the SIERRA NEVADA
SNAMP
Adaptive Management Project

The SNAMP Project:

Learning how to apply
adaptive management in the Sierra Nevada Forest Plan Amendment

Morning Meeting
Sacramento, CA
November 5 2008

Presentation Outline

Other SNAMP Material Available:

- Newsletters
- Team information

9:00 Welcome – Kim

9:05 Overview from Science Teams
- Members of Science Team present initial results, and highlight products
  - FFEH (Scott)
  - Water (Roger)
  - PPT (Lynn)
  - Spatial (Maggi)
  - Fisher (Reg)
  - Owl (Doug)

10:15 Neutrality Statement Discussion

10:30 Break

10:45 Interactive Session with Science Teams

11:45 Reporting Back

12:15 Lunch

SNAMP Goals and Objectives

Pupose

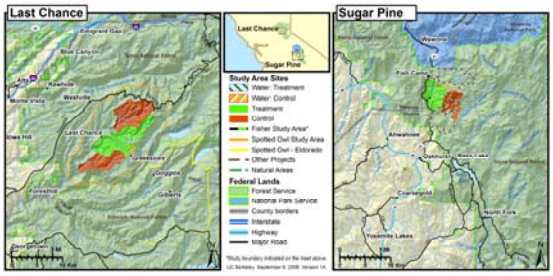
•To evaluate the effects of forest fuels treatments done by the US Forest Service

•Studies focus on fire and forest health, water quality and quantity, wildlife (Pacific Fisher and California spotted owl) and public participation.

The study is designed to collect data using a BACI approach (Before and After treatment data collection in Control and Impact sites). It is designed to last seven years and includes:

- 2 years of pre-project data collection
- 2 years of implementation and data collection
- 1 year of ecosystem recovery and data collection
- 2 years of post-project data collection

We are in the pre-project data collection phase, although some teams have completed this phase. The USFS is currently planning project implementation.



SNAMP Study Areas

These sites were chosen because: 1) Active USFS management plans in place; 2) Met a range of scientific criteria (including providing habitat for wildlife species and the potential for recruiting large tree structure), and 3) the sites were representative of typical Sierran landscapes.

Science Team Overviews

Fire and Forest Ecosystem Health
•Scott Stephens, UCB

Water
•Roger Bales, UCM

Public Participation
•Lynn Huntsinger, UCB

Spatial
•Maggi Kelly, UCB

Fischer
•Reg Barrett, UCB

Owl
•Doug Temple, UM

SNAMP Science Team: Forest Health & Fire

FFEH Team Members

Principal Investigators:
- John Battles, UCB
- Scott Stephens, UCB

Postdoctoral Researchers:
- Brandon Collins

Field Team Leader:
- Gary Roller

Fire & Forest Ecosystem Team Goals

- The Fire and Forest Health Team will investigate effects of strategic fuel treatments on fire behavior, tree morbidity and mortality, and forest health.

FFEH Team Activities

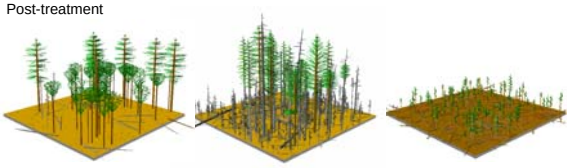
- Preliminary Fire Modeling:
  - pre- and post-treatment scenarios
- Forest Health
- Pre-treatments Sampling Done

Last Chance Project – treatment stands (initial run)

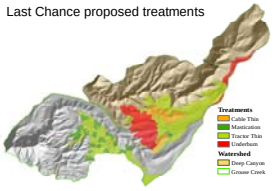
Thinning (<30" dbh) w/pile burning | **Prescribed fire** | **Mastication (plantations)**

Pre-treatment

Post-treatment

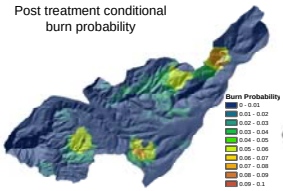


Last Chance proposed treatments

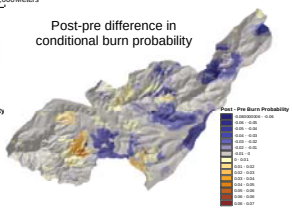


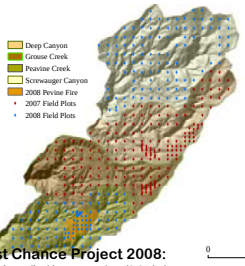
Pre treatment ***conditional**** burn probability
(*if a fire occurs within the area boundary)
FlamMap
- 90th percentile fuel moisture conditions
- 15 mph wind from west

Post treatment conditional burn probability



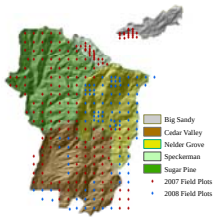
Post-pre difference in conditional burn probability





Last Chance Project 2008:
- 208 forest/fuel inventory plots (0.05 ha)
  - Peavine Creek, Screwauger Canyon, Peavine fire
- 839 paired live/dead tree cores (1678 total)
- 0.5 ha stem plot, all trees measured, mapped, cored
  - 293 live trees, 191 dead trees
- 105 fire-scarred cross-sections from
  - Grouse Creek watershed only
  - 47% CADE, 38% PIPO, 14% PILA, 1% PSME

Sugar Pine Project 2008:
- 284 forest/fuel inventory plots (0.05ha)
  - Nelder Grove, Cedar Valley (matrix)
- 714 paired live/dead tree cores (1428 total)
- 148 fires-scarred cross-sections
  - Sugar Pine treatment area only
  - 90% CADE, 10% PIPO



Tree Health Using Tree Rings

We are building models that effectively estimate tree health using tree rings.

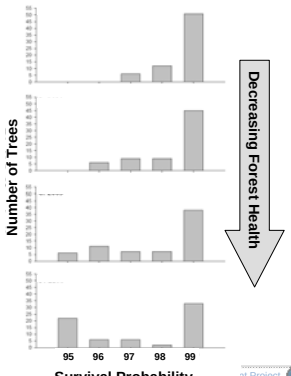
Das et al. Canadian Journal of Forest Research 2007

Tree Health Using Tree Rings

We will use these models on a representative sample of trees at each site, before and after treatment, to assess changes in forest health.

Battles et al. Climate Change 2008

Vulnerability Profiles



SNAMP Science Team: Water

Water Team Members

Principal Investigators:
- Roger Bales
- Martha Conklin

Graduate Student:
- Sarah Martin

Staff
- Phil Saksa

Water Team Goals

- Water team members will be monitoring water quality and quantity across treatment and control catchments prior to, and after, treatments. They are investigating impacts of strategic fuel treatments in SNAMP study areas on water quantity and quality.

Water Team Activities

- Instrumentation
  - Meteorological tower & snow depth/soil moisture nodes
  - Sediment, streamflow, snow depth/soil moisture & water chemistry
- Modeling
  - Distributed Hydrology-Soils-Vegetation Model: DHVSM