

DIXIE COMES TO LAKE ALMANOR

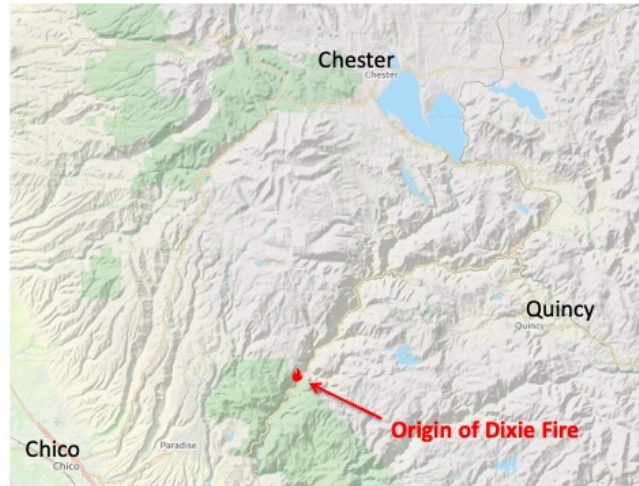


July – October 2021

Edited by Dale Knutsen

This presentation discusses the events surrounding the August 2021 attack on Lake Almanor West by the giant Dixie Fire. It is not a comprehensive look at the overall fire, but instead is narrowly focused on the nearby area during a several day period that was the most dangerous to the community. The facts are drawn from official sources but the opinions and observations expressed in this material are those of the author and may not necessarily represent the official views of the West Almanor Community Club or the West Shore Fire Department.

It Started as Such a Small Thing

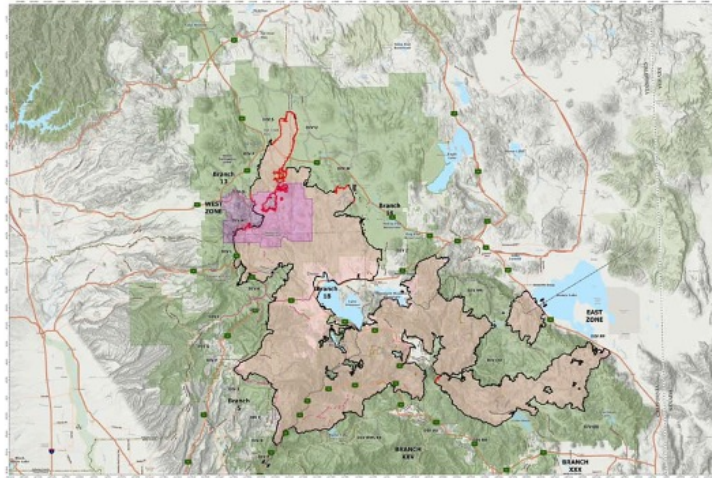


A tree contacted a PG&E power line near the Cresta powerhouse.

. The Dixie Fire began on July 13, 2021 in the Feather River Canyon, near the Cresta powerhouse, not far from Highway 70. While the investigation is still ongoing at the time of this writing, the fire was allegedly started when a tree made contact with a PG&E powerline. For at least the first few hours the fire was quite small.

And Grew Into a Monster

The largest single fire in California history



Unfortunately, the extremely dry vegetation in northern California created a dangerous situation. When coupled with prevailing winds out of the southwest, the Dixie Fire grew rapidly. In the end, 3 months later, Dixie had grown to a bit more than 963,000 acres in size (1505 square miles), which makes it the largest SINGLE fire in California history. (A larger burn area, some 1,033,000 acres, is attributed to the August Complex Fire, a combination of several fires that grew together in 2020.)

Large Nearby Fires

- 2000 - Storrie Fire (55,000 acres)
- 2007 - Moonlight Fire (65,000 acres)
- 2008 - Cub / Onion Fires (20,000 acres)
- 2012 - Chips Fire (75,000 acres)
- 2018 - Camp Fire (153,000 acres)
- 2019 - Walker Fire (55,000 acres)
- 2020 - North Complex Fire (319,000 acres)
- 2021 - Beckwourth Complex (106,000 acres)
- 2021 - Dixie Fire (more than 963,000 acres)

A quick glance at nearby fires over the past 21 years shows some troubling trends. Of the nine fires listed, five were within the past four years, as were the largest. The west shore area of Lake Almanor was directly threatened by three of the fires: (1) the Storrie Fire in 2000, (2) the Chips Fire in 2012 and (3) the Dixie Fire in 2021. Fortunately, only one of those fires, Dixie, actually reached Lake Almanor West.

A West Shore Timeline

- July 13 ... fire starts in the canyon 27 miles away
- July 19 ... fire within 13 miles of west shore
- July 21 ... 1st mandatory evacuation ordered
- July 31 ... 1st order reduced to warning
- **Aug. 3** ... 2nd mandatory evacuation ordered; fire pushes to the L.A.W. boat ramp
- **Aug. 5** ... fire rushes into Lake Almanor West
- Aug. 18 ... evacuation order reduced to warning
- Aug. 24 ... evacuation warning lifted
- Oct. 26 ... Dixie Fire fully contained

Some of the key dates of interest to the west shore are listed here. It only took 8 days for the fire to reach the west shore of Butt Lake, triggering a mandatory evacuation order on July 21. That order was reduced to a warning when it appeared that the defenses were holding, but with the onset of winds the fire broke through, causing the second mandatory evacuation. Shortly thereafter fire directly attacked Lake Almanor West.

Some Local Impacts

- Thousands of people displaced (5 counties)
 - Mandatory evacuations of west shore, Chester, peninsula, and more
- Two west shore power outages (7+ days total)
- Stores, hospital and highways closed
- No mail, landline phone, trash pickup, etc.
- Terrible air quality (AQI > 800)

Dixie's impact was serious and widespread. Eventually the entire basin was evacuated and other Plumas County communities were devastated. Locally there were extended power outages, road closures, and loss of landline phone service. Local stores and Seneca hospital were closed, there was no mail, no trash pickup or propane delivery service and the persistent, heavy smoke created an unhealthy environment.

How Bad Was the Air?



Reduced visibility prevented
air tankers from operating

Half the days of August were at
"Hazardous" AQI levels (>300)



The left photo is from the L.A.W. boat ramp looking towards the trees on the shoreline; this was a fairly typical August day with about quarter mile visibility. The right photo is an extreme day where you could not see more than about 100 feet. The measured air quality index in Chester was often in the hazardous range. Air tankers could not safely operate in such conditions.

Airborne Ash & Embers Arrived Early



These examples arrived well before the fire front

Local vegetation was VERY dry and vulnerable to ember attack



Ash and embers arrived well before the fire, lifted aloft by intense heat and carried forward by the prevailing winds. Most of the material was quite small but there were some notable exceptions like the example on the right. It is a piece of charred pine bark that was dropped in the development when the fire was still several miles away.

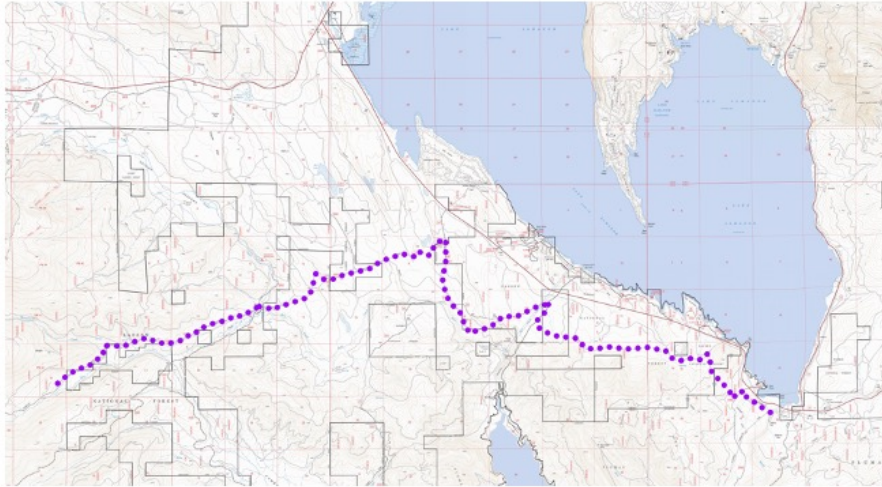
Neighborhood Conditions

- 21 years of fire safety activity
 - Almanor Basin Fire Safe Council (2000 – 2011)
 - Firewise Community (2009 – present)
 - Substantial vegetation thinning & cleanup
- On-site fire station and firefighters
- Capable hydrant system
- Larger than average structure setbacks

Two decades of community fire prevention cleanup paid off when Dixie came calling. The visiting strike teams frequently commented favorably on what they observed here, especially in comparison with other rural locations. Our on-site fire team was another plus, along with a capable water hydrant system

Defensive Backfiring

Began in late July, well ahead of the fire front



CalFire organized a major backfiring operation ahead of the main fire in an attempt to create a defensive line short of Hwy 89. This began in the vicinity of the dam, followed dirt roads along the west shore, and then turned west along Humboldt Road, continuing past Fanani Meadow and on towards Ruffa Ranch. Dozer lines were added as well.

27 July Situation



By late July the backfiring had indeed created a fuel-free line to our west as the fire approached. In some areas the line was thin but other parts were reasonably wide.

An Overview of Fire Movement

- The next several charts are excerpts from the official fire perimeter maps showing the local progression of the fire each morning during the critical period from August 2 through August 6
- The maps are sequenced 24 hours apart

Official fire perimeter maps are next used to focus on the movement of the fire during the most critical early August period. Each map was prepared in the very early morning hours of the indicated date, and basically show the condition that developed during the previous day. Remember that these maps illustrate the conditions just 24 hours apart.

August 2 (AM) Backfiring and dozer lines contain the fire



On the morning of Monday, August 2, all the defensive work done ahead of the fire seemed to be holding steady. Black "containment" line was indicated on the perimeter map, a very good sign. The previous mandatory evacuation order had been reduced to a warning a couple of days before. The general mood was cautiously hopeful, and the community was well prepared for an understory fire.

August 3 (AM)

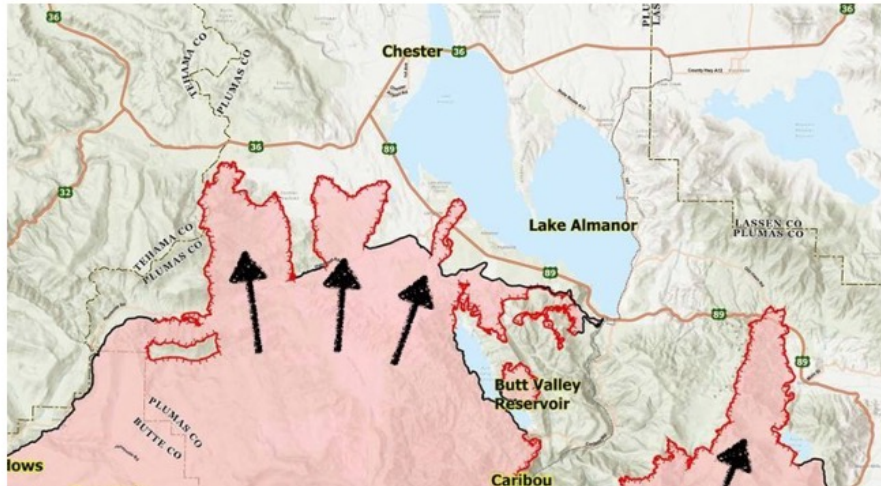
Winds have started to push the fire across containment lines



Unfortunately, we started feeling the effects of winds out of the south. Early on August 3rd there were some breakouts as fire crossed the defensive lines. The black arrows indicate where serious problems were developing. Then, late in the day there was a narrow but concentrated run that headed for the L.A.W. boat launch and eastern Osprey Loop.

August 4 (AM)

The results of the Aug. 3 breakouts



The initial results of those breakouts are clearly indicated here. Large excursions to the west, the narrow run on Lake Almanor West in the center, and the major flanking of Greenville on the east. Locally, CalFire dozers and crews worked hard to open up some protective space along our southern boundary where the overgrown National Forest had burned.

August 5 (AM)

Fire overruns Greenville, flanks Chester



The early morning situation on Thursday, August 5, was dire. Greenville had been overrun and fire had reached the south and west sides of Chester. Winds continued to bedevil the firefighters and by mid day there was a major fight at Lake Almanor West as stiff winds from the west blew a true crown fire into the development. We were well prepared for an understory fire, but what we got was a much more dangerous crown fire.

August 6 (AM)

Results of the Aug. 5 firestorm
Canyon Dam overrun, L.A.W. and Chester encircled



By early August 6 the local map looked ominous. Canyon Dam had been overrun, Chester was mostly encircled and Lake Almanor West was cut off. However, what could not be depicted on maps or long-distance camera views was the tenacity of the firefighters who were doing battle with the blaze.

Lake Almanor West Battle on Aug. 5



Wind-driven attack from the west, sending crown fire into and around Lake Almanor West

This photographic view of Lake Almanor West overlays infrared camera information to show the general impact of the two attacks on the development. In the upper right is the area that burned during the early evening of August 3. The remainder of the red area is the burn zone from the August 5 major fire (the crown fire that came from the west).

Who Fought the Fire Here?

- **Small group of local firefighters stayed**
 - Formed a local task force under CalFire
 - West Shore, Chester & Peninsula firefighters
 - Mobilized from 20 July - 21 August (32 days)
- **Large numbers of visiting strike teams**
 - Hundreds of firefighters from across the state
- **Limited air support due to poor visibility**
 - A vital asset during the Aug. 5 fight

The people who battled Dixie at Lake Almanor West were a composite force of visiting strike teams and a local group of volunteers. The strike teams came from all over the state and more than a hundred firefighters were assigned to this area on each of those critical days. The volunteers from the West Shore Fire Department had been mobilized to provide critical local knowledge to the visiting teams and protect the water delivery infrastructure. They ended up doing more than that, but at the outset of their 32 days of continuous duty, they had a clear mission objective. Generally missing was air support, thanks to the very smoky skies, but there was a several hour opening on August 5 that allowed a pair of heavy lift helicopters to make some very critical water drops during that awful fight.

The Aug. 5 View Across Goose Bay

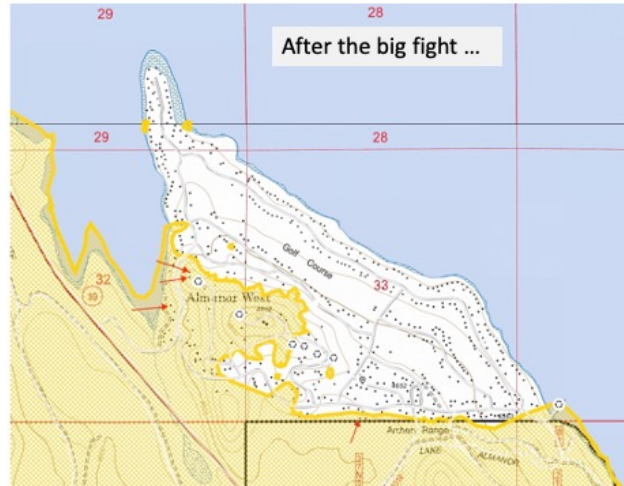
Looking west at the crown fire just before the wind arrived



Crews from El Dorado County chased spot fires and engaged in structure defense when the fire front beared down on the community of Lake Almanor West. Photo courtesy of El Dorado County Fire Protection District

This photo was taken by one of the visiting strike teams as they awaited the arrival of flames. The view is from the private road on the east side of Goose Bay, looking west across the dry marshy area towards the highway. The trees that are aflame are those between Goose Bay and the entrance road. This snapshot was taken just before the heavy winds arrived, sending a fiery blast across 200 yards of open space into the development. Flames rapidly spread up the slope.

Extent of the L.A.W. Burn Zone



Yellow is the burn zone. Red arrows indicate destroyed structures.

When the situation had stabilized we had lost three homes and one detached garage. Everything within the yellow area is within the burn zone. That zone includes roughly 25% of the land area of Lake Almanor West, about 70 residential parcels and about 39 residential structures. It was only the presence of large numbers of firefighters and their application of large quantities of water that prevented further losses.

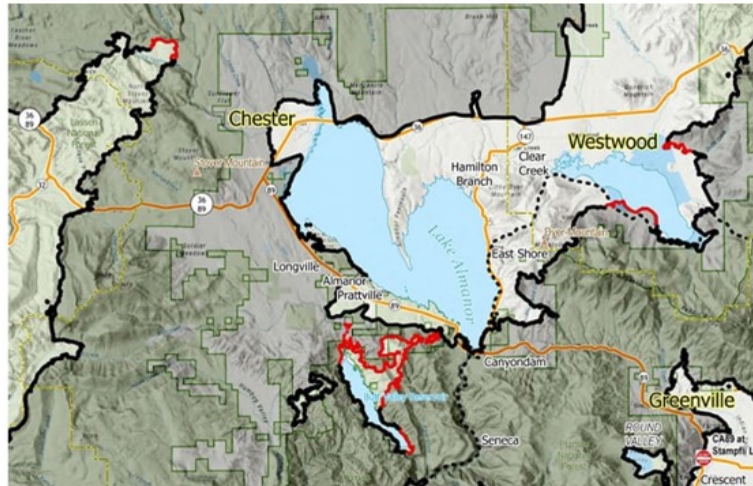
After the Main Attack

- The fight definitely was NOT over
 - New spot fires appeared
 - Due to ember drift, receptive fuels
 - Flareups continued daily within the burn zone
 - Some were very stubborn
 - 24 hour patrols needed for at least 10 days
 - Visiting strike teams generally had the night shift

While the worst of the fight was over by the morning of August 6, Dixie was still a serious problem at Lake Almanor West. There were still numerous flareups and spot fires to deal with, as many as two dozen or more a day initially. The local volunteers and visiting strike teams were doing continuous patrols for many days and nights to come, lest one of these flareups reignite a larger area.

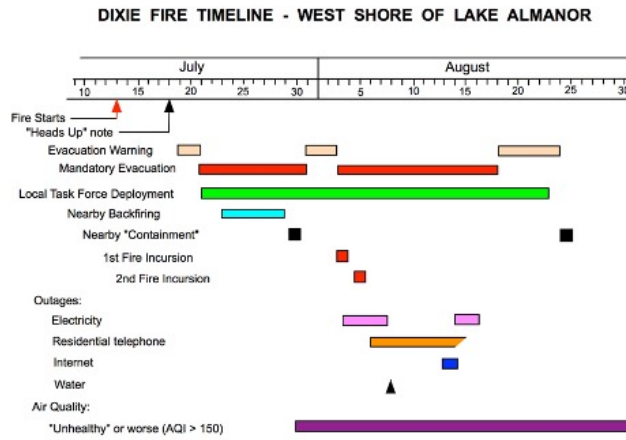
The Final Nearby Perimeter

Early September Local Containment Lines



When Dixie was finally done with the Lake Almanor basin the perimeter map looked like this. The backfire line to our south had held, protecting Prattville, Almanor and Big Meadows. Chester was largely encircled but backfiring and heavy firefighting efforts kept the fire north of Hwy 36 and the peninsula. Clear Creek and Westwood had been spared, but Canyon Dam and Greenville were lost.

The Composite Timeline



Many things were happening simultaneously during the fire. This timeline attempts to illustrate some of the major elements from mid July through the end of August. It shows, for example, that the presumed containment in late July led to the reduction of the first mandatory evacuation to a warning, only to be reversed shortly thereafter when the winds caused the fire to jump the lines.

Some Homeowner Lessons Learned

- Pre-planning and preparation are essential
 - Evacuation checklist, departure plan, inventory
 - Cleaned up yard
 - Combustible outdoor items relocated
 - Ladder and hoses deployed
- Automatic start/stop generators do help
 - Kept refrigerators/freezers going during outages
 - Need adequate fuel and engine oil supplies

Some important homeowner lessons were underscored by Dixie, starting with the Firewise recommendations that have been provided repeatedly. Keeping the parcel cleaned up and being prepared for a potential evacuation are truly important. When fire is approaching, it is also important to get combustible items off the deck and away from the structure. Whole-house generators proved their value as well, as long as they had sufficient fuel and motor oil.

Concerns Noted by Firefighters

- ★ Firewood stacked too close to structures
- ★ Combustible materials on decks, against walls
- ★ Needles on roofs, in gutters, against walls
- ★ Fire-prone vegetation in landscaping
 - Junipers, manzanita
- Wooden fences attached to structures
- Open windows, doors

In spite of the generally tidy condition of the development, the firefighters did comment on some concerns, starting with many cases where firewood was stacked next to structures. Exposed firewood seems to attract embers, and once lit the stack becomes a significant fire. The presence of combustible items or needles on or immediately adjacent to structures is another serious matter when fire approaches. Likewise, highly flammable juniper bushes and manzanita should never be close to structures.

Concerns, continued

- Hard to find or read house numbers
 - Rear house numbers would also help
- Wooden decks, especially on slopes
- House water turned off
- Garden hoses with major leaks
- Trees that weren't limbed up
- Overgrown landscaping vegetation

Now the Recovery Phase

- Hazard tree removals along roads
- HazMat removal from destroyed structures
- Dead tree removal within the development
- Collins salvage logging
- Cleanup along southern boundary area?
 - Likely emergence of brush in the spring

At the time of this writing (November 2021) we are seeing considerable efforts ongoing to remove hazard trees from alongside highways, roads and streets. Hazardous materials are being removed from the site of burned structures. Still to come will be the removal of dead trees from impacted parcels; this will likely take a little longer to accomplish. In the mean time, Collins Pine (and Sierra Pacific) have begun salvage logging on private timberlands. Cleanup on adjacent Lassen National Forest is still to be determined

Our Personal Response

- **#1 - Don't get complacent!**
 - Fires do return to burned areas
 - Brush and dead & down trees burn vigorously
- **Take action to harden your home to fire**
 - Reduce and separate vegetation
 - Move firewood, tidy up the yard, etc.
- **Review your own evacuation list and plan**
 - What would you do differently?
- **Review/update your household inventory**

As individual property owners, we need to avoid the temptation to think that everything is fire safe after a major fire such as Dixie. There is a short period where that is largely true, but blackened trees and emerging brush will become a receptive fuel bed for a future fire if nothing is done to mitigate the situation. The near-term is a good time to take stock of our personal situation and take action to make improvements. Reflect on your own experiences during Dixie and update your preparations accordingly. And if you don't have a household inventory already, do a photo inventory using a digital camera; place those photos on a thumb drive and store the thumb drive in your safe deposit box at the bank (not in your home).

And Especially ...
Thank You, Firefighters !

- To the many visiting strike teams
- To the West Shore team:

Fire Chief Randy Fluke

Mark Murray

Dick Horn

Rich Hawkins

Dale Bornhorst

Georgia Knutsen

Tim Grewis

Gordon Ginno

Ken Wilson

Rick Young

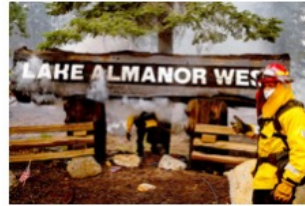
John Fourcroy

Troy Ward

Jim Pope

Chris Young

Matt Cardinet



We have so very much to be thankful for here at Lake Almanor West. There were no deaths, no injuries, no crises during evacuation and mercifully few losses. The combined force of visiting and local firefighters worked hard on our behalf, in very trying conditions, and deserve our sincere thanks. We currently do not know the identities of the visiting teams, but we do know the handful of local firefighters who volunteered to stay behind and fight ... and here they are.