



**SNAMP Fisher Integration Team Meeting Notes**  
July 19th 2011, 10am – 4pm, Fresno – UC Center

***In Attendance:***

Susan Antenen, Conservation Biology Institute  
Reg Barrett, UC Science Team  
John Battles, UC Science Team  
Ryan Bollinger, Sequoia Forest Keepers  
Steven Brink, California Forest Legacy  
Sue Britting, Sierra Forest Legacy  
John Buckley, CSERC  
Mike Chapel, USFS Region 5  
Deana Clifford, CDFG  
Lindsay Cline, Yosemite National Park  
Courtney Coats, US Forest Service  
Jeff Cordes, USFS Sequoia NF  
Hailey Delamaire, US Forest Service  
Larry Duysen, Sierra Forest Products  
Laura Finley, US Fish and Wildlife Service  
Pamela Flick, Defenders of Wildlife  
Joanne Freemire, local resident  
Michael Freemire, local resident  
Mourad Gabriel, UC Davis  
Robin Galloway, USFS Sequoia NF  
Daniel Gammons, National Park Service  
Richard J. Garcia, Sierra Club  
Keri Green, UC Science Team  
Lisa Gymer, CDFG  
Jeannie Habben, Central Sierra Watershed  
Committee  
Christi Hansard, Mono Rancheria  
Peter Hopkinson, UC Science Team  
Richard Kangas, Sierra Club  
Leonard Kelly, local resident  
Linda Kelly, local resident  
Susie Kocher, UC Science Team  
Tim Kroeker, CA Dept of Fish & Game  
Emilie Lang, US Forest Service, Sequoia NF  
Rusty Lantsberger, Fresno Co Ag  
Commissioner

Anne Lombardo, UC Science Team  
Teresa Lowe, USFS Sierra National Forest  
Neil McDougald, Univ. of Cal. Coop. Ext.  
Marc Meyer, USFS PSW  
Ryan Milling, US Forest Service  
Anae Otto, USFS Sierra National Forest  
Kathryn Purcell, USFS PSW  
Fred Rinder, Fresno Co Agriculture Dept  
Duane Robinson, local resident  
Barbara Robinson, local resident  
Susan Roberts, US Geological Survey  
Kim Rodrigues, UC Science Team  
Brian Rueger, Tule River Tribe  
Tom Sandelin, CalFire Fresno  
Mark Smith, local resident  
Rick Sweitzer, UC Science Team  
Wayne Spencer, Conservation Biology  
Institute  
Craig Thompson, USFS PSW  
Denise Tolmie, USFS Sierra National Forest  
Kerri Vera, Tule River Tribal council  
Greta Wengert, UC Davis  
Tom Wheeler, Madera Board of Supervisors  
Kim Sorini Wilson, US Forest Service

***By webcast:*** Lulu Alexander, Matthew Bissell  
– Yosemite Mountain Ranch, Rick Bottom,  
USFS PSW, Esther Burkett - CA Dept of Fish  
& Game, Phil Detrieck - Sierra Pacific  
Industries, Pat Flebbe - USFS Region 5  
Beverly Garcia, Diane McFarlane - US Forest  
Service, Greg Schroer – US Forest Service,  
Adriana Sulak – UC Science Team, Craig  
Thomas - Sierra Forest Legacy, Cedric Twilight  
- Sierra Pacific Industries, Jody Tucker, Scott  
Yaeger - USFWS Yreka

The **power point presentations** from this meeting are posted on the SNAMP website at <http://snamp.cnr.berkeley.edu/documents/jul-19-2011/>.

**I. Introduction:** Kim Rodrigues welcomed the group and gave a brief overview of the Sierra Nevada Adaptive Management Project and where the project is within the adaptive management cycle. Dave Martin from the Bass Lake Ranger District of the Sierra National Forest gave an update on the Sugar Pine Project fuel treatments underway near Oakhurst. The USFS implemented a limited operating period in the project area due to the presence of a goshawk territory. The project has been sold to Sierra Pacific Industries which as just begun road upgrades. They plan to complete the lower units this summer and those closer to Fish Camp next summer. Both thinning and biomass will occur.

The Fish Camp project located east and upslope of Sugar Pine received one appeal which the Forest Service expects to be able to accommodate. It contains more plantation areas which will be treated to increase heterogeneity. That project is expected to begin next year 2012. There will also be some final work done in the Cedar Valley project located just west and downslope of Sugar Pine. All three projects are located in fisher territory

**II. Introduction to the Fisher Study:** Dr. Reg Barrett gave an introduction to the fisher study and introduced Rick Sweitzer to present the team's data to date.

**III. Fisher Study Year Four Update:** Dr. Rick Sweitzer gave a power point presentation titled "Status Update on SNAMP Fisher study – year four." Fisher are absent from the Sierra north of Yosemite. Newly published genetic information shows that the southern population is genetically isolated and the research suggests that the "gap" may predate the 1800s.

The goal of SNAMP research is to assess responses of fisher to fuels treatment projects and identify factors limiting their population size. This is being done by a combination of methods being applied at multiple different spatial scales. Methods being used include surveys with automatic cameras, capturing and radiocollaring fishers, and a variety of analyses of relevant data on movements, survival, reproduction, causes of mortality, etc. The field study was initiated in fall 2007. The goal is to have 20 fisher collared at all times (which is currently the case). Habitat data is also collected using methods adapted from the Kings River project to the south.

A total of 82 fishers have been captured so far – 48 females and 34 males. Fates are known for 73%. When their carcasses are found, a tooth is extracted to age them – one female was found to be 11 years old, which, according to Reg Barrett, is the oldest known fisher from a wild population for North America. Juveniles have low survival rates – only 25% for males and 52% for females. Survival of the released orphaned fisher kits appears generally similar to survival of wild caught juvenile fishers. Adult survival rates are 73-74%. An overall deterministic estimate of Lambda was around 1.05. Male home ranges found in SNAMP are larger than elsewhere, which may be an artifact of the high intensity tracking by airplane and that we seldom lose track of animals. Home range sizes of non-denning females are larger than for denning females who need to stay close to their kits. Interactions with American marten are being studied to identify

how much they overlap in elevation and whether they are competitors that exclude each other from territories.

The study area has been partitioned into four areas to identify locations of fisher “sources” (where survival/reprod is high and dispersing animals are produced) and “sinks” (where survival is low and few or no excess animals are produced). The Sugar Pine and Nelder Grove areas currently appear to be a source. 46 live den trees have been identified throughout the study area, including 15 black oak, 15 incense cedar, and 11 white fir. Twenty six den snags found include 12 white fir, 11 incense cedar and 2 black oak. Concealment cover data, plot stem maps and information on the aspect of den trees are being collected to identify the relationship between denning habitat and female fisher mortality by predation. Females have been found to reuse den trees in both spring 2010 and 2011.

Information shared with the USFS includes female fisher den site and habitat attributes, reproductive season home range contours, home range shape files and size, active grid cells and estimates of population growth. There is active collaboration with others studying fisher including the Kings River, Hoopa tribe, CSERC, Yosemite National park, the USFS Wildlife Genetics Lab and the DFG Wildlife Investigations Laboratory.

*Question:* Were the fishers that reused the same den tree related?

*Answer:* No, F25 and F18 were not related though most southern fishers are closely related and have limited genetic variability. This makes determining genetic relationships somewhat difficult.

*Question:* The 11 year old female found, was it the oldest known for the Western US or all of North America?

*Answer:* All of North America. Her condition was poor with evidence of mouth cancer. It was believed that she died of old age and/or starvation.

*Question:* Is there a way to rectify differences in methodology so conclusions for conservation are spatially appropriate?

*Answer:* Yes, for some things. We hypothesize that the differences we have found from other studies are less geographical and more methodological. Variations of home range stand out as one issue since the USFS plane used to track radio collared fisher for SNAMP allows for tracking fisher farther and more consistently. Reproductive females have the smallest home range so there might be common ground to start with there. We may need to rescale some of the data to combine King’s River and SNAMP data.

*Question:* Stanislaus historical reports using trapping data said fishers were abundant in the gap. One was 50 miles north of here. CSERC gets 50 reports a year of fisher and 4 or 5 seem like they could be true. So, are there no fishers in that area, or are they just limited in numbers?

*Answer:* There are no confirmed reports of their presence. But camera surveys continue. They may once have been there. There is still some question about genetics studies that indicate the long genetic separation of this population. Whether the gap is real and long term or whether the current southern population once extended further is not known.

*Question:* Has anyone looked at animal condition to detect the difference in habitat quality?

*Answer:* There have been efforts to measure body condition to try to evaluate habitat quality. Part of the problem is how to validate fat content readings to actual body fat. Some methods involve grinding up tissue to determine fat content which is not practical with live fisher. Craig Thompson said there is some data on other species. One problem with looking at this is that there is a lot of seasonal variation.

*Question:* How are you comparing the habitat information you are collecting on denning information to other areas?

*Answer:* We are working on developing similar methods as much of the data is still being collected.

**IV. Update on Management Indicators:** Rick Sweitzer went over a power point presentation “SNAMP Fisher Study: Indicators for Fisher Management” posted at <http://snamp.cnr.berkeley.edu/documents/jul-19-2011/>. At the previous SNAMP Fisher IT meeting in July 2010, researchers suggested three potential indicators of fisher success: 1) occupancy in key watersheds, 2) Adult female survival rate, and 3) Population size in key watersheds.

- *Occupancy:* Occupancy was relatively high in the Key Watersheds during year four. The number of grids surveyed that had fisher detections was 59% in year 1, 55% in year 2, 59% in year 3, and 68% in year 4. This occurred despite the fact that the overall number of fisher in the area declined and population level survival was lower. This implies that occupancy, at the level of a square kilometer grid, is may not be appropriate as a management indicator because one fisher can be detected across multiple different grids.
- *Adult female survival:* This key population parameter decreased significantly between year three (92%) and year four (55%), which might be cause for concern if adult female survival continues low. So far in population year 5, adult female survival stands at about 91%, which is a good sign. The overall reproductive rate is 82%, for an average 1.6 kits per year.
- *Population size in key watersheds:* This also went down between year three and year four; we determined that there were 7.9 adult female home ranges within the key watersheds during year 3 compared to only 4.7 during year 4.

*Question:* Will the poster info be posted to the SNAMP website?

*Answer:* Yes. They have been posted.

*Question:* Is there any correlation with environmental variables such as snowfall, rainfall, etc. to explain female mortality in year four?

*Answer:* This is a good suggestion. We will be looking at this.

*Question:* Do you measure snow cover or snow depth around den trees?

*Answer:* No, but that might be a good addition although much of our work is done after snow melt.

*Questions:* Have you determined the death of denning females?

*Answer:* Yes, we know all of them, we treat denning females like any other mortality.

*Question:* Is it time to talk to DFG and USFWS about the translocation study and methods?

*Answer:* Aaron Facka from the Sierra Pacific Industries relocation project in Butte County responded that collaboration has not been very consistent. The protocols are similar but are not set in stone. More funding is needed to allow for that collaboration. SNAMP's pilot John Litton has offered his services.

*Question:* Are you in the position to be able to look at what the prey species are and their vegetative associations i.e., squirrel habitat?

*Answer:* Yes, we do have information on squirrel detections across all grids that have been surveyed in the study area. These data provide an index of squirrel of abundance (not actual abundance), and the detections can be linked to habitat using standard analyses that we are doing. Attempting to determine actual abundance is more difficult, and is an entire project on its own. Pat Manley from PSW tried to trap small mammals in the study area last year, and SNAMP tried to assist, but scent lures and venison brought too many bears which disturbed or smashed many of their traps.

*Question:* Have you thought about adding depth to occupancy data by adding measures of frequent use by individuals?

*Answer:* Yes, we are able to identify individual fisher through a specific iridescent taping system on the collar's antennae as well as through specific body measurements.

*Question:* Why would a female fisher poop on a branch when it attracts bobcat?

*Answer:* Perhaps because a predator is waiting at the bottom of the nest tree or because she doesn't want to travel far away from the den at the time.

*Question:* Has there been any talk of experiments to reduce predators to improve fisher numbers as adaptive management?

*Answer:* No but there will be some additional effort by Greta Wengert to collar bobcats in the area to learn more about them.

*Question:* Are black bears predators on fisher?

*Answer:* No, so far only mountain lions, bobcat and coyote.

**V. Challenges to Fisher Survival:** Rick Sweitzer started off this session with a powerpoint presentation titled "*Challenges to Fisher Survival*" which is posted on the website: <http://snamp.cnr.berkeley.edu/documents/jul-19-2011/>. All carcasses recovered by the project are sent to UC Davis for full necropsies which include analysis of blood, tissue, and DNA. SNAMP has recovered 65 carcasses and Kings River 7. The top three causes of mortality have been predation, disease and road kill. Fisher survival in the SNAMP study is highest in the fall and winter and lowest in the spring.

Next, Gabriel Mourad, PhD candidate at the UC Davis Integral Ecological Research Center, gave a powerpoint presentation titled "*Update on Exposure to Anticoagulant Rodenticides in Fishers*" which is posted on the website: <http://snamp.cnr.berkeley.edu/documents/jul-19-2011/>. Gabriel described the UC Davis group of pathologist, toxicologist, and veterinary medical collaborators

that is studying exposure to anti-coagulant rodenticides (AR) in pacific fisher. They believe this information is essential to understanding the role of infectious and non-infectious disease processes in the ecology of the fisher as this relationship has not been explored before. ARs are pesticides that block the body's normal bloodclotting and kill by causing capillary bleeding that accumulates in organs and tissue. First generation ARs are less acutely toxic and require multiple ingestions to kill rodents. Second generation ARs are more acutely toxic and can kill after a single feeding. Moderate exposure can lead to behavior changes including depression, loss of appetite, and excessive thirst. The group has conducted over 80 necropsies on fisher found in Northern and Northwestern California and in the Southern Sierra Nevada Mountains. 79% were exposed to ARs. Individuals showed signs of 1.6 ARs each, with a range from 1 to 4 different ARs detected per animal. Second generation ARs were found in 95% of animals, while first generation were found in 16% of positive fishers. Numbers were slightly higher in the Southern Sierra where 82% of fishers tested exposed had been exposed, 97% to 2<sup>nd</sup> and 16% to 1<sup>st</sup> generation ARs. One southern Sierra fisher was killed by ARs, as was one in the north. There was no spatial clustering for AR exposure. Fishers living in Olympic and Yosemite National Parks tested positive for exposure. Other montane carnivores including pine marten and red fox are also testing positive. Thresholds for sickness are unknown.

*Question:* Do you test all livers for rodenticide?

*Answer:* Yes, all those that are recovered.

*Question:* Some fisher had been exposed to four different rodenticides? So, what is the persistence in the body – did they ingest them over time or did they eat four all at once? Do they last for years in the body?

*Answer:* First generation ARs have a relatively short half life spanning months to a year. 2<sup>nd</sup> generation ARs may last more than a year. We don't have enough information on them in relation to fisher to answer this yet. But we do know it is a widespread problem.

Deanna Clifford added that it can take up to 250 days for rodenticide to degrade – so there can be continual waves of exposure. ARs have been found in weaning foxes. One interesting thing to do is to look at young animals and see whether that demographic would be a better indicator of where an AR source is (though animals can move). People used to be able to go to Home Depot and buy buckets of 2<sup>nd</sup> generation ARs. There was a lot of exposure was in urban and peri urban area and so it's a conundrum that fisher, living in old growth, have been exposed. It could be seasonal homes. There may be fewer homes in remote areas, but owners could be using more ARs if they are seasonal and rodents invade their homes when empty.

*Question:* Are rodenticides being used to control porcupines currently?

*Answer:* No, that was in the 1950s and 1960s.

*Question:* Will ARs accumulate in the fisher predators – such as the bobcat, too?

*Answer:* Yes. Many other scavengers have shown exposure including spotted owl, red fox, southern kit fox, golden eagle etc.

*Question:* Where are exposures coming from in wilderness areas, if there are no people?

*Answer:* This is one of the many questions we need to keep working on. AR's are used to protect water lines from rodents in marijuana gardens as well as plants, spreading their use out over large distances.

*Question:* Are you able to identify the individual AR? Can you show if it has been manufactured outside the country (for pot plantations)?

*Answer:* No, the chemical mix is different in each batch as manufacturers find the lowest cost constituents, so isotope signatures are too mixed up

*Question:* Did you consider the residential areas in Yosemite?

*Answer:* Home ranges do not overlap those residential areas very much. We just don't know all the potential sources of the ARs yet.

*Question:* How big of a problem is canine distemper or parvo?

*Answer:* We find fisher carrying both. Distemper is transmitted by many hosts and is more of a problem for small at risk populations. Researchers are hoping to move forward and see what virus strains exist in CA and which are found in fisher. A year after the outbreak in fisher, gray fox had an outbreak too. Parvo is common and persists for years. We have found animals exposed to the same virus separated by 16 kilometers and months of time. There were three deaths within one month. Distemper can affect a large population but animals seem to be able to bounce back easier.

*Question:* Would soil sampling be a method for detection of ARs in the environment?

*Answer:* Yes, these can be identified in the soil. Deana Clifford added that soil testing is one of the protocols for monitoring whether ARs are being used correctly under the new June 2011 regulations. Individuals can't purchase large quantities anymore (although licensed pesticide applicator can). CDFG is continuing to petition to tighten the law in California. This fisher data is really important to that effort. However, detecting the presence in the soil requires a robust study design or it's a needle in a haystack exercise. Data on public agency use for areas like campgrounds is needed. They'll be looking at this as follow up to the ban to see if there is less use of ARs. It's critical to monitor wildlife to see if there is any change after the ban. Deanna suggested the participants go to the SNAMP website to see the Q&A document about ARs the group developed [http://snamp.cnr.berkeley.edu/static/documents/2011/04/25/AR\\_Overview.pdf](http://snamp.cnr.berkeley.edu/static/documents/2011/04/25/AR_Overview.pdf).

*Comment:* Pam Flick said she was surprised that the CDFG letter to the Department of Pesticide Regulation asking for stronger regulations on AR did not list fisher. Now that a fisher death due to AR was confirmed, she suggested that CDFG add that information to their request to DPR.

*Question:* Since DECON is a second generation AR, couldn't the SNAMP team, which is good at education, put out posters and info sheets on the use of DECON? We need to encourage those with livestock to keep their feed enclosed to limit the need for DECON.

*Answer:* So far the results don't indicate that legal homeowner use of ARs such as DECON is the real problem. Sure, signs could be produced, but that wouldn't do much towards solving the problem and reducing AR exposure in fisher and other carnivores because DECON around isolated homes likely isn't where exposure is occurring.

*Question:* AR deaths are alarming but you have shown predation is the number one cause of fisher mortality - isn't that what we would expect in natural environment? Do we have any understanding that the level of predation is unnatural or would not allow the population to continue over time?

*Answer:* Greta Wengert will be presenting on that question next.

Next, Greta Wengert from UC Davis gave a powerpoint presentation titled "*Trends in Fisher Predation in California, a focus on the SNAMP fisher project*" which is posted on the website: <http://snamp.cnr.berkeley.edu/documents/jul-19-2011/>. Greta explained that intraguild predation is predation of one species on another within the same guild that also compete for a shared prey. It is common in many carnivore communities and can be important in regulating carnivore populations. It may be habitat-mediated. Better understanding is needed to evaluate whether managing for predation of fishers would be effective. Throughout the four California fisher studies (Hoopa, California Translocation, SNAMP and Kings River), predation ranks as the highest cause of mortality accounting for 60% of all documented fisher mortalities. 60% of fisher are killed by bobcats, 33% by mountain lions, and 7% by coyotes. Most female fishers are killed by bobcats, while most adult male fishers are killed by mountain lions. Genetic analysis has shown that individual bobcat have killed up to three of the fisher in the SNAMP study. Two different lions have been responsible for four fisher deaths.

This data suggests that predation frequently occurs on healthy, adult fishers but it is unknown whether predation is additive (exceeding the normal rate of predation the California fisher populations evolved with), or is a limiting factor for fisher populations. To answer that question, the trend in the size of bobcat populations over time would have to be identified. To do that, Greta has been capturing and collaring bobcat to identify their home ranges and areas where they overlap with fisher. They have proved very hard to capture but she has plans to set traps again this fall. She has also been assessing prey resource overlap through collection of scat.

*Question:* You mentioned the trapping leghold ban - are you limited to not using them for bobcat?

*Answer:* Yes, we use cage traps only.

*Question:* Can you say how many bobcats were harvested in CA?

*Answer:* This is a difficult question to answer. Historical trapping records are not accurate because harvest rates were affected by effort, pelt prices etc. They fluctuate regardless of bobcat population size. A total of 16,000 were caught in the 1980's, 1,500 in 1988 and 600 in 1998 when the foothold ban took place.

*Question:* Is it possible that Rick's fisher source and sink population areas are mediated by bobcats? He said the Nelder Grove and Sugar Pine areas did not have fisher mortality last year, is that because there are not many bobcats there?

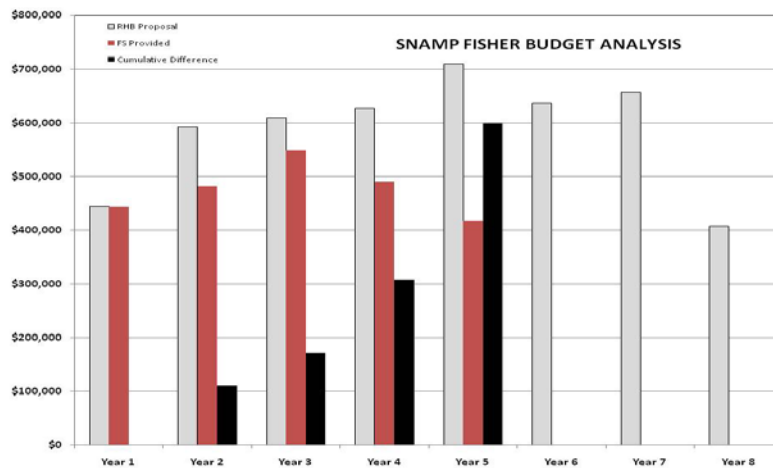
*Answer:* We cannot confirm that, but we know that Central Camp has turned out to be a sink with four fisher lost there including three from one bobcat.

Susan Roberts (USGS Wildlife Biologist) stressed that the key word in the source sink dynamic is the word dynamic - a source can become a sink and visa versa depending on what is



happening. Areas are dynamic and can move in time and space. Abundance of rodents could drive it in some areas, or predators in others. You can have great habitat with no fisher there – it depends on the dynamic.

**VI. Mid Project Review:** Dr. Reg Barrett went over his presentation titled “*SNAMP Fisher: Where do we go from here?*” posted at <http://snamp.cnr.berkeley.edu/documents/jul-19-2011/>. Reg reiterated the original goal of the SNAMP fisher research, to design a least cost experiment to determine the degree of forest manipulation that will minimize wildfire and maximize wildlife values. Specifically his goal is to answer the question, what will SPLATS do to fisher viability? Reg said he felt the team will no longer be able to answer this question due to chronic underfunding. He presented the graph below to illustrate that the cumulative budget deficit was endangering the team’s likelihood of capturing 50 fisher lifespans, the number needed to get statistical certainty within a 95% confidence interval.



He presented the following options on dealing with funding reductions:

*Alternative 1:* I resign leaving Dr. Sweitzer to do the best he can with any funds provided.

*Alternative 2:* Change the study goal to simply provide some information on fisher biology.

*Alternative 3:* Answer adaptive management questions with full funding as proposed.

John Battles added that UC responded to the MOU partners request to do SNAMP research with credible science. The UC Science Team just discussed the funding situation on a July 14<sup>th</sup> conference call with the MOUP. We are now working on how long we can do the study and potential funders. It is the responsibility of the involved scientists to work together to state whether they can do the requested work. Fisher funding is \$1.2 million and the USFS gives SNAMP \$1.4 million. Additional funds have come from the Department of Water Resources. What's unique about SNAMP is that it is integrated and these funding issues have had to be worked out as a team. There has been a 15% gap in projected funding from the MOUP that was sometimes filled by other sources. The MOU partners accepted the role of grant writing to identify additional funds to counter this but this has not been successful recently.

*Question:* The USFS undertook this commitment as part of 2004 Framework decision. If it is not completed, will the requirements of the National Forest Management Act have been fulfilled?

Mike Chapel said that the USFS values the SNAMP fisher project tremendously. They are part of the team to fund it but have budget realities and cuts next year. Their leaders are having to make very tough choices of what to fund and what not. All of the MOUP very much appreciate this project and trying to fund as much of it as we can.

*Question:* Wayne Spencer said that the project has remarkable value and has generated incredible data and understanding. He would not vote for Reg's option one, he would prefer option three. Understanding the budget issues, have you looked at other sources to fund the project, such as National Science Foundation or or the Joint Fire Science Program to fill the gap? Is it a question of the MOUP actively pursuing grants? Or Rick doing that?

*Answer:* Reg said that the fisher team, and Rick specifically, does not have the time or staffing to pursue grants.

*Question:* Regarding the financial gap - is it possible to ask the forest industry to help finance when do Timber Harvest Plans? They have a lot at stake to keep fisher off the endangered list, would they be able to contribute?

*Answer:* No one at the meeting responded to this suggestion.

*Comment:* John Buckley said that he hoped the agencies would recognize the value of the funds already spent and how they might be wasted if the funds could not be found to continue and complete the work to answer the original question.

*Comment:* Sue Britting also pointed out that costs had been increased due to the time extensions needed to get to treatment, unrelated to the UCST. The longer term issue is getting enough post treatment information. We are at the budget crisis level, you've had to deal with it every year but this is the time to get commitments to proper end point so the project scope is clear.

*Comment:* Deanna Clifford suggested that a development officer or grant writer with dedicated time to work on sustainability long term could be helpful. They've done it with the Wildlife Health Center at UC Davis – it's painful to do, but it's important to keep things going.

**VII. Wrap up/next steps:** Kim Rodrigues said the UCST would work with Reg and the MOU partners to identify how to address the SNAMP funding situation. The goal will be to assemble options by the October annual meeting.

Those in the room were asked what worked well about the meeting and listed the emphasis on new data, otherwise meetings can be repetitive, the integration the scientists are doing with KREW and anti-coagulant researchers. The information produced just keeps getting better. In the future it would work better to have more breaks, control the climate a bit better (it was very cold), have coffee and a microphone for the audience so those on the webcast can hear the discussion better.

Of the 55 participants in the room, 32 filled out evaluation forms after the meeting.  
(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree, NA)

They agreed that:

- I learned something new at this event. 4.9
- I felt my comments were heard by the UC scientists. 4.7 (34% said NA)
- The goals and objectives of the event were clearly stated. 4.3
- Constructive discussion was encouraged by facilitators. 4.7
- I felt my comments were heard by USFS attendees. 4.5 (38% said NA)

They were neutral about whether

- There is a clear plan of action for the future on today's issues. 3.0