAT areas within Eldorado National Forest and Tahoe National Forest that are within known owl PAC (protected activity centers) areas and are in reasonably close proximity to the other study areas.

### **2. Completed Work Plan Tasks since Q3**

- Hired crew
- Confirmed housing for crew

### **3. Outstanding Work Plan Tasks**

- None

### **4. Next Steps**

- Crew start date is April 28<sup>th</sup>. We will begin owl surveys on the SNAMP study area as soon as it becomes accessible. We anticipate the snow will melt out on the roads by late April or early May.
- We are currently visiting and surveying outlying potential sample areas as they become accessible due to snow melt.

## **Water (Roger Bales & Martha Conklin)**

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### **1. Adjustments to Work Plan**

- None

### **2. Completed Work Plan Tasks since Q3**

- Ongoing data collection for meteorological stations
- Sediment basins permit with CA Department of Fish and Game completed
- Hired summer crew

### **3. Outstanding Work Plan Tasks**

- Completion of instrument orders with DWR

- Finalizing US Army Corps and State Regional Water Quality Control Board permits for sediment basins
- Updating work plan/protocol
- Complete installation of DHSVM, hydrologic model

#### **4. Next Steps**

- Summer crew start date is May 19th
- Test and deploy water quality, soil moisture, snow depth, and sediment instrumentation
- Construct sediment basins
- Continue data collection at meteorological stations
- Calibrate DHSVM, hydrologic model

### **Spatial**

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#### **BERKELEY AND MERCED ANALYSIS (Maggi Kelly and Qinghua Guo)**

##### **1. Adjustments to Work Plan**

- None

##### **2. Completed Work Plan Tasks since Q3**

- We have developed the SNAMP data server, and it is being tested by UCST. We are fixing bugs and developing functions to meet individual science team needs.
- We have started to process the Lidar data for the southern study site.
- We have met with Forest team to discuss integration of FFEH and Spatial data.

##### **3. Outstanding Work Plan Tasks / Next Steps**

- We are planning a field trip this summer for ground-truthing the Lidar data and upscaling the Forest team plot measurements.
- Continue to work with science teams to develop ways to integrate Spatial data with their data needs.
- Acquire Lidar and IKONOS data for northern study site (Last Chance).



## Budget Overview (Q1 2008)

Grant and contract administration for the SNAMP continues to be a challenge. However recent progress has provided hope that these dreadfully slow and cumbersome processes will improve. In fact they must if SNAMP is to have a viable future.

The statements in Table 1 represent expenditures in the first quarter of Year 2 (Q1 2008). To date, we have received \$900,000 of our Year 2 funding (PSW contract). We have allocated these funds proportionally to the appropriate research themes (integration, fire, public participation, wildlife). These funds plus Year 1 carryforward have kept these research themes going. Water and spatial funding is more precarious. For example, the Water team will have no funds to continue any SNAMP research beyond June 30, 2008 and contracts for Last Chance LiDAR flights need to be confirmed soon.

The critical budget issue is whether we can secure the funds for the water and spatial teams in time to start paying salaries on July 1, 2008. Given our discussions to date with the agencies and UC, we think we can meet this deadline with the help and support of the MOU partners.

**Table 1.** Summary of expenditures of the Sierra Nevada Adaptive Management Project for the first quarter of Year 2 (1/1/08 - 3/31/08). Budgeted amounts were based on approved costs for Year 2. Received amounts reflect actual transfers of funds from the contracting institutions. Spent amounts reflect expenses incurred for first quarter of 2008. Carryforward amounts reflect fund balances at the end of the Year 1 contract period.

Research Theme	Contracting Institution	Budgeted Year 2	Received 5/15/08	Spent Q1 1/1/08-3/31/08	Carryforward Year 1
Spatial	UC Berkeley	36,241	0	7,426	23,472
	UC Merced <sup>1</sup>	45,585	0	?	?
	Imagery <sup>1</sup>	2,833	0	0	-62,072
Fire and Forest Health	UC Berkeley	264,920	160,132	28,021	-8,154
Wildlife	UC Berkeley (fisher)	592,092	298,429	91,460	116,255
	U Minnesota (owl)	150,329	150,329	18,266	0
Water <sup>2</sup>	UC Merced	254,697	0	~25,000?	-400,000?
Project integration	UC Berkeley	224,053	135,430	37,711	-651
Public participation	UC Cooperative Ext <sup>3</sup>	161,668	97,721	21,285	14,372
	UC Berkeley	95,887	57,959	35,079	37,203
<b>TOTAL</b>	<b>UC Science Team</b>	<b>1,828,305</b>	<b>900,000</b>	<b>237,621</b>	<b>120,425<sup>4</sup></b>

## NOTES

1. There is uncertainty regarding the finances for the Spatial Research. This money was allocated by the Department of Water Resources. Grants are split between Berkeley and UC Merced. A new budget to cover Year 1 and 2 expenses has recently been negotiated with DWR. Future expense reporting should be more detailed.
2. There is uncertainty regarding the finances for the Water Research. Funding (all from the DWR) has come in variety of ways – contacts to researchers, direct acquisition of instruments, in-kind support. A new budget to cover Year 1 and 2 expenses has recently been negotiated with DWR. Future expense reporting should be more detailed.
3. The public participation subcontract with UC Cooperative Extension was from 1 May 07 to 30 April 2008. Thus it is the only award that extends past the calendar year for Year 1.
4. Carryforward estimates do not include funding for the Water and Spatial research themes. See Notes 1 and 2.