

SNAMP UC Science Team Updates for 2009 Q4 Meeting

Main research findings and work accomplished since last reported to MOUP on October 20th, 2009
January 11, 2010

Project Integration and Management Team

- All of the original Sierra Nevada Conservancy grant that was suspended has been restored. The PPT team has until June to complete necessary interviews.
- The Year 3 Task Orders from the Department of Water Resources have been drafted and are being reviewed by the Sponsored Project Offices at UC Merced and UC Berkeley. Michi will provide Year 3 financial summaries by mid-January.
- Please anticipate some confusion and delays in administrative services in the new year. The College of Natural Resources is undergoing a reorganization in administrative services to cope with a large reduction in staff. Fortunately the reorganization does not effect Michi's position. If you encounter roadblocks or unacceptable delays, please contact Ann or John directly.
- John will be on sabbatical leave next Spring to pursue new research in Patagonia, Chile but will be able to meet core PI responsibilities of SNAMP.
- Updated SNAMP poster for UC/USFS Wildfire Conference Feb 9-11
- Ann's position on SNAMP reduced to 50% beginning December. We will redistribute Ann's more logistical work to administrative support if needed. Ann is still the primary point of contact for SNAMP both internally and externally.
- Veg mapping method research for SNAMP study areas. Begin reworking cluster analysis of SNAMP inventory trees with a different method for deciding on the groups.
- Investigate possibility of developing a CWHR map using SNAMP data as an integration project
- ESRI GIS training

Fire and Forest Ecosystem Health Team

- We continue to work on the data processing and fire modeling for the southern SNAMP site. We met in December with the spatial team to set up a work plan to use the spatial data in our fire modeling. Work is progressing and we set up timelines to get this done in the next 4-6 months. Additional data processing will be needed to get the needed information for the fire analysis. Work is moving forward.
- The analysis of the tree cores, data needed for the pre-treatment assessment of tree survival probability, is moving at full-speed. One outcome of this work is that John Sanders has written a training manual that documents our methods, particularly the strict quality control and quality assurance measures that are essential in a dendroecology project of this scope – 4000+ tree cores!
- Current progress on tree core processing: We have 912 live cores and 698 dead cores processed for a total of 1610 completed cores. We are currently finishing the sugar pine cores from Last Change. Next up is the white fir cores from Sugar Pine.

- The first SNAMP peer-reviewed publication is out. Collins, B.M., S.L. Stephens, J.J. Moghaddas, and J.J. Battles. 2010. Challenges and approaches in planning fuel treatments across fire-excluded forested landscapes. *J. Forestry* 1: 24-31.

Spatial Team

- Working on the southern site LiDAR analysis.
- Integration Meeting on UCB Campus Dec 10, 2009: Spatial and FFEH met to discuss next steps in incorporating lidar data into fire models.

Water Quality and Quantity Team

Last Chance Site:

- Running nearly 100% of installed instruments, including snow depth, soil moisture, water quality, and water level sensors. The Bear Trap Creek YSI water quality instrument was in for repairs and needs to be reinstalled when returned. Snow depths at lower and upper met stations were 0.3 m and 1.0 m (December 20). Stream grab samples will be performed at bi-weekly intervals starting in January. Instrument monitoring and maintenance will be done at the same time period throughout the winter.

Sugar Pine Site:

- Running nearly all installed instruments. Snow depth, water quality, and water level sensors all running. Currently troubleshooting some minor battery power issues and hardwiring of water quality instrumentation. A replacement Temp/RH sensor at Big Sandy Met and two multiplexers at the stream sites (for soil moisture instrumentation) are still needed to complete the missing data streams. Those purchases are tied up with bond money. Stream grab samples will be performed at bi-weekly intervals starting in January. Instrument monitoring and maintenance will be done at the same time period throughout the winter.

Hydrologic Models:

- Phil Saksa and Wenkai Li (Spatial Team) trained on the RHESSys hydrological model at UCSB the week of November 16. No new progress on DHSVM. Currently setting up the RHESSys model locally at UC Merced. When both hydrologic models (RHESSys & DHSVM) are running concurrently, we will start intensive parameterization. This will also require processing of observed meteorological and hydrologic data to feed into the models and compare with model results.

Public Participation Team

PPT: Website

- Continue to maintain website;

- Developing next SNAMP newsletter to focus on the SNAMP meta analysis. ----expected publication Jan 2010.

PPT: Research

- Archiving snamp materials on SNAMP data server
- Working on paper(s) with PPT
- Data analysis
- Considering follow up interviews.
- Longer term: program evaluation matrix refinement

PPT: Outreach

- Team attended media training to improve out outreach for SNAMP
- Working on producing SNAMP videos on the website.
- Coordinate UCCE involvement with SNC webposium to "Connect the Dots on Fire, Forest Health and Local Economies" in 9 Sierra locations.
- Planning Forest Team IT meeting on February 17th in Davis
- Developing a method to track and analyze participant demographics (after suggestion at the annual meeting)

Other Outreach Work for the Southern Site

- Freshwater macro invertebrate sampling trip with the local high school.
- Working on a fisher kids book with a local elementary school.
- Meeting with the Sierra Nevada Conservancy on a local effort developing biomass operation/community development.
- Started an acorn count in local schools to gather information on food abundance in the fisher food chain, acorns...squirrels....fisher.
- Working on getting a road kill inventory going locally, another source of mortality for fisher. YNP is interested in supporting also.

Other Outreach Work for the Northern Site

- Presentation for Auburn Host Lions Club
- Meet with Rich Gresham from Placer County RCD and film him on public participation thoughts,
- Presentation to CABY (Consumnes, American, Bear and Yuba Rivers Integrated Regional Water Management Group),
- Helped Susie with a Project Learning Tree training
- Trying to arrange a meeting with Stephanie Lucero from IDRS Inc., the Western States Endurance Run organization and the Bear River Watershed Group.

Fisher Team

- We have initiated our 3rd year of camera survey work, starting in the Key Watersheds portion of our larger study area
- Fall period trapping was recently completed with the purpose of capturing/collaring juvenile fishers to monitor 1st year survival and natal dispersal. 9 different juvenile fishers were captured and fitted with radiocollars during September to December.
- An agreement has been reached allowing the Fisher Team to conduct research on a large block of private property immediately west of Fish Camp, which will facilitate tracking den use and survival for a number of fishers using intensively managed forest habitats in that area.
- Three fisher mortalities occurred during this reporting period. One animal died after an adverse reaction to immobilization agents used during capture, one animal was killed by a predator, and one animal died for unknown reasons. All three carcasses will be sent to UC Davis for necropsy and additional evaluation.
- Daily telemetry flights are continuing, and we are currently monitoring the movements and activities of 30 radiocollared fishers in the study area.

Spotted Owl Team

- Rocky has not received any recent information from the Forest Service on possible budget cuts (up to \$25,000) to the Eldorado demography study for the coming year. As noted in the last update, additional funding cuts may jeopardize the long-term viability of the Eldorado study, which would impact the SNAMP owl study.
- Sheila has completed the habitat vegetation map (based on aerial photos) and is updating the map to reflect recent timber harvests.
- Celia García-Feced, Doug, and Maggi submitted a paper on the use of Lidar to characterize wildlife habitat (using spotted owl nesting habitat as a case study) to the "Journal of Wildlife Management."
- We have begun the hiring process for the 2010 field season.
- Rocky has sent the Science Team a proposal to add Dr. Zachariah Peery (Univ. of Wisconsin-Madison) as a co-PI on the SNAMP owl study.