Public Participation

Team Members:
- Lynn Huntsinger
- Adriana Sulak
- Kim Rodrigues
- Anne Lombardo
- Kim Ingram
- Susie Kocher
- Maggi Kelly
- Shasta Ferranto

Outreach

• Facilitate SNAMP process through strategic facilitation, mutual learning, and maintaining open and transparent process and two-way communication.

Research

• Research program progress and participation efforts, and track creation and use of scientific results and participant input.

SNAMP website

• Maintain and develop website to support our outreach and research goals.

Outreach Activities

- Reached 1760 attendees through 71 separate events during fiscal year 2008-2009

- IT meetings held during this time period include:
  - Fisher mitigations in the treatment design fieldtrip, Sugar Pine, Oct 08
  - Treatment design for fisher with the USFS, North Fork, Feb 09
  - Public Participation Team, Davis, May 09
  - Fisher Team, Fresno, July 09
  - Owl Team, Foresthill, August 09
Outreach Activities (cont.)

PPT facilitated field trips and presentations by other SNAMP science teams:

- Owl team field trips in Foresthill, May and July 09
- Fisher Team presentation to the Mountain Home School in Oakhurst, May 09
- Forest Health Team field trips in Oakhurst, May 09 and Foresthill, Aug 09
- Water team field trips in Oakhurst and Foresthill, Aug and Sept 09
- Spatial Team Lidar workshops in Foresthill and Oakhurst, June 09

Other PPT facilitated events:

- SNAMP Annual Meeting, Sacramento, Nov 08
- PPT – Forest Service Workshop, Sacramento, Jan 09

Total Participation at SNAMP Public Involvement Events since 12/05 (1760 including duplicated)
Newsletters

The PPT published the following newsletters this year:

- **Fall 2009 SNAMP Newsletter: Volume 3, No. 2** – Water Team
- **Spring 2009 SNAMP Newsletter: Volume 3, No. 1** – Public Participation Team
- **Fall 2008 SNAMP Newsletter: Volume 2, No. 3** – Spatial Team
- **Fall 2008 SNAMP Newsletter: Volume 2, No. 2** – Spotted Owl Team Research
Highlights of Preliminary Research Findings on the NEPA Process

— Experience was generally positive.
— An institutionalized requirement giving them a guaranteed opportunity to comment.
— An important benefit of the NEPA process was networking with other people who cared about the topic.
— About half of those interviewed said they felt heard during the NEPA process.

Highlights of Preliminary Interview Results

— Though concerned or frustrated with Forest Service management and responsiveness, local level, face to face contact is appreciated.
— They see many barriers to Forest Service responsiveness
— Recognize USFS constraints: funding limits, litigation and personnel changes
— Almost all believe “adaptive management” a good idea.
— Many definitions of ‘forest health’: this could be examined in conjunction with the Fire and Forest Ecosystem Health team.
SNAMP website
6,555 Hits last year
3,273 unique visitors last year
From 98 Countries

Return users, and Interests

• Nearly half of our users are first time viewers
• Another third of our users return numerous times
• Their interests are varied:
Plans for 2009 and 2010

Outreach
- Annual Meeting – Fall 2010
- IT Meetings
- Educational Workshops
- Media Outreach
- Local, Regional and State Group Outreach

Web
- Maintain and continue to develop the website
- Develop a manuscript that focuses on the role of the web in adaptive management
- Afternoon focus group: How has the web contributed to public participation in adaptive management?

Research
- Complete the local historical work (historical interviews in the northern site)
- Conduct interview and observational data analysis
- Contribute to three publications now in draft form
- Continue to develop the evaluation framework for the over all SNAMP program analysis
- Eventually, we may conduct a second survey towards the end of this period or the beginning of the next, with the appropriate permissions

SNAMP Science Team: Spatial

Spatial Team Members
Principal Investigators:
- Qinghua Guo, UC Merced
- Maggi Kelly, UC Berkeley
Graduate Students:
- Marek Jakubowski, UCB
- Wenkai Li, UCM
Staff:
- Hong Yu, UCM

Spatial Team Goals
- Developed to assist in the GIS and remote sensing technology that all teams require.
- Members of the spatial team have the responsibility for supporting all other teams’ GIS, remote sensing and spatial analysis needs.

Spatial Team Activities
- LIDAR Data Acquisition and Processing
- Field Campaign
Introduction to Lidar

Lidar = Light Detection and Ranging

We contracted with the National Center for Airborne Laser Mapping (NCALM)

We have acquired lidar data for both study areas, and have processed data products for Sugar Pine area.

LIDAR Standard Products

DTM – Digital Terrain Model

- elevation information about bare-earth surface without the influence of vegetation or man-made features

DSM – Digital Surface Model

- elevation information about all features in the landscape, including vegetation, buildings and other structures

CHM – Canopy Height Model

- Height information about vegetation features with elevation removed
Individual Tree Information

Measured mean heights

Predicted mean heights

\[ y = 0.6562x + 7.5099 \quad R^2 = 0.67429 \]

Predicted maximum heights

\[ y = 0.7723x + 9.3061 \quad R^2 = 0.78633 \]

Mean height @ 20m

Max height @ 20m

Tree Height
LIDAR Products

• For Sugar Pine Study Area:
  – Canopy cover
  – Tree height
  – DBH
  – Canopy base height
  – Individual tree exaction
  – Canopy bulk density
  – Canopy fuel
  – Leaf area index (in process)

LIDAR Collaboration

• The lidar products are being used by the wildlife, water, and forest health teams in their respective models.
  – Water: topography and vegetation
  – FFEH: canopy and fuel
  – Owl: nest tree habitat and canopy structure
  – Fisher: canopy structure and landscape patterns
Spatial Team Activities

Spatial team members developed and delivered two lidar workshops in the two study areas in June 2009.

Next Steps:

• Repeat the analysis for Last Chance study area;
• Continue to pursue research looking at the vertical and horizontal structure of forests;
• Additional funding resources to cover lidar acquisition over fisher and owl study areas.

SNAMP Science Team:
Wildlife - Fisher

Principal Investigator: Reg Barrett
Fisher Project Leader: Rick Sweitzer
Staff Research Biologists & Assistants:
• Geoff Cline, Lindsay Martin
• Joseph Bridges, Brady Neiles, Wendy Lanier

USFS Flight Support:
John Litton, Jim Irving (Pilot)

Primary Research Goals/Objectives:

- Determine population parameters & limiting factors for Pacific Fisher (Martes pennanti)
- Evaluate effects of fuel reduction treatments (SPLATs) on resource use, survival, & population persistence of Pacific Fisher.
SNAMP Fisher: Research Activities

- Live trapping: age, health status, radio collar individuals *(25 collared animals being tracked)*
- Daily monitoring: track movements, identify key habitat features, determine demographic parameters, and Sources of Mortality
- Camera surveys: describe distribution and occupancy models to determine resource use
- All available data to (1) assess effects of SPLATS on fishers, and (2) evaluate likelihood of population persistence

SNAMP Fisher: Findings 1

- To date we have captured and collared 50 individual fisher, and documented causes of mortality for 22 fishers
- Major causes of mortality include predation, roadkill, and disease
- Survival was lowest during spring in both years; overall survival was 60% in Year 1 and 67% in Year 2

<table>
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<th>Number of Mortalities</th>
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<tr>
<td>Predation</td>
<td>2 bobcat, 2 mt lion, 5 pending</td>
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<tr>
<td>Roadkill</td>
<td>14</td>
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<tr>
<td>Disease</td>
<td>3 canine distemper, 1 toxoplasmosis</td>
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<td>Rodenticide</td>
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<tr>
<td>Drowning</td>
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<td>Starvation</td>
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... and fishers
SNAMP Fisher: Findings 2

- Camera surveys completed in 219 grids during Year 1 and in 345 grids in Year 2: occupancy in Key Watersheds declined slightly from 59% in Year 1 to 55% in Year 2
- Reproduction was similar at 80% and 81% for Year 1 & Year 2, respectively
- Fecundity estimated as 1.45 ± SD 0.52 kits/female for 11 adult females in 2009

SNAMP Fisher: Findings 3

- Year 2 - occupancy results provide good support for CBI fisher habitat model
SNAMP Fisher: Collaboration

- Continue to coordinate with USFS and the Kings River Fisher Project, and all others we are aware of.
- Collaborating with UC Davis on disease issues and cause of mortality.
- Will use all available data on habitat characteristics from other SNAMP teams and others to search for correlations with fisher population characteristics (not possible until end of study).

SNAMP Fisher: Adaptation

Testing prototype mini-GPS radiocollars on fishers, in coordination with Kings River Fisher Study.

- GPS collars can be programmed to collect positions any time of day.
- Using to obtain data on foraging behaviors not previously attainable.
- Focusing GPS collars in treatment areas (Chapel - Integration Meeting).
SNAMP Fisher: Next Steps

- Integrate hair snare devices with camera surveys – work with Mike Schwartz at the U.S. Forest Service Wildlife Genetics Lab
- Continue with daily aerial telemetry, trapping, camera surveys/occupancy estimation, etc. for 6 more years

SNAMP Science Team: Wildlife – Spotted Owl

Owl Team Goals
- Monitor California Spotted Owl response to treatments on the SNAMP northern site.
- Hypotheses: Do forest fuel treatments affect owl territory occupancy, survival and reproductive success?

Owl Team Activities
- Owl Surveys (capture and banding)
- Pre and post-treatment vegetation sampling

Owl Team Members
- Principal Investigator: Rocky Gutiérrez
- Project Leader: Douglas Tempel
- Assistant Project Leader (SNAMP): Sheila Whitmore
- Assistant Project Leader (Eldorado): Vince Berigan

University of Minnesota, Dept. of Fisheries, Wildlife & Conservation Biology
Summary of owl occupancy and reproduction 2007-2009

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Legend:
- Treatment territories (n=16)
- Control territories (n=37)
- SNAMP Owl Study Area
- Eldorado N.F. Density Study Area
- Fuel treatments
Collaboration

We are working with the Spatial Team on a paper that illustrates the value of lidar for wildlife habitat studies.

Owl Team Next Steps

- Continue owl surveys each year (April-Aug)
- Conduct post-treatment vegetation surveys
- Develop vegetation map
- Locate funding to acquire Lidar
  — for the Eldorado study area
- Develop additional predictive models at
  — Owl IT meetings
Today’s Agenda

10-10:15am Welcome and overview – John Battles

10:15-10:30am Implementation update – USFS District Rangers

10:30-12:00am UC Science Team updates
  o Project integration - meta analysis – David Saah
  o Fire and Forest Ecosystem Health – Scott Stephens
  o Water Team – Roger Bales
  o Public Participation Team – Maggi Kelly
  o Spatial Team – Maggi Kelly
  o Wildlife (Fisher and Owl Teams) – Rick Sweitzer and Rocky Gutiérrez

12-12:45pm Lunch (provided)

12:45-2:15pm Interactive sessions
  Facilitated discussions with science teams
  (Two 45 minute sessions)

2:15-2:30pm Report back and synthesis
  Each science team reports back on major themes of public discussion at their table

2:30-3:00pm Next steps/Evaluation
  Recommendations from participants for SNAMP next steps
  Wrap up and evaluation

Thanks!

• Thanks for joining us...discussion notes will be posted on our website...please take the online survey at:
  • http://ucanr.org/snampannualmeetingsurvey2009