

Lahontan: Water issues a concern now, during and after fires

By Lauri Kemper

June 24, 2007, began strangely. My niece and her family were spending their last day of their vacation with us. We set out to hike around Echo Lakes early that morning. The hot, dry winds were so fierce that sand from the trail was blowing into my grandniece's eyes. It was no fun, so we returned to my home off North Upper Truckee Road to take a walk to Osgood Swamp, instead, because it is more protected behind Flagpole Peak.



Angora Fire --
5 years later

On our way back, we saw a puff of smoke that I first thought was a lone thundercloud. But quickly the puff became a tower of billowing smoke.

To get back to the subdivision, we had to move toward this tower of smoke before turning away from it. We started running, as if our lives depended on it. My niece and her family had already packed their car, so they jumped in and left the basin, probably reaching Echo Summit before the first fire truck got there.

From my house, we watched the smoke grow in size and density.

We watered our yard and hosed down the house, but luckily for our neighborhood, the winds kept the smoke and fire away. Still, we were evacuated, because a change in wind direction would have brought the fire to us.

Two of my water board colleagues lost their homes in the Angora Fire, and several employees were evacuated.

The Lahontan Water Board was not directly involved in the fire suppression efforts. During a fire emergency, the water board is not a first responder. Over the years, the water boards and the USEPA have advised fire suppression agencies to take steps, where possible, not to adversely affect streams and lakes during fire suppression activities. For example, fire retardants contain phosphorus that, if dumped directly into a lake or stream, could cause fish kills and large increases of algal growths. So, fire agencies avoid applying fire retardants directly to streams and lakes.

On Monday, Lahontan water board staff members joined the state's Emergency Management System, including a multi-agency response team. Lahontan water board staff brought their knowledge and expertise in communication, water quality, science, engineering, and public funding to assist in the effort.

A local assistance office with phone banks was set up to answer the public's questions and concerns. Lahontan water board loaned a staff person to the office to answer calls and provide information to the public. We were fortunate to have a student intern working for us that summer who was a South Lake Tahoe native, a great communicator and forestry major. As our key staff person at the assistance center, he was instrumental in effectively handling inquiries and linking individuals to the specific resources they needed. Our technical and communications staff participated in regular updates to the multi-agency team so that all current information was shared and collective responses could be prepared to address new

information or concerns.



The types of fuel reduction allowed in Angora Creek has been debated. This is the area in May 2012. Photo/LTN

The Lahontan water board's primary role following the fire was to protect water quality. Water board staff participated on several teams addressing debris removal (from the burned homes), erosion and runoff controls, and water quality monitoring.

We served on the Debris Removal Multi-Agency Committee ensuring that plans were designed and implemented to address the risks to water quality and public health from the debris remaining at the burned home sites. When a home burns, all contents are burned with it, including appliances, carpets, paints, pesticides, cleaning products, automobiles and building materials. The ash and debris remaining may contain toxic levels of chemicals and pollutants that pose risks to public health and safety, and to aquatic life and wildlife. Additionally, the debris itself constitutes a nuisance.

This group of dedicated local and state agency staff persons was instrumental in successfully removing all the debris before the fall rains hit. Many logistics involving property owner approvals, insurance company involvement, health and safety concerns from debris and dead trees, disposal methods, and erosion control/site restoration were resolved by the committee members, including Lahontan Water Board staff. Debris and contaminated soil and ash associated with the burned home sites were removed, and building sites were protected from erosion by a single contractor overseen by El Dorado County and the state's Integrated Waste Management Agency staff.

Water board staff requested and received approval for \$380,000 from the state water board's Cleanup and Abatement Account funds. This money was used for water quality monitoring of Angora Creek and supported increased county and city road and drainage structure maintenance efforts, and an emergency water treatment system at Angora Creek proposed by El Dorado County. Staff coordinated with the California Tahoe Conservancy, U.S. Forest Service, El Dorado County, and U.S. Geological Survey to plan and coordinate water quality sampling in several locations to assess the impacts on Angora Creek. The Water Board contributed \$90,000 to an approximately \$350,000 interagency water quality monitoring program.

The U.S. Forest Service implemented its Burned Area Emergency Response Team (BAER) to evaluate the risks to water quality, soils and vegetation resources from the Angora Fire, which was primarily on lands it manages. The U.S. Natural Resource Conservation Service assessed erosion risks on private and county lands. Water board staff advised these teams, providing input to the field reports, risk ratings and corrective action plans. The BAER Team found that 76 percent of the soils within the burn area were hydrophobic (meaning that the soils may resist infiltrating or percolating rain water). If the burn area were not treated, stormwater runoff would carry ash and

sediment to nearby streams and to Lake Tahoe. With Lahontan water board's support and assistance, Forest Service, El Dorado County and city of South Lake Tahoe received resources from state and federal agencies to install runoff control measures such as basins, channels and sand bags, and to control erosion using mulches, seeding and other measures.

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We believe these efforts to control erosion and manage increased stormwater runoff prevented substantial amounts of sediment and ash from reaching streams and lakes. Additionally, the weather cooperated and delivered below normal precipitation following the fire, reducing the amount of runoff that would carry sediment and debris to streams. Data collected showed some minor increases in

sediment, nitrogen and phosphorus to Angora Creek, but the impacts to water quality could have been much worse. The Water Board had provided El Dorado County funds to rent an emergency water filtration system that was stationed at the junction of Angora Creek and Lake Tahoe Boulevard to be operated during runoff periods, where the creek was anticipated to be highly turbid from runoff carrying ash, debris, and sediment. The treatment system was set up and ready to operate, but was not used because the turbidity didn't increase to the levels anticipated or to the point where treatment would be beneficial.

Following fire response and recovery, water board staff participated in the Bi-state Tahoe Basin Fire Commission. A water board member served on the commission and staff members participated in working groups to identify constraints to fuel reduction projects and to craft creative solutions and improvements to hasten the implementation of fuel reduction projects.

In May 2008, the governor of California issued a proclamation encouraging the water board to take expedited action to implement the recommendations of the Fire Commission or develop findings why any recommendation should not be implemented. Ten recommendations of the commission applied to

the Lahontan water board. By March 2009, these recommendations had been implemented or otherwise addressed.

The water board adopted a revised regional waiver of waste discharge requirements for vegetation management activities, including fuel reduction projects. This waiver simplified or eliminated permitting application and reporting requirements for many "low threat to water quality" fuel reduction projects. For defensible space projects and for projects involving hand crews, no application, fee, or water board review is required. Other fuel reduction projects receive expedited review.

The 2009 waiver provides a table listing several types of fuel reduction activities, including the use of mechanized equipment and burning that can be conducted in stream environment zones without separate authorizations from the water board. The water board must separately review and authorize other activities involving soil disturbance in stream environment zones. This review and authorization involves a 10-day public notice and can be approved by the executive officer. The 2009 waiver has been instrumental in protecting communities and hastening fuel reduction efforts throughout the Lahontan region.

The fire commission encouraged all public agencies and private property owners "to work together more effectively to implement fuel reduction projects designed and prioritized to minimize the risk of wildfires." Water board staff continues to participate in the Tahoe Basin Tahoe Fire Fuels Team meetings, coordinating and cooperating with fire districts, and state and federal agencies to ensure rapid implementation of the highest priority fuel reduction projects. Water board staff also provides input on the design of research projects to address areas of uncertainty related to potential impacts to water quality from more aggressive forest treatments, such as burning piles of slash in stream environment zones, using heavy equipment or innovative low ground pressure equipment on

steep slopes and in stream zones.

In 2012, water board staff intends to bring a Basin Plan Amendment to the water board for its consideration to further clarify exemptions allowed for soil disturbance work within stream environment zones to facilitate tree and vegetation thinning. This year, water board staff will also be providing input into TRPA's Regional Plan updated to ensure agency consistency in the rules and regulations concerning fuel reduction and vegetation management activities.

The water board is committed to working with land managers and landowners in the Tahoe basin to facilitate fuel reduction activities while encouraging the restoration and improvement of watershed functions.

The Lahontan Regional Water Quality Control Board is a California agency established to protect and restore water quality, including restoration of Lake Tahoe's transparency. The water board regulates discharges of pollutants to water quality.

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