

*Sound Watershed Consulting*

*Creating Functional Water Environments*



# Lower Squaw Creek Restoration Public Workshop

*for*

*The Friends of Squaw Creek  
Truckee River Watershed Council  
Sierra Nevada Conservancy*

Prepared by:

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**FRIENDS OF SQUAW CREEK**  
305 SQUAW VALLEY MAIN ROAD, "NEW" FIRE STATION  
COMMUNITY MEETING ROOM  
**Squaw Creek Restoration Alternative Review Public Meeting**  
April 17, 2008  
Final Workshop Minutes Report

**Introductions**

Ed Heneveld called the meeting to order at 6:09 PM. He said that FOSC held a facilitated planning session this morning in order to consider how best to incorporate as a non-profit organization. Ed provided background on how and why FOSC was formed in order to consider restoration of Squaw Creek. He noted the contributions of the Squaw Valley Public Service District, Placer County, and Lahontan to the process and explained the study done by PWA. That study identified the five alternatives for creek restoration that will be considered tonight. Ed introduced Mike Liquori, formerly Project Manager for PWA and now Principal with Sound Watershed Consulting.

Everyone introduced themselves and gave their affiliation. In attendance were:

Ed Heneveld, Mike Liquori, Cheryl Liquori, Carl Gustafson, Rick Lierman, Cam Kicklighter, Michael Hogan, John Moberly, Fred and Barbara Ilfeld, Tom Murphy, Tom Gavigan, Edmund Sullivan, Jen Dzakowi, John Wilcox, Andrew Lange, Katrina Smolen, David Shaw, Roger Beck, James Taylor, Shawn Chartrand, David Shaw, Mark Weyshmer, Randy Westmoreland, Beth Christman, Cindy Walck, and Bob Larson.

Mike explained the uniqueness of the Squaw Creek restoration process because work is done as resources are available. The grants received to date have funded the studies conducted thus far. Requirements of the grant that FOSC secured included getting feedback from stakeholders and forming a small, technical group to consider some of the interactions between the floodplain and the channel. Mike reviewed the restoration objectives and opportunities, existing conditions, and the geomorphic changes in the creek. He showed photos of early images of the creek and overlaid them with current day conditions for comparison purposes.

**Review Proposed Alternatives**

Mike reviewed the five alternatives to be considered and the possible impacts of each:

Alternative 1 – no action – leave the channel as it is, which is not a desirable option

Alternative 2 – Restore the historic channel system to pre-European conditions, which would be the most full restoration option

Alternative 3 – a modified restoration to pre-European conditions

Alternative 4 – a floodplain channel enhancement

Alternative 5 – enhance the existing channel – the cheapest, easiest, lowest risk alternative, which provides the least benefit

Cam asked which of the alternatives Mike feels has a better chance of working with or without the trapezoidal channel. Mike said that the strategies were designed with the understanding that nothing could be done about the trapezoidal channel right now and was told to focus on remedies for the lower part of the channel. These five alternatives have been designed to work even if nothing was done with the trapezoidal channel. Cam asked if the compliance required by the TMDL conflicts with these options and Mike said that on the contrary, the TMDL could favorably impact these alternatives. Cam asked about the approach for the incised portions and Mike explained the approach of either raising the bed or lowering the floodplain. Michael Hogan said that the risks of each project need to be considered and that there are no guarantees. From the point of the TMDL, he feels that the uplands need to be considered and that

because the current sediment loads are higher than pre-European conditions, creating more meanders could result in a higher risk of sediment. Mike said that those kinds of questions that haven't been addressed but would be during the feasibility or preliminary design phases of the project. The following key issues should be addressed: 1) the interaction between the channel and sponge effect of the meadow, 2) the hydraulic model, and 3) the sediment load. Which of these issues is addressed by the current funding will be more clear after the technical workshops.

John Moberly asked about the risk if Alternative 4 is selected and nothing is done about the trapezoidal channel, noting the changes in precipitation in the last 25 years. Mike believes that the impacts of the trapezoidal channel are much less in the lower areas where the enhancements are being proposed. However he acknowledged that if the trapezoidal channel were not there, there may not be the high velocities of water flow and the core of sediment isn't being moved. Fred Ilfeld asked about constraints to the alternatives because of the golf course. Mike pointed out the relationship between the original creek and the layout of the golf course. He said that the golf course is probably a better built environment than most. Bob Larson suggested that the golf course is affecting flows off the hill slope and areas adjacent to the channel, more than the channel itself. Mike agreed, noting the pond area and possible willingness from the Resort to work with this. Andrew Lange asked about the speed of water flow. Mike feels that can be controlled and explained where most of the core sediment is being deposited and how that makes the channel unstable. Rick Lierman noted Mike's earlier comments regarding draining the meadow of water in order for the area to be used for parking during the Olympics. He suggested that if corrections were made in the trapezoidal channel, there would be more water to feed through the rest of the area.

James Taylor pointed out the historical change in the climate and the trend of reduced snow pack and more rapid run-off. He asked which alternative would best serve the long-term environmental concerns considering the decreased annual precipitation. Mike has spent time trying to understand the climate change and geomorphic changes and he believes that the challenge is to be careful about how well the past 150 years can predict the next 150, but to determine what is happening now. The future cannot necessarily be gauged by the past, given the expected changes in climate and land-use. Carl read letters from Hydrometrics and Mike agreed with Carl's observation that one of the most important things is to hold water in the creek. Dave asked about the gravels being deposited downstream and Mike said that Derrick Williams of Hydrometrics is writing a grant for SVPSD for more studies. The data can then be shared to determine how quickly the water is moving, noting that the gravel bars further downstream are ineffective. Discussion followed regarding the need to get a handle on the sediment flow. Randy noted that the storage and sponge upstream need to be considered and that he favors getting the flow on top of the meadow while filling in as much of the old channel as possible.

Mike displayed a graph outlining very rough cost estimate and possible risks associated with each alternative. The costs include fees for feasibility studies, design, permitting, constructions, and administration. This graph will be available on-line.

Following a break, there was a large group discussion. Mike explained the Reach Discussion Outline noting the objectives and components of each of the reaches in the creek.

James said that one of the issues he's concerned about is bringing heavy equipment into the meadow. The other is mosquitoes. Mike agreed that with the West Nile Virus fears that is an issue that needs to be considered.

Mike asked the group to consider the trapezoidal channel and the perception that there is no reason to restore the lower reaches if nothing is done about that channel. Rick suggested presenting that challenge to the Army Corps of Engineers. James asked about the options that would be most effective, assuming the channel can't be moved. Mike said that if the channel as a whole isn't addressed, the biggest risk would be for flood. Tom Murphy asked about the upland water retention and using the trapezoidal

channel as an opportunity for water storage. Mike feels it may have been originally designed for that purpose, although he hasn't looked at that possibility in any detail. Part of the sediment study may address that. Bob noted that the meadow may have habitat benefits independent of the channel and that the issues downstream offer good opportunities. He said that from the point of view of holistic restoration, it is not uncommon to start downstream and work up. Dave added that there still are options to recreate processes that have been impacted and feels that an effort should be made to restore the functions. James noted that about 40 people turned out for tonight's meeting and suggested that the community needs to buy in to whatever decisions are made. They need to feel ownership in order to support the restoration project.

Mike asked the group to consider which alternative they are most in favor of and what they would like the future of the meadow to be, assuming that all issues can be overcome. Discussion followed regarding the need for the community to take ownership and fully understand the options, the perception challenges presented when bringing tractors into the meadow, and the notion that perhaps the upstream configuration is in its natural location. Mike stated that the concern is that if nothing is done, the channel will likely continue to evolve into a less desirable condition. The group discussed the alternatives and the historical changes in the trapezoidal channel. Tom feels that because of the climate changes, the upland water storage is a priority in order to insure that there is a recharge. Public access to the trails was discussed as a way of garnering public buy-in. Mike suggested that a video of a successful restoration project might be one way to move the conversation from the scientific to something the public would understand and embrace.

Specifics of the alternatives were considered. Ed noted that in all five alternatives, the treatment along the golf course is similar. He supports reducing the risk as much as possible and increasing the sponge, but said that at some point the trapezoidal channel will need to be addressed.

Mike will post a link to this presentation on the website and also a link to a survey that he asked everyone to take part in as a way to rank the alternatives. He noted that the landowners control much of this process and acknowledged them for being participants. When asked which alternative he supports, Mike said that Alternative 2 makes the sponge more active and can support and enhance fish access. Mark agreed that the alternative provides a lot of habitat and recharge, but is expensive. Mike pointed out that the benefits would be greater, and therefore the value of Option 2 may be higher. Mark voiced concern about bank failures upstream, citing the amount of bed-load sediment traveling through the creek bed. There was broad agreement that public access to the area, perhaps with a boardwalk such as the one at Martis Creek, could help to get general support.

Ed said that he will email the link to Mike's website and encouraged everyone to participate in the survey. He noted that the next step will be a discussion with the landowners, and a technical workshop.

The workshop was adjourned at 9:30 PM.