

# Building with 'green' technology pays off for Angora residents

By Steve Rypins

On June 24, 2007, along with 253 other homes, our little one at the end of Iron Mountain Circle burned in the Angora Fire. I had been working on it steadily since fall 1999 when I bought it with my wife, Michelle. Things slowed down when our son, Clyde, was born in 2002. The house was my big project, and, though I did a few small construction projects (and a little knife sharpening) for others, I was really just a stay-at-home dad.



Angora Fire --  
5 years later

I don't want to dwell on the story of the fire itself or the immediate aftermath. Suffice it to say that we got out, should have grabbed a few more things, and hoped for the best. As I left, I said the quickest of goodbyes to the house, but I hoped it would be OK. I wasn't really prepared to see the destruction of what we had created.

It didn't survive, of course. Though, amazingly, our area remained relatively intact. Along with a few other homes on the street, the large spec house under construction across the street was fine. In fact, the crew there was back at work,

painting drywall with a smoke-covering primer, while we were still sifting through our ashes. Luckily, however, many things survived. Our front landscape was more or less intact, as were the large Jeffery pines on three sides of us. Our back shed survived, and the firefighters had rolled my old work truck, a beat up 1973 Datsun, across the street after throwing many of my tools and our bikes into or toward it. On the side of the truck, a firefighter had penciled, "Tried to save it [meaning the house]. Saved your tools for work."



Steve and Michelle Rypins' rebuilt home in the Angora burn. Photo/Provided

Our house, in fact, represented the southeast corner of burned structures in the fire. With the nearby trees still standing, the fact that we knew the site and loved its sunny south-facing aspect and location at the end of a cul-de-sac) and given my small (perhaps dangerously so) bit of construction knowledge and experience, we really never considered not rebuilding.

One of our earliest meetings was with Bret Alexander and Leslie Ames of Tahoe Solar Designs whom we knew through the backcountry and telemark ski community. Sitting with them near the ruins of our old sunroom, we knew that solar would be a principal element of the design of the new house. Passive was the way to go, while maybe augmenting with a solar hot water system. The large trees that remained across the street meant that solar electric was unlikely to be cost-effective, as

those panels require continuous direct sunlight to justify their high initial price.

Less than a month after the fire, SiGBA – Sierra Green Building Association – had a symposium for fire victims at Lake Tahoe Community College on rebuilding green. At the Phoenix Sustainable Re-building Expo we met our architect, David Goldman of Environmental Architecture. Goldman had lived in South Lake for more than a decade (in the 1980s and '90s) but had moved away to further his education and experience in sustainable-energy efficient building. By what I can only call a stroke of fate, he had moved back to Tahoe a week before the fire.



Natural light fills  
the house.

Photo/Sunny

Awazuhara-Reed

Early consultation with our insurance company suggested the base rate on the house was very low, but luckily (and through no fault of our own) we had many elements of our coverage that would double in case of a total loss. We were still underinsured, but when the company decided to give us the full cash value of our personal possessions coverage with no

required inventory, it seemed that this was a sign that we should proceed and get our project going. Additionally, the county was doing what it could to help get fire victims building quickly. Expedited debris removal (somewhat controversial, I know) and allowing for plans to be submitted in phases ("foundation only" then full plans) also encouraged us to try and get a roof on before the big winter snows.

A plan was taking shape. The big thought was that running the project as an owner-builder (and being on site daily and helping in the construction where I could) would allow us to do something special at the site. And maybe, by creating a network of local builders (and architect Goldman), our project could show that building in a progressive, energy-efficient manner was a viable alternative to traditional construction.

It should be noted that I've hesitated thus far to use the term "green building". It must be recognized that the fire occurred very near the peak of the real estate bubble, when contractors (and homeowners) were promoting all sorts of ways of adding value to real estate. Here in South Lake, the common practice was to buy lots (like the one across from us), ideally with a building allocation, and then build for maximum size and luxury. In other areas (notably the Bay Area), more environmentally sensitive projects were getting popular. An emphasis on energy efficiency and sustainably derived building materials and (sometimes) smaller, more efficiently designed spaces, was promoted under the rubric of "green building". Of course, plenty of people (especially more traditional builders) noted the other connotation of "green building", suggesting that you'd better have plenty of it (i.e., money) if that was your goal and you chose to work with "green builders".

And, indeed, "green builders" do run the gamut. Some we worked with (whom I've mentioned) were fantastic. I cannot say enough about David Goldman. The collaborative process and the knowledge and experience he brought to the design were simply

outstanding. My hope is that by signing on with Goldman quickly, we helped others make the same choice and that they were equally pleased with his work. Thus far, he has designed four other (completed and occupied) buildings in the burn and is the process of designing a fifth. They may not be to everyone's taste, but I am sure that they are the most energy efficient structures in the area.



Rebuilding with green design features is paying off.  
Photo/Sunny Awazuhara-Reed

The hallmarks of his design are beautiful passive solar homes with an appreciation of simple and clean modern design. Most of the homes have wall systems that employ polystyrene (Styrofoam) insulation with cementitious materials (concrete or stucco and plaster) used for structure and/or finishes. One of his biggest innovations was elongating homes along their east-west axis for maximum solar performance. In several cases (not ours), the houses are actually offset from the normal street orientation to maximize this idea. With shallow north-south dimensions and lots of windows along the south-facing sides, these homes (in our very sunny climate) more or less heat up by themselves. And in summer, when overheating is a huge problem, correct sizing of roof eaves for shading is an equally simple solution.

In our house, we have additional energy saving elements, such as a centrally placed laundry and mechanical room with masonry

walls to harvest the heat given off by our boiler and our domestic water tank (and the washer-dryer). Moreover, we have an architecturally impressive home with lots of glass out front (including two Trombe walls) and open ceilings and living spaces while still managing to keep the square footage down (1,900 total for the living space). The layout of the house is user-friendly, and, on sunny days at least, it heats (or cools) itself, depending on the season. We will never be able to fully repay Goldman for his great work here, but we did allow him to enter the design in the annual *Tahoe Quarterly* magazine's architectural contest, winning for Green Design in 2010.

Likewise, Alexander and Ames of Tahoe Solar Designs were fantastic. I installed our radiant floor heat (as I had in the previous house) and even though there is (currently) no direct connection between that system and our solar hot water system, they provided consultation and direct assistance when I needed it. In the end, we decided on three solar hot water panels that are installed on our garage roof (specifically designed at an ideal angle determined by Alexander, Ames and Goldman) with heat exchange loops to our domestic hot water and our hot tub. The initial cost of the installation was quite modest while the savings are continuous. In particular, I don't know if I could justify the expense of maintaining a huge pot of hot water (our hot tub) without the knowledge that it is reheated (or nearly so) on a daily basis for much of the year at zero cost.

These were not the only wonderful builders-suppliers and building professionals we worked with on the project. A couple of others, whom I consider more traditional builders (carpenters really) and with whom I particularly enjoyed working, side by side, deserve mention: Lenny Pratt and Eric Arnold.

On the other hand, however, we were extremely disappointed with several builders, building material providers and

building consultants, some of who used "green building" as part of their marketing efforts. Many, I believe, had their own pre-existing financial difficulties that "forced" them to charge large amounts of money for poor quality work. In the end, I think it was more a sign of the (desperate) times and the fact that the burn represented a chance (sometimes, perhaps a final one) at a decent payday. Others, I think, were just inexperienced and believed that construction work, particularly if it were "green" or otherwise innovative, deserved (very) high pay for (very) average or even shoddy output. Luckily, by being as involved as I was with the project, we were able to keep these relationships short and the costs of working with these characters relatively low.

One of my biggest disappointments was repeated delays caused by our original engineer. (In the end, we needed three engineers to complete the project, with a special commendation to the final one, Randy Vogelgesang, for negotiating on our behalf with county building to allow us to receive our certificate of occupancy.) Despite all the good work of the county in helping expedite the project, the original engineer (recommended by the company that provided our insulated concrete forms, our primary wall materials) blew off deadline after deadline and delayed our project by seven crucial weeks that first fall. Despite relatively late snows we failed to get the roof on the building until spring. Perhaps if we had been able to roof before the winter, our project might have convinced even more people rebuilding in the burn to try a "greener" approach. (Not to mention saving us a lot of time, money, and snow removal.)

In the end, our building experience, like so many others, was (and continues to be) as big and dramatic an experience as the fire itself. The one event changed our world in a single moment (or day) while the other shaped our views on the community and, of course, the place we now call home: our house. Neither is perfect, of course, but both offer a lot to

appreciate.

---

## **S. Tahoe dispatch sends units within seconds to Angora**

### **CHP won't talk about Truckee dispatch investigation**

**By Kathryn Reed**

Within 13 seconds of the first call that came into the South Lake Tahoe dispatch center at 2:09:13pm on June 24, 2007, fire units were alerted.



Angora Fire --  
5 years later

Leona Allen doesn't know how many calls she received that first day. Working alone in the dispatch center on what was supposed to be a day off, what she does remember is the first call, her husband saying her 90-year-old dad was safely evacuated (his house later burned to the ground), the call not



on Day 1 from Barton Skilled Nursing asking her to help move her mom because they were evacuating and having to say she could not leave work – which she didn't leave for five days.

It wasn't long into that Sunday five years ago that Allen learned her house was also one of the 254 that was consumed by flames.

Much controversy has centered on whether the flames could have been doused faster had the California Highway Patrol dispatch in Truckee not told callers it was a control burn, which meant those dispatchers didn't dispatch resources.

An investigation followed, but the results are not known. Allen, who was involved with the investigation, doesn't even know the outcome. She said a Truckee dispatcher called her asking if there was a control burn, to which Allen said, "No."

*Lake Tahoe News* submitted a public records request to CHP seeking the report on the investigation. This is the state agency's written response, "The department is unable [to] provide you with the requested 'report from the investigation.' The investigative reports are personnel documents, prepared as inquiries into the performance of department dispatch personnel. Pursuant to the Public Records Act, disclosure is not required of records that are 'personnel, medical, or similar files, the disclosure of which would constitute an unwarranted invasion of personal privacy.' (Government Code Section 6254(c)). The mandatory, rather than voluntary, contribution of involved personnel creates a privacy interest in the information that courts will recognize; see, e.g., *California First Amendment Coalition v. Superior Court* (1998) 67 Cal.App.4th 159."

No one in Truckee or at the Sacramento headquarters would say if anyone was disciplined or if any policies were changed. Nor would anyone say why the dispatchers thought there was a control burn on the South Shore at that time.

All agencies on the South Shore that would have had the authority to ignite a prescribed fire say there were no controlled burns on June 24, 2007.

Every 911 call is logged into the computer aided dispatch system.



Residents to this day are still thanking firefighters for their efforts. Photo/LTN

*Lake Tahoe News* also sought the transcripts of the 911 calls from the Truckee office on June 24, 2007. CHP late last week said a recording could be provided. But FedEx was not able to get the disc to Tahoe by Saturday. When *LTN* receives it and if the audio is of publishable quality, we will release them.

Where a 911 call goes depends on the phone carrier and if the caller is on a cell or landline. In the past five years, more cell calls go to the area the caller is in instead of the nearest CHP dispatch.

El Dorado County Sheriff's Office is dispatched out of Placerville.

"They monitor us, so the deputies knew immediately and took on the evacuations. They just reacted. I didn't even have to call. It's why we all listen to each other," Allen told *Lake Tahoe News*. (Allen eventually left her dispatch job and now

works for Lake Valley Fire Protection District as the communications specialist.)

The South Tahoe office dispatches South Lake Tahoe police and fire, Lake Valley fire, and Fallen Leaf Lake fire.

The California Highway Patrol, Tahoe Douglas fire, Nevada Highway Patrol – they all came without being asked.

Allen's co-workers started showing up without being called in.

In addition to the mounting calls from people reporting what became known as the Angora Fire, during that first hour there were 10 emergency medical calls, including a structure fire that had nothing to do with Angora.



No confusing this plume of smoke with a control burn.

Photo/Lake Valley Fire

Two dispatchers had to evacuate, but immediately returned to work. Twelve-hour shifts were the norm for five days. Cots were set up. Food brought in.

“I remember going to the first briefing with the Forest Service on Day 2 and I was still in the same clothes as when I started,” Allen said.

It wasn't long before the fire was of such a magnitude that it

was no longer considered a local event.

“When a fire gets so large that the local dispatch center cannot handle it, it is turned over to an emergency communication center in Camino, Gardnerville or Minden,” Allen explained.

When the feds get involved – which was the case because most of the land belonged to the U.S. Forest Service – and emergency aid agreements are triggered, a dispatch center for that specific fire is created. This happened on that first day of Angora.

Still, the local calls were coming in to the South Lake Tahoe center. All sorts of calls came in – one man said he knew how to fly a helicopter better and that the guys in the air were doing it all wrong. People called wanting to know if they should evacuate.

A big flip chart was set up in the center so the dispatchers could record what callers were offering (things like hotel rooms, a place for horses) and who to contact. Red Cross was provided all this info.

The little details that are huge to people in the middle of a tragedy were being coordinated by these men and women, like finding a home for 12 displaced bunnies.

Firefighters would call in with addresses of houses gone. The dispatchers had to keep working knowing the homes of family and friends were nothing but ash.

Allen says the only thing she would have done differently regarding the fire was to have commended her dispatchers sooner.

“The quality of a good dispatcher is maintaining your composure and quality of work when you know the vortex of fire is just down the road,” Allen said.

---

# Final installment of Angora Fire series coming Sunday

The fourth and final day of *Lake Tahoe News'* four-part series on Angora Fire – 5 years later will run June 24.



Angora Fire --  
5 years later

Sunday's stories will be about life in dispatch that fateful day, words from Lahontan water board, former South Lake Tahoe Mayor Kathay Lovell's perspective and the pet cemetery.

**If you missed the June 17 installment, here are links to those stories:**

Snippets about Angora.

University study explores Tahoe's devastating fire.

South Tahoe PUD keeps water flowing.

Personal and professional angst at TRPA.

Landscape a challenge for survivors.

**If you missed the June 10 installment, here are links to those stories:**

Dealing with insurance companies.

Annual garden show focuses on Angora properties.

Cutbacks would challenge future wildland firefighting resources.

Importance of defensible space.

Supervisor Norma Santiago talks about El Dorado County.

**If you missed the June 3 installment, here are links to those stories:**

Susan Wood was the first reporter on the scene.

Forest Supervisor Nancy Gibson looks forward.

A garden grows from the ashes.

No arrests made.

State senator to host Angora forum.

---

**Opinion: Lessons from Angora not forgotten, more work to**

# do

**By Ted Gaines**

Five years ago Sunday, the terrible Angora Fire swept through the Lake Tahoe Basin, destroying 254 homes, buildings, and changing lives and landscapes forever. While we will never be able to tame nature completely, public safety is government's highest priority and government leaders must always be improving their response to emergencies and natural disasters.

As a result of the fire, the governors of California and Nevada convened a Blue Ribbon Fire Commission to analyze the efforts to fight the Angora Fire and issued a set of recommendations to strengthen the region's ability to prevent and respond to these catastrophes.



Ted Gaines

It does not take a cynic to assume that many blue ribbon reports and commissions come to life as a result of politicians needing to “do something” in response to a crisis and then accomplish very little. As the event fades from public consciousness, the reports gather dust and the recommendations quietly fade away.

That absolutely cannot be the case when it comes to the Lake Tahoe region and fire safety. Tahoe's conditions – steep canyons, ample fuel, dry years such as in 2007, when the area received only 29 percent of normal precipitation, high winds – are a recipe for forest fire disaster. This year's conditions

are similar and the community, rightfully, is nervous heading into fire season.

For all these reasons, I initiated a non-partisan Senate Office of Research review of the Blue Ribbon Fire Commission recommendations to check their status. I am disappointed to issue a C-minus grade, but inspired to keep working for greater safety for the region.

Things are better than they were five years ago. Thanks to the successful implementation of report recommendations by the governors of California and Nevada, Tahoe Regional Planning Agency, Lahontan Regional Water Quality Control Board, U.S. Forest Service Lake Tahoe Basin Management Unit, CalFire and other stakeholders, we now have more effective forest management, better education, and better cooperation and communication among regional fire protection agencies, all of which should lessen the chance of catastrophic forest fires.

But there is still work to do and the area is still a tinderbox. Many of the recommendations have not been implemented or their status is unclear. We cannot leave them undone, and must continue to effectively implement the recommendations in progress, both for public safety and for the continued health of the Tahoe regional economy.

Lake Tahoe is Northern California's crown jewel and its economy is heavily dependent on tourism. The barren moonscape left behind after the fire is no match for the rich forest lands destroyed in the fire. Charred trees and driveways leading to empty lots where homes have not been rebuilt still dot the landscape. Changes in erosion threaten the Lake's legendary clarity that draws people from around the world. Tahoe has to be safe and beautiful to remain a first-class destination.

While we are all thankful for the protection firefighters provide, each of us must also take personal responsibility for



fire safety. It is critical that we exercise extreme caution with cigarettes, campfires, tools, engines or anything else that could possibly spark or otherwise cause a fire – which is how the Angora Fire began. When fires inevitably start, homeowners will always be the first line of defense. There is no substitute for defensible space around a home. Be vigilant and clear out brush at least 100 feet around your house, if possible. It is my hope that effective execution of the recommendations and smart individual actions mean we can observe an anniversary this year, and not a reenactment.

On this fifth anniversary, I also want to recognize the fantastic performance of the firefighters who ultimately controlled the Angora Fire. They are a battle tested group whose bravery and excellence is unmatched around the country. By implementing the recommendations of the Blue Ribbon Fire Commission, governments are helping to ensure that their lives are not needlessly put at risk.

*Ted Gaines represents the 1st Senate District, which includes all or parts of El Dorado, Placer, Alpine, Amador, Calaveras, Lassen, Modoc, Mono, Nevada, Plumas, Sacramento and Sierra counties.*

--

**Note:** State Sen. Ted Gaines is hosting a forum about the Angora Fire on June 25, 6-8pm at South Tahoe High School.

---

## **Report: Replanting in Angora**

# on CTC property a success

By Kathryn Reed

With some areas of the Angora burn having lost 100 percent of its trees, human assistance was needed to restore what a human was ultimately responsible for destroying.

Replanting of mostly Jeffery pines was what the California Tahoe Conservancy chose. The state agency owns about 90 acres of the nearly 3,100 acres that burned in the June 2007 fire. Of those, 40 acres had nothing left.



Mastication of trees like what the USFS did is also the approach the CTC took on some of its land in the Angora burn area. Photo/LTN file

Susie Kocher with the UC Cooperative Extension gave an update June 20 to the California Tahoe Conservancy board about the 40 acres that endured the high intensity fire.

Kocher explained how the loss was much greater than what a natural fire would have left behind. The Angora Fire whipped through the North Upper Truckee area on June 24 five years ago after an illegal campfire was not properly extinguished at Seneca Pond. Ultimately, it destroyed 254 houses.

While the forest is showing resiliency, Kocher informed the board that it would be 60 years before the forest returns to what the average person would call a forest. For now, the seedlings that were planted are just a few inches tall.

About 130 trees have been planted per acre. In addition to the Jeffery, sugar pines are the other primary species. Some incense cedar has been planted, but they are not thriving. This is because they prefer shade and right now it's direct sunlight in the burn.

Kocher has been studying the recovery process on the CTC acreage since the first analysis of the burn was conducted in July 2007. A report was released this year about the restoration, with Wednesday's meeting at Inn by the Lake being the first time the board heard the information.

"Where there has not been planting, there are very (few) trees coming back," Kocher told the board.

Larry Sevison, chairman of the CTC board and Placer County supervisor, questioned whether the 86 tons of fuel load per acre was going to create a fire hazard.

Kocher said even though mulch from the masticated trees along with limbs are on the forest floor, the alternative would be leave the charred trees standing. Those would eventually fall, be in larger pieces and create more of a fire threat.

"Though the fire risk cannot be calculated at this time as computer models do not accurately predict wildfire behavior in masticated fuels, it is generally accepted that masticated fuels burn with lower flame lengths than natural fuels and are more difficult to ignite because compaction impedes the fire's access to oxygen," according to the preliminary assessment report of restoring CTC lands post-Angora that was prepared by Kocher and Daylin Wade of the CTC.

Kocher told the board when it comes to leaving the mulch,

“It’s a trade off between erosion control and fire risk, but I can’t tell you how much.”

Norma Santiago, CTC board member and El Dorado County supervisor, questioned the threat of the white thorn growing in the burn area.

While Kocher called it a “fire adaptive species”, she said there is less of the prickly bush in the treated areas.

Overall, Kocher said the treatments applied to the Conservancy land have been effective. She said the ultimate goal of creating a healthy forest is on track five years after the flames whipped through the area.

---

## **TRPA: Angora creates personal and professional challenges**

**By Joanne Marchetta**

I was working at the kitchen table in the middle of a languid Sunday afternoon in June when I heard Nancy call to me, “Hey, come look at this.” We climbed to our second floor and both took a look from our upper deck. We could see a small white wisp of smoke far off in the distance toward Angora Ridge, and remarked to one another, “Hmm, that looks like a fire.” I

recall the memory fleeting across my consciousness of the eerie experience of the Oakland Hills fire from years back when I lived in the Bay Area. And I immediately came back to the present and became aware of the day's weather in Tahoe – unusually high winds and hot.



Angora Fire --  
5 years later

“Not good,” I thought to myself. I felt my stomach pinch with uneasiness, but I went back inside hoping for the best despite an edge of disquiet. Only five minutes later, just as I settled back into my task, I again heard Nancy call, “You really need to come outside and look at this.”

This time I heard the concern and emphasis in her voice and it left me a little startled. I hurried outside.

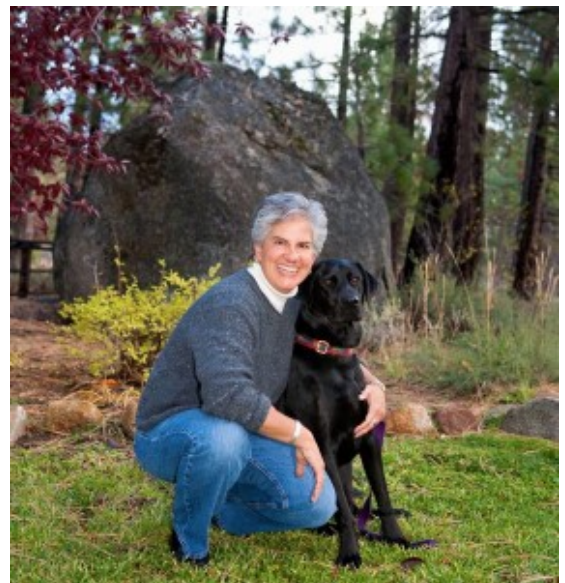
As we climbed up on the boulders across the street from our house, that white wisp in the distance we saw only minutes ago had transformed into a now pervasive, ominous black cloud hanging low over distant neighborhoods and Angora Creek drainage. As we stood there, other neighbors too began to gather at the top of the boulders to gain a vantage point. We looked at one another and chattered nervously.

One remarked, “I’ve lived here 20 years; this is serious.”

Another climbed down hurriedly off the boulders and jogged toward the fire station only three doors down on the corner. Minutes later, she returned saying, “Yes, it’s been reported and they’re on it. It’s under control.” We could take no real

comfort from the report because of the dissonance of the scene we were living.

Now as we watched, we could make out bright red flames through the black smoke. It was clearly a fire and it was spreading fast. It was obviously in the tree canopy and the wind was whipping the speed of the spread. The neighbors looked at one another a last time and agreed, "We need to get out of here now."



One of Joanne Marchetta's first priorities was to make sure her dog Zin got out of the fire safely. Photo/Joy Strotz

As we scrambled off the boulders, I took one last look that said it all. From that high vantage, we could no longer see through the wall of black smoke, but we could see the orange red flames of the crown fire on Clear View Circle only a block and a half away. The fire was headed straight toward us and was nearly on us.

It had been less than 20 minutes since we first saw the small white wisp in the distance.

We scrambled off the boulders and sprinted to the house. Now my heart was racing. We threw open the door, looked at one another with that twinge of adrenaline charged panic and succinctly agreed, "Get the dog and the fire box." Beyond that, I recall grabbing one arm-full of clothes out of the downstairs bedroom closet, another arm-full from the chest of drawers and scrambled into the garage. I threw what I had grabbed into the back seat of the car. As I had passed by the kitchen window, I could see that the roof of the house behind ours had caught fire and recall yelling, "We need to get out now, the house behind us is burning!"

Nancy made sure the dog was safely secured in the car. Then we each stood for a brief moment in the garage with one car parked behind the other. Nancy said, "Should we take one car." I said "No, we need to take both; I think it will be all that we have left after this."

We quickly arranged to meet at the Raley's parking lot to regroup. And as we pulled away from the house, we joined a procession of cars headed toward the Y, moving slowly but moving steadily away.

Only minutes later we rendezvoused at the Y shopping center, feeling bewildered and anxious. Noticeable were the burning and charred embers floating on the winds of that afternoon, and the smoke stinging our eyes and airways. We spoke briefly to neighbors again to trade cell phone numbers to make sure we could reach one another.

I said, "We need to get out of the basin, it's still spreading."

Not sure exactly where we could go, we knew we couldn't stay stationary and again headed east on 50 trying to put distance between us and the fire. We stopped briefly at a point familiar at least to me, the TRPA parking lot, and regrouped again. Even at that distance, embers swirled in the air around

us, carried miles from where we had last seen the fire. From there, we called friends in Gardnerville, asking if we could head their way. "Of course," they said. "We are in Placerville and headed home now."

They knew nothing at that point of the day's event except they could see smoke even in Placerville, so they knew there was fire somewhere. We hung up the phone and dropped down Kingsbury out of the basin.

That evening, looking from the valley back toward the 10,000 foot mountains of the Lake Tahoe Basin, black smoke poured relentlessly out above the peaks into the upper atmosphere. We talked with our friends, but I don't really recall anything we discussed. We were glued to local TV news reports. All I recall is the image of a certain TV clip replaying again and again that showed our back yard on fire, the dead and down logs in the back of the lot were burning. We couldn't see the house in the blackness of the background of the video footage, but every time it played, I kept straining to try to see through to the image of the house. It lent no answers.

I haven't owned or watched TV in 20 years for exactly this reason – it disassociates truth from experience. I didn't know what to think, and ended up thinking the worst based on the TV clips, but honestly I could barely think a lucid thought at all. I felt numb and appreciative that we had good friends to be with in that moment.

I spoke briefly at about 9pm with Norma Santiago, El Dorado County supervisor and one of my TRPA board members. She knew I lived in the county, and was kind enough to call to find out my house number and location. She said she would let me know if she found out anything definite. In the middle of the night, my cell phone rang.

"Your house is standing."

I made her repeat it, both the house number and the result.



Again she said, "The best information we have is that your house is standing."

I thanked her and cried just to release pure anxiety.

We stayed at MontBleu for 10 days afterward: with the dog in our hotel room, living out of the trunk of the car where we had flung the random belongings we grabbed without even a moment to think, and wearing the eclectic mix of clothes we had grabbed in the flurry to flee.

We were lucky. We were among those able to return to a house intact. We had defensible space, and that may have helped to save us from devastation. Even so, the fire seemed capricious. The winds had been so fierce and squirrely and the fire moved so fast, it was hard to say why one and not another house burned. The house with the cedar shake roof just across Lake Tahoe Boulevard withstood the siege while almost all of the houses farther up Boulder Mountain burned. It turned out that the fire claimed only two houses on our street – both on the corner and directly across from the Lake Valley Fire Station – nothing but cinders left of them. The fire melted the siding off a third house and then moved on.

The experience left me with an indelible truth. We are blessed to live in a forest and to call it home. With that privilege comes a special responsibility to live lightly, responsibly, and as special stewards of this magical and spectacularly beautiful place we are so fortunate to call home and haven.

I thank the firefighters for risking their lives to protect us and I thank the community for coming together afterward to help those who lost so much. I am proud to call Tahoe my home and my reverence for the place and the people has only grown since the humbling experience of nature's indomitable force that we were so powerless to reckon on that night of June 24, 2007.

*Joanne Marchetta is executive director of the Tahoe Regional*

*Planning Agency and was chief counsel for TRPA at the time of the Angora Fire.*

---

# Landscaping becomes a challenge as Mother Nature changes

By Linda Fine Conaboy

Nearly five years ago as I drove my SUV from Reno to South Lake Tahoe to cover the aftermath of the Angora Fire for a Reno magazine, the farthest thing from my mind was the vegetation.



Angora Fire --  
5 years later

My photographer and I were assigned to interview residents and bring back a firsthand report on the devastation that we had only heard or read about in Reno.

As we edged our car into the long line of returning evacuees, we accepted rubber gloves and masks from one of the many volunteers at one of the checkpoints, not knowing exactly how and if we would use them.

It didn't take long before we realized the masks were important gear as we entered what looked very much like what I expect a war zone may look, including the shell-shocked expressions on many of the faces of the people inspecting their once pristine property.

Smoke streamed lazily upward as if it were escaping from unseen vents drilled into Mother Earth, making the air unpleasant enough that we decided to wear the masks, like many of the returnees.



Houses in the Angora burn area were featured on a 2010 home tour. Photos/LTN

Some still-smoking trees stood but no underbrush was visible. In the place of the once heavily forested and landscaped yards were the bodies of non-recognizable cars resting on their frames along with melted bicycles and shards of glass and pottery strewn about.

Now, though, the tables have turned and because of the grit and tenacity of the returned residents, houses have popped up, albeit with little or no visible vegetation. Trees are widely spaced, many with scarred, blackened burn marks snaking up the tree meeting greenery about two-thirds of the way up.

The houses stand naked against the landscape where once grew a lush, mountain forest, where the trees would act as shields

and wind screens protecting the privacy of those who live there.

According to Rita Mustatia, silviculturist (a person who looks after trees in the forest) with the U.S. Forest Service, the expression devastation is a misnomer. "I would use the word devastating in reference to the homes that were lost and lives that were changed because of the fire, but not to the forest itself," she said.

"Fire in the forest is a natural thing and depending on factors such as location, climate, forest type, fire or some other disturbance, [fire] is needed for vegetation, including trees, to exist as part of a healthy functioning ecosystem," Mustatia told *Lake Tahoe News*. "Disturbances such as fire eliminate competition between trees by reducing density and creating openings for regeneration."

However, Mustatia said, most of the Angora Fire burned at high intensities leaving vast areas of little to no vegetation including trees. But about 40 percent of the fire burned at low to moderate intensities, she said, resulting in still living trees and some surviving vegetation.



The high water table had roads in the burn

area undriveable in 2011.

Some of these trees have subsequently died because of the damage caused during the fire as well as insects that have attacked them. But, Mustatia said, most of the survivor trees are healthy today.

“In some areas where the fire burned,” she continued, “it stayed on the ground as a surface fire resulting in mortality, mainly in smaller, shade-tolerant trees. The Jeffery pine, with its fire-adaptive traits, survived for the most part, resulting in a relatively healthy, post-fire condition. In other areas, where there was heavy fuel loading, the fire burned on the surface as well as through the crowns.”

Susie Kocher, natural resources advisor for the UC Extension Service, agreed with Mustatia. “Some forests are set up to burn every few years, like the Yellowstone fire in the 1980s.”

She said forests in the Lake Tahoe Basin are used to frequent, low intensity fire, but that has not been happening. “Now we have a high density of fuels and trees; consequently, we now have high intensity fires over a larger area killing a large number of trees.

“Part of it is that we’re good at putting out forest fires. But we kind of have a perfect storm in a way,” she said, attributing climate change and less snowpack to a longer fire season.

The question now for homeowners is, according to Kocher, do they want a forest or do they want a shrub field? “If you leave the forest that is located in a south-facing area on its own, not a lot of trees will come back soon – for about 60 years.”

Kocher stated the obvious: the Angora Fire killed a lot of trees in a large area. “There are no naturally, regrowing

trees; there's no seed source because there are no trees. If you want a forest, you need to replant or wait 60 or 70 years."

She said areas without what she called "treatment" will see fire adaptive shrubs return; plants such as manzanita and white thorn. "And yes, the mushrooms are back, along with lupine and other wild flowers," Kocher said. "After a wildfire, it's a great time to collect mushrooms."

But along with the good plants, invasive species like bull thistle make themselves at home too.

Homeowner Tony Colombo, who lives on Mount Olympia Circle, in a large, green, newly rebuilt Victorian, is angry about the fire for several reasons, not the least of which is his inability to re-establish his landscaping.

Colombo, and his wife, Tara Brennan, lost not only their home to the Angora Fire, but also all of the naturally occurring evergreens and vegetation that made their yard beautiful. "The soil was burned and contaminated," he said. "And two-thirds of my new trees and shrubbery have died."

Blaming the high water table in his area on his inability to grow anything except lawn, Colombo said the water on his property is so high in every month except during the summer, it is literally drowning his new trees.

Colombo's high degree of frustration boils over as he talks.



Natural regrowth in May 2012 near the ignition point of the Angora Fire.

“I’ve spent \$45,000 of my own money for landscaping. Now we need a hydrologist out here. I don’t have the money for a professional landscaper, so we’re doing it ourselves. It seems nobody wants to address the water problem.

“The conundrum is now it’s really windy because there are no trees. When it’s hot, it’s barren, but in the winter, during rain and snow storms it floods. The water doesn’t sink into the ground.”

Enter John Fellowes, the owner of Aspen Hollow Landscape Nursery, who concurs. Yes, there is a high water table in some of the area where the Angora Fire burned. And, yes, now it’s windy and presents somewhat of a barren landscape.

“Myself and a few others have pointed out that this area is full of water. It sits on a glacial moraine – Angora Ridge. Springs come out of the mountain from the glaciers. The reason it never showed up in the past is because the lodge pole pine was as thick as hair on a dog’s back. There was a mix of about 80 percent lodge pole, with the rest being pine and a mix of incense cedar, white fir and Jeffery pine.”

Fellowes said he has concluded that in year's past there were aspens and willows in the area, but over the years pines, the tree of choice by homeowners, have slowly replaced them. He said before the fire, these thick stands of pines made good use of the water coming out of the mountain, mitigating the high water problem.

Now that they're gone, the water is back, playing havoc with some of the new gardens and especially the trees, although high water doesn't seem to be a universal problem throughout the entire subdivision.

"My theory," Fellowes said, "is the whole site, except for a few areas, should be replanted in a more riparian fashion. If willow and aspen had been planted [directly after the fire], they would have gotten started, made habitat and screens for people's houses. Then, at a certain rate, the evergreens would have come back naturally.

"Unfortunately, the Forest Service planted most of what had already burned, probably conifers. If they're dry, they won't grow and if they're wet, they get root rot and die. In the Gondola Fire (near Heavenly), they did the exact same thing and had 100 percent mortality – there was no resource to hand water [the new trees]."

Fellowes said he believes aspen and willows should have been planted where the natural water sites are, instead of the evergreens. He added that the Forest Service is now looking at using other species of trees.

Another problem at the Angora site is a lack of good fill dirt in which to grow healthy plants. To rid the area of hazardous material caused by the fire, nearly everything natural was removed from the burn sites.

"The contractors dug too deep and too wide. They were overly zealous. They took at least 50 percent of the topsoil and in many cases, 100 percent. Our problem is that fill dirt and



good soil needs to be brought in; however, TRPA frowns on that.

“You couldn’t mimic an old natural site if you wanted to. Natural things like bitterbrush, manzanita and white thorn aren’t what people want. They don’t appreciate that they’re evergreen. You need everything to grow in the forest so you can trap the matter and assist the tree seedlings to grow.

“It’s extremely difficult to grow things now and I’m proud of the people who’ve persevered. Some have become apathetic and some have moved away. Some have been able to pull it off.”

Unlike Colombo, Lisa and Joe McAvoy were able to secure professional help to assist them with their landscaping issues. Fellowes was their man.

The McAvoy's spent untold hours rebuilding their home, although not on their original lot. The result is an attractive craftsman style bungalow built and designed by them with a little help from their friends. But as the McAvoy's said, the sweat equity was worth it; they knew what they were getting and got exactly what they wanted.

Yes, there is a high water table now, Joe McAvoy said, adding that before the fire, high water wasn't what he worried about. But in order to alleviate the problem, they innovated as they went along.

“We have a dry creek bed that diverts a lot of water from our house,” he said. “We poured a curb around the foundation to divert water and waterproofed the foundation. We also have French drains.”

With Fellowes’ assistance, they augmented their soil and because of the steep street in front of their home, did a lot of water channeling. “We knew it was going to be a moonscape, so we worked hard to make it beautiful.”

So beautiful in fact, that the McAvoy's home will be featured on the Lake Tahoe Historical Society's annual garden tour to commemorate the fifth anniversary of the Angora Fire. The tour is July 29.

---

## **STPUD tested as it keeps water flowing during fire**

**By Dennis Cocking**

The South Tahoe Public Utility District was formed in 1950 to provide wastewater collection and treatment for the then very small community of South Lake Tahoe. Drinking water in South Tahoe's early years was supplied by private domestic wells or from small privately owned water companies. Well more than two dozen private companies existed on the South Shore in the 1960s and three of them still exist today.



Angora Fire --  
5 years later

With the passage of the Safe Drinking Water Act of 1974, many of these privately owned systems realized the cost and

difficulty meeting the act's requirements and sought to sell their companies to the district. Since joint water and wastewater agencies are commonplace in California, the district was the likely entity to purchase these smaller systems. Slowly these small systems were cobbled together into the system the district operates today.

Unfortunately, little thought was given to adequate water flows for firefighting since many of the systems were built with surplus 2-inch galvanized steel pipe available in large quantities after World War II. The flows provided by these systems were adequate for domestic use, but woefully inadequate for structure or wildland fires.

Fast forward to Oct. 19, 1991, in the Oakland Hills. An incompletely extinguished grass fire explodes in a three-day fire storm that ultimately consumed 1,520 acres, 3,354 single family dwellings, 437 condos or apartments, injured 150, and killed 25 individuals. Economic damages were estimated in excess of \$1.5 billion. Water agencies across the state and beyond had a wake-up call and realized they could be in a similar situation with regards to fire flows.

While fire flows are not mandated by law, in early 1992 the district's board of directors proposed an aggressive water infrastructure replacement program to increase the firefighting capability of the systems that it had inherited as a matter of sound public policy. Public meetings were held, public support obtained, and the district embarked on a system-wide replacement of undersized waterlines, installation of fire hydrants, construction of new larger water storage tanks, construction of booster pump stations, and auxiliary power generation capability projects that continues to this day. While the district's Engineering Department estimates at least an additional decade to complete this undertaking, the district is light years from where it was in the early 1990s.



South Tahoe PUD crews on June 25, 2007, check on the Boulder Mountain water storage tank. Photos/STPUD

The experience the district gained during the Angora Fire has shaped future water supply projects, operational procedures, and long-range planning as it pertains to water supply. The district, like the vast majority of South Tahoe residents, had never experienced a wildfire of this magnitude and maintaining fire flows became priority No. 1. The Angora Fire, generally regarded as the worst fire experienced within the Lake Tahoe Basin in well over a century, tested the water distribution system as well as the dedicated employees who maintain and operate it. District employees literally were in the middle of the firefight trying to make sure water tanks and fire pumps continued to work and supply water to the fire crews. By the luck of the draw, in the decade prior to the fire, more than \$18 million of district customer funds were spent on water supply infrastructure improvements in the Angora area including, most significantly, the auxiliary fire pump station located at Lake Tahoe Boulevard and Boulder Mountain Road. This critical pump station, which has emergency power generating capability, continued to operate despite the almost immediate loss of power due to the fire. Had this significant investment in upgraded infrastructure not been made, it is likely the fire could have been far worse than it was.

During the 24-hour period from the start of the fire on June

24, 2007, until June 25, the district produced 17.6 million gallons of water. Average water production at that time of the year is about 10 MGD. From June 24 through June 30 the district produced a record 89.91 million gallons of water. Even with that volume of production on June 24 the pumps continued to run at full capacity just to maintain demand levels. Early on the morning of June 25, district crews, following firefighters' observations, discovered the reason that the pumps could not keep up with demand was that each home that was destroyed was an active three-quarter inch (the most common residential connection size) water leak. Multiply that by 254 and it becomes very significant. District crews immediately began to shut off water services that could be quickly located and crimp off those that could not be readily located.



The fire nearly consumed the STPUD pump and control building at Boulder Mountain.

Within hours, water storage tank levels and water pressures began to rise to more normal parameters. USFS Angora Fire Incident Commander Rich Hawkins stated at a fire status briefing that it was highly unusual, at a fire of this size, to *not* completely run out of water at some point. He noted that the district was able to keep firefighters in water,

albeit some low pressures at times, for the duration of the fire. When the fire threatened to move behind Gardner Mountain and jump Highway 89, it was a challenge to access our facilities as residents attempted to evacuate their homes. Nevertheless, once the fire was fully contained, demands on the water distribution system returned to normal.

In the wake of the Angora Fire, California Gov. Arnold Schwarzenegger and Nevada Gov. Jim Gibbons commissioned the Blue Ribbon Fire Commission. One of the commission's recommendations was greater funding support by federal and state agencies for improved water infrastructure for firefighting in the Lake Tahoe Basin. In 2009, the district acted as lead agency to form the Lake Tahoe Community Fire Protection Partnership. The partnership is comprised of the public water agencies in the Lake Tahoe Basin, both in California and Nevada. The mission of the partnership is to seek federal funding to replace undersized and inadequate water supply infrastructure in the Tahoe basin. Since 2009, the partnership, in concert with the U.S. Forest Service, has secured \$12 million in federal funding. Matched 50-50 with local funding, nearly \$24 million in critical water supply projects all with a nexus to fire protection, have been completed. Lake Tahoe is a safer place as a result of the success of this local-federal partnership.



District crews crimp water supply lines in the burn area.

## **Operational-planning lessons learned:**

- Waterline replacement projects took on a higher priority in overall Capital Improvement Plan
- Increased emphasis on water distribution and redundancy of the water system
- Increased water production capacity became a higher priority
- Order of projects were changed in the CIP
- Viewed distribution vulnerability more critically
- Added water storage projects and increased sizing of water storage projects
- Moved to install fire hydrants at 500 foot intervals on all lines 6 inches or larger
- Re-evaluated and reprioritized waterline replacement projects
- Determined in future emergencies to insert district staff into incident command structure earlier

While no water agency wants to have their emergency management plan challenged in the real world, the district has taken the opportunity to learn from the events of the Angora Fire and made planning and operational changes that reflect the lessons learned.

*Dennis Cocking is the public information officer for South Tahoe Public Utility District.*

---

# University study delves into specifics of Angora Fire

By Susan Wood

A first-of-its-kind study examining behavior and protocol surrounding a major wildland blaze features Lake Tahoe's most significant – the Angora Fire of 2007, which consumed 254 homes, forced the evacuation of more than 3,000 residents and caused about \$160 million in damage over nine days starting June 24.



Angora Fire --  
5 years later

As the five-year anniversary approaches, South Shore residents will be asked in a 30-minute phone survey their views of how well the community responded to and coped with the disaster. This is for the University of Colorado study that is funded by the National Science Foundation. The research also examines the Lake Arrowhead area, which endured its own large fire disaster in 2007. Both regions are considered rural, remote and tourism-based economies.

“What we were looking for were two rural communities that had a significant event and comparable character,” study analyst Jeannette Sutton, who works in the Colorado Springs-based university’s Trauma, Health and Hazards Center, told *Lake Tahoe News*.



Sutton spearheaded the research, which last year wrapped up its participant questionnaire of which this reporter took part in. The Q&A brought the study group to South Lake Tahoe where selected participants within categories from public safety and mental health to media and leadership were asked about the effectiveness of fire prevention efforts before the major blaze and how well the town recovered. The research also evaluated a predominant theme: whether information dissemination was adequate enough.

“Information online was a really big question,” Sutton told *Lake Tahoe News* in a recent phone interview. “Then, we had to look at how people could get information if they can’t access the Internet.”

While the Angora Fire peaked that Sunday, the research discovered citizens failed to get emergency broadcast updates, and no local radio stations covered the disaster. In addition, perceptions were expressed by people in the two study areas who believed print newspapers “lacked significant online presence, real time information” and concentrated more on “human interest stories”.

At the time of the Lake Tahoe disaster, the Sierra Nevada Media Group of which the *Tahoe Daily Tribune* is a part of tried to keep up online with pertinent, real-time updates but split its time on its print versions. (*Lake Tahoe News* did not exist in 2007.) There were times when citizens voiced concerns of feeling lost. At the outset, even initial phone calls channeled to the California Highway Patrol Truckee dispatch center within minutes of seeing the huge plume of smoke were met with pessimism over whether the wildfire sparked by an illegal campfire near Seneca Pond along the North Upper Truckee Road was actually a control burn.

Since then, local leaders and public safety officials have agreed systems need to be put into place to prevent the lack of real-time information from not reaching citizens from

happening again. At least South Lake Tahoe city police dispatch was on top of the catastrophe with all hands on deck and longtime dispatch supervisor Leona Allen demonstrating grace under pressure while her home burned.



A university study is looking into various aspects of Angora, including response time. Photos/Lake Valley Fire

Stories abound of how citizens and their leaders coped with the stress and angst of such a disaster, and the study served to examine that.

As the city put up a command center at Lake Tahoe Airport in council chambers, an evacuation center was set up at the city Parks and Recreation building. Within days, town hall meetings were scheduled at the South Tahoe Middle School. Lake Tahoe Community College posted a list of houses that had burned, partially or completely. LTCC also collaborated with the American Red Cross on recovery efforts. A communitywide fund to aid in the recovery was established, and fundraisers with donation centers were organized for those in need.

Help was there, but this was no easy time for the community.

“We were looking at different themes in both areas and will survey the two communities to see the contrasting of how the

community adapted,” said Jessica Lambert, who created the study as part of her post-doctoral work at the Colorado university.

Another theme presented itself in the research. For both lake areas, factors influenced the magnitude of the fires. Lake Arrowhead had a massive bark beetle infestation in 2007. The South Lake Tahoe area endured “restrictive environmental policies aimed at protecting natural resources,” the study’s summary concluded.

For that, a bistate Blue Ribbon Commission was formed to evaluate such policies with then Republican Govs. Arnold Schwarzenegger of California and Jim Gibbons of Nevada overseeing the effort.

Years later, the U.S. Forest Service has worked with local fire agencies and councils to conduct fuel reduction projects. Shortly after the Angora Fire started, “slash piles” – the buildup of brush and ladder fuels to be set in control burns – became the enemy of the community vernacular as citizens complained they contributed to increasing the wildland blaze.



Residents of Lake Tahoe will be part of a study about wildfires.

Resilience stood out in the research as the psychology of dealing with a disaster also concluded the two communities’

citizenry accepts catastrophe as part of its life for “hearty mountain folk” who “choose to live remotely, while connected to the land, trees and mountains.” Those interviewed painted a picture of resiliency; as even “strong fluctuations in (a) tourism economy requires a resolve to remain (here) during difficult periods.”

When the study is complete, which will be after the citizen surveys are taken, the document is intended to serve as a model for other fire-prone communities of how to prevent a wildfire, but also how to respond when it does happen.

According to Lambert, “The goal is to learn more about factors that contribute to resilience in rural communities that face disasters. I think the hope is that findings could be used to inform policy.”

---

## Snippets about Angora



- Tucked off on the right side of Lake Tahoe Boulevard near Angora Creek just before Dead Man’s Curve is a labyrinth on a parcel that backs to the burn area that was created by Jay Newburgh.
- When deciding what clothes to evacuate with, take your dirty laundry – those are the clothes you wear most often.
- Emergency Preparedness Guide helps people think about what to do before a tragedy strikes.
- The Community Disaster Resource Center that was established

during the Angora Fire is still alive as a nonprofit in case another disaster on the South Shore occurs.

- During the Angora Fire more than 5,000 meals were cooked in the St. Theresa kitchen. Breakfast, lunch and dinner were available to anyone needing nourishment.