

Success Story: Ponderosa Fire 9/27/17



Why can this catastrophic wildfire be counted as a success story? Because the community members had created a culture of preparedness through their local Fire Safe Council. Their successes included:

1) Culture of Preparedness

- Community members evacuated without loss of life or injury.
- There was a high degree of cooperation and communication as agencies and the community worked together quickly and effectively.
- The community demonstrated that it had learned to prepare for disaster based on the efforts of the Feather Falls Fire Safe Council and its partners.

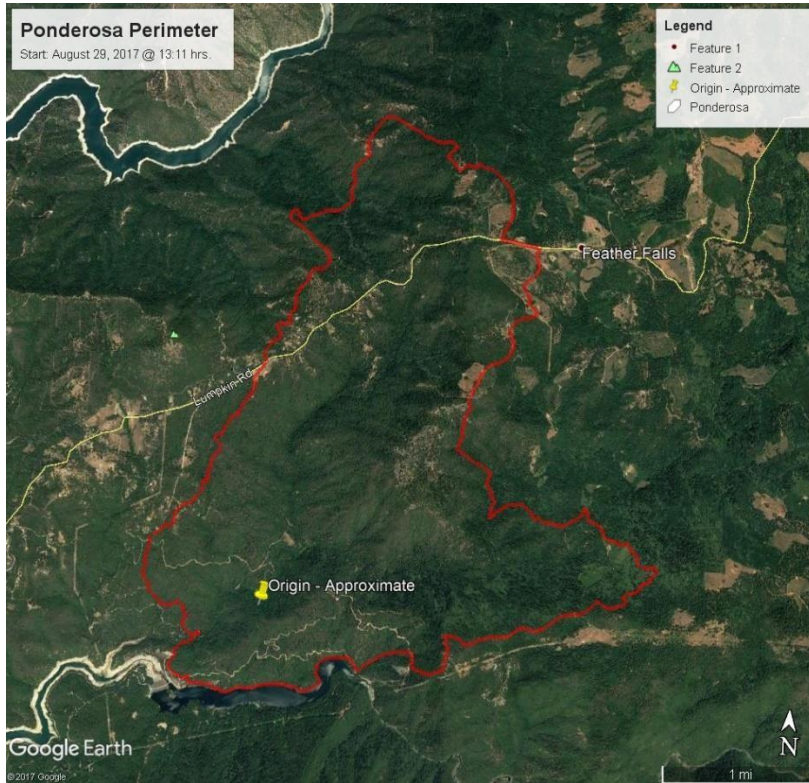
2) Hazardous Fuel Reduction

- The road side shaded fuel break projects accessing the fire were useful for ingress and egress.
- The SLAP JACK hazardous fuels reduction project completed by the USFS was useful in slowing the fire.
- Sierra Pacific Industries (SPI) fuels reduction efforts directly reduced fuel load in the fire footprint. These efforts included removal of bug killed trees, fuels clearance from a power line right of way, and actively managed plantations.
- Residents defensible space was useful in the protection of one home.



Fire Conditions

The fire began along Ponderosa Way, near the rural community of Feather Falls, on August 29th, 2017. The fire was initially spotted by the Pike County Look Out. The fire was declared fully contained on September 9, 2017 and 4,016 acres. During the height of the firefight, over 1,600 firefighters were deployed and there were two reportable injuries. The fire destroyed 55 buildings: 32 homes and 23 other structures



From the hour it began, the Ponderosa Fire was described as “extreme,” “dangerous,” and “a perfect storm.” Several fire behavior factors - topography, fuel conditions and weather - all worked together to create the fire’s critical intensity and rate of spread. During its initial run updrainage, it devastated everything in its path.

The fire’s origin on Ponderosa Way was near Ponderosa Reservoir, at the bottom of a long, steep drainage known as the Sucker Run creek. Fuel conditions in this area are comprised predominantly of old growth brush, manzanita which transitions soon to timber, some of which has bug kill from the recent drought. The last known fire history for this area occurred on a nearly 800-acre fire in 1949.

In addition to the topography and fuels, the weather was hot (106 degrees) and dry with an unstable air mass over the region that contributed vertical loft and combined with the convection column created a tremendous pyro-cumulus cloud.



Photo by Judy Bellamy

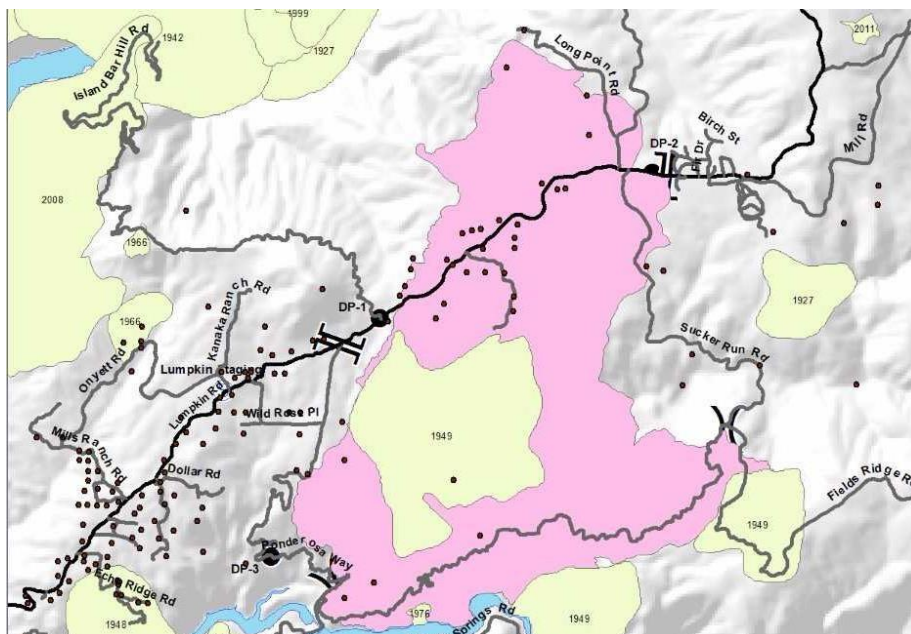
From its origin at about 1000', the fire raced updrainage to the historic Town of Feather Falls, gaining 2000' of elevation - and covering a distance of about 2.5 miles - in approximately one hour. For reference, the 2003 Cedar Fire (San Diego Co.), California's largest and most destructive fire to date, burned 30 miles in the first 15 hours, an average of 2 mph.

Most of the Ponderosa fire's destruction occurred in the initial hour of the fire, including the loss of most of the 32 structures. At this point, the fire was about half a mile wide. The fire devastated everything in its path.



Community Background

Feather Falls was once a prosperous logging village. Today, it is filled with dense mature brush and mixed conifer forest. The Feather Falls community has an estimated population of 700 residents and 293 residences, located on the Lumpkin Ridge. The number of residences was calculated from county address data, and the population estimated using the average per household for Butte County (2.4 people per household), obtained from the 2010 census. Below is a map showing the address points within the Ponderosa Fire perimeter (pink) and the past fire history (yellow). Note the address points are not an indication of homes destroyed. The footprint of the fire directly impacted about a third of the population.



Community Preparedness and Support

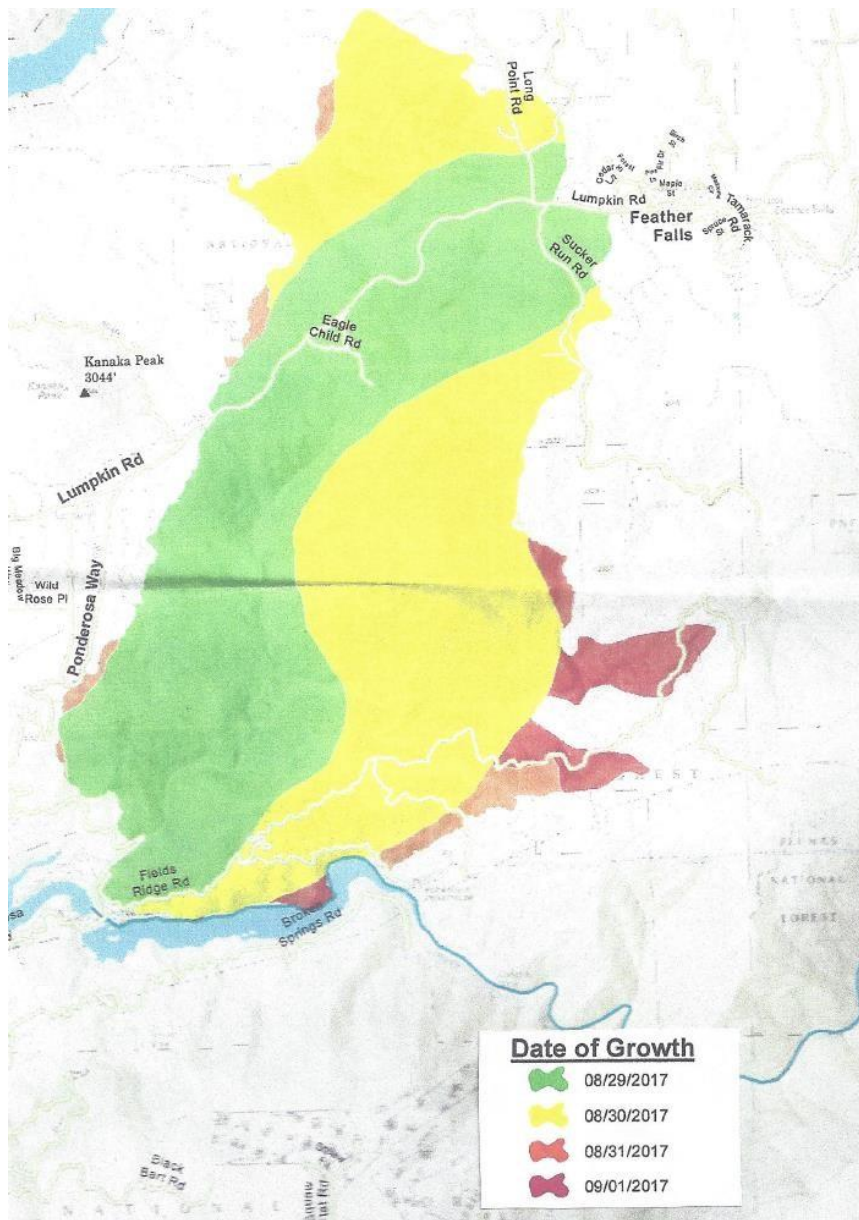
Residents in Feather Falls had been preparing for a wildfire like this for many years. The community formed a Fire Safe Council in April of 2006 and had accomplished several preparedness measures. These included a printed evacuation plan mailed to all residents (in 2010), roadside shaded fuel breaks to assist in evacuation, promotion of defensible space through the Chipper and Residents Assistance Program, and educational outreach through community events. The community undertook a firewise assessment and became a Nationally Recognized Firewise Community in 2015. More information about this can be accessed at Buttefiresafe.net.

Carol Dower, the current Feather Falls Fire Safe Council representative, stated that the training and knowledge she received by attending the Butte County FSC's meetings for the past decade were critical to her ability to help community members and agencies navigate the nuances of the fire. "Because of the fire safety knowledge we've gained, we had what it takes to fight a fire as a community," Carol commented.

The Feather Falls Fire Safe Council (FFFSC) was instrumental in assisting with the 2008 wildfire siege which caused a significant impact to the community. The FFFSC provided wildfire updates to residents who had evacuated, plus food for fire fighters stationed at their Grange. Historical fires the community has experienced include the: 1999 South and Union Fires, 2008 Frey Fire (4,000 acres), 2008 Craig Fire (2,001 acres), 2014 Kanaka Fire (burned 3 acres) and 2015 Lumpkin Fire (1,200 acres).



Photo by Paul Burch



This map illustrates the growth of the fire over the first 5 days of activity.

Evacuation

During the fire, the community of Feather Falls was under an evacuation order, while the neighboring communities of Berry Creek, Brush Creek, Mountain House and Forbestown were under an evacuation warning. The fire also resulted in several road closures in the Forbestown and Feather Falls area. Residents in the path of the fire were forced to quickly evacuate with little warning. Many of them had no time to grab personal items. There is only one evacuation route in the community, Lumpkin Road which is a very narrow windy road that climbs the ridge line. The initial wave of

residents evacuating were forced to choose between going north, into an unpopulated forested area, or south, toward resources. They made their choice based on the way the fire was burning toward them. The only public assembly spots in the community are the grange and school. Since the school was under threat of the fire, it wasn't a safe place to stay.

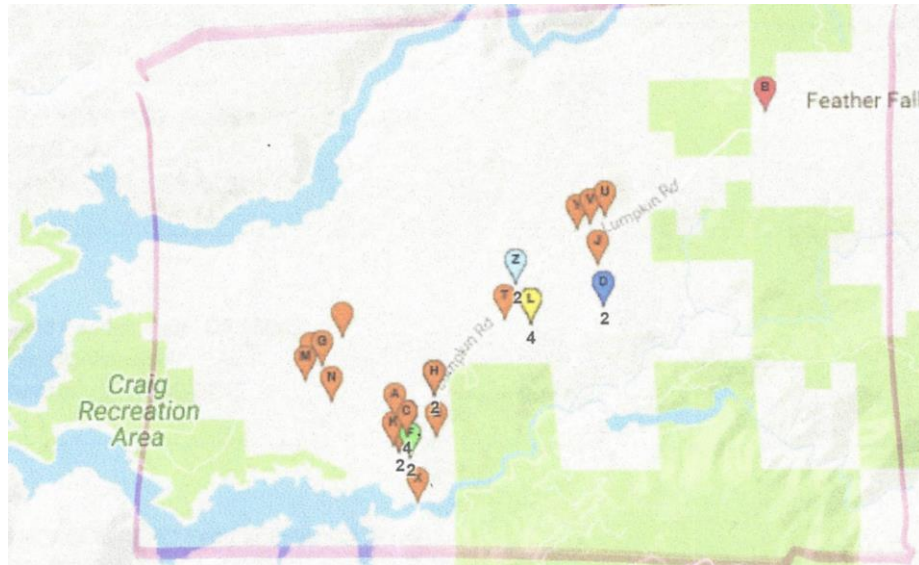
Community members in the evacuation area had been mailed evacuation plans in late June 2017, and the local Mercury Register had published copies of the evacuation plan maps in their publication on August 26, 2017. The community had developed and made available a print copy and online copy of the evacuation plan since 2010.



This image illustrates the Wind Direction, Elevation Change (+ 2000') and Topography aligning to cause "the perfect storm."

Defensible Space

One home survived the fire. It had 100-500 feet of clearance around the structure. Even so, the radiant heat of the fire was so intense that it broke dual pane windows and melted window frames to the point that the sliding windows can no longer be opened. The deck of the home caught on fire several times and was extinguished by firefighters performing structure defense.



This image displays the communities participation in creating defensible space through the Chipper Program from 2013-2016, the majority of participation was outside the fire footprint.



Photo by Paul Burch

The mascot of the fire was Charley, a tame deer who survived the fire. He allowed fire fighters to pet him. Apples, water and alfalfa hay were provided to him.



This photo shows how the fire's intense heat charred trees to their tops. Photo by BCFSC.

Hazardous Fuels Reduction and Forest Health Projects

The wide variety of fuels reduction work in the community was developed through the collaborative CWPP process. Partners in the CWPP have included the USFS, BCFSC, SPI, BLM and PG&E. The intent of the hazardous fuels reduction projects undertaken in Feather Falls was never to stop the head of a major wildfire. Rather, it was to provide fire fighters tools in their fire suppression work: tools like buying time and creating strategic advantages.



Photo of CWPP collaboration SLAP JACK field tour 2010.

Slapjack Fuels Reduction Project

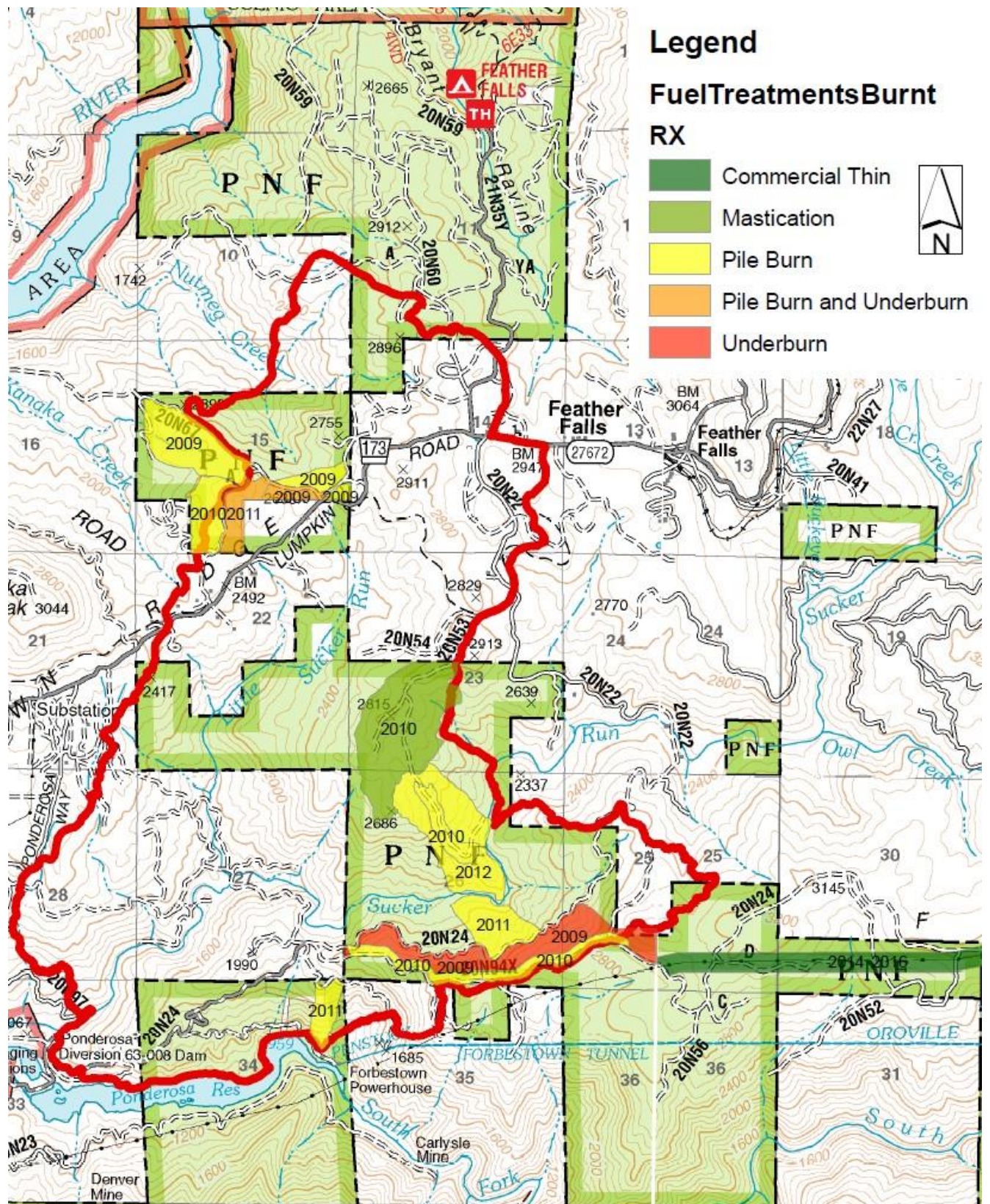
The USDA Forest Service (Plumas National Forest) reduced hazardous fuels on 600 acres in the fire foot print during 2009-2011 as part of the Slapjack fuel reduction project. The project had thinned the forest understory using a variety of techniques, including mastication, hand cut/hand pile, and pile/burn. This was followed up with underburn treatments over a number of parcels. Units within the project boundary were strategically located, such as on ridges and alongside roads, providing fire teams with opportunities to gain control of wildfire.

Fuels reduction areas located near roads helped lower the fire to the ground. In these areas, with the help of air backup in the form of fire retardant drops, crews were able to stop the fire. For example, an area just north of Lumpkin Road had previously been hand-piled and underburned. Although the fire did jump Lumpkin Road in this area, the fuels reduction treatment slowed the fire enough for crews to catch it before it dropped into the Middle Fork drainage and headed to Berry Creek.

Another ridge, this one on the east side of the fire, had been treated in 2010 with a combination of mastication (where accessible) and hand-piling (on the steeper ground). This treated area dropped the fire to the ground. Because of it, bulldozers were able to work on the edge of the mastication unit to put in firelines. The firelines held.



Picture from 9/7/2017 from USFS. In 2010, both sides of the road were hand piled. The left side of the road was underburned in 2011 under the Slapjack Hazardous Fuels Reduction Project. This strategic fuels reduction work, combined with retardant drops, made this a viable location for a control line.





Lumpkin Road near Feather Falls School Photo by SPI

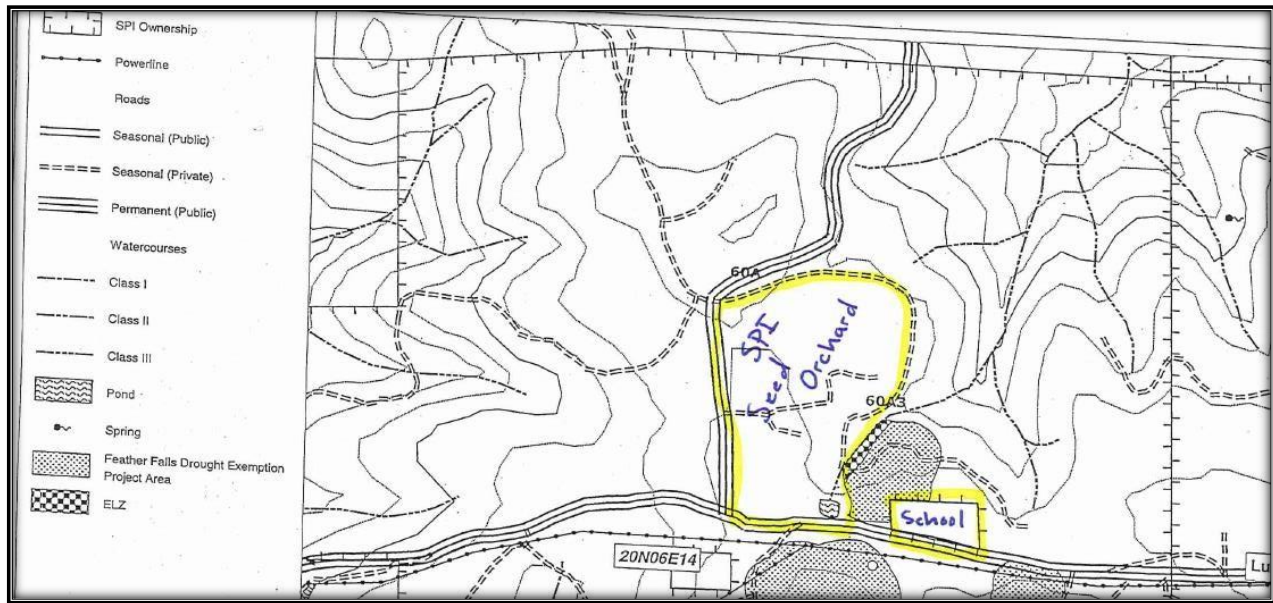
Sierra Pacific Industries – Feather Falls Fuels Reduction

In 2017 Sierra Pacific Industries (SPI) with Pacific Gas and Electricity (PG&E) created a Power Line Right of Way fuel break that begins along Lumpkin Rd. near Bryant Ravine Rd. and extends east and north along the B Line (a.k.a. Lumpkin Rd. north of the community of Feather Falls).

This roadside fuels treatment follows the Lumpkin ridgeline and provides a key fuel break between the south and middle fork of the Feather River. In the case of the Ponderosa fire, the northeast section of the fire ran up to the fuel break along Lumpkin Rd. near Bryant Ravine Rd. The firebreak played a key role in permitting firefighters to safely work and hold the fire south of Lumpkin Rd. This protected the seed tree orchard owned by SPI, as well as the Feather Falls school.

For the past two years, SPI has been removing drought and insect (bug) killed trees. Five Drought Mortality Exemptions (1038 (k)) have been used to cover over 400 acres in the upper northwest portion of the Ponderosa Fire's footprint. This dead fuel removal project also benefited the firefighters.

Over the Past 40 years, active Forest Management has established Plantations in which stocking and brush control are top priorities for the benefit of young healthy trees. Over 400 acres within the Ponderosa Fire were plantations between 5 and 40 years of age. These stands of managed forest, along with the change in topography, contributed to slowing and stopping the fire's movement north.



Road Side Fuels Reduction and Maintenance

A Shaded Fuel Break has been constructed along 8 miles of Lumpkin Road between the Enterprise Boat Launch and Feather Falls School. The community benefited tremendously from the four phases of roadside fuels reduction and treatments provided fire fighters and emergency responders with critical access to the community, and afforded residents safety in evacuation. Work on Phase I began in May of 2007. Phase II was completed in December of 2008 funded by California Department of Forestry and Fire Protection. Phase III was completed in 2012 funded by Sierra Nevada Conservancy, an agency of the State of California. Phase IV was completed with PG&E funding in 2014. A total of 56 acres was treated in the project, with vegetation being hand-cut and chipped up to 200' from the road's edge. Over 50 residents participated in the project. 15 reflective address signs were also installed.

Maintenance of scotch and other invasive broom species through herbicide treatment has been active along Lumpkin Road since 2006 by Butte County Agricultural Department. Maintenance of the project was performed by Butte County Public Works in Phase III of the project with a roadside mowing operation. Although brush species have re-sprouted in the areas where fuel reduction occurred, the road would have been choked with brush and vegetation without those initial project phases. The state grants invested roughly \$250,000 in roadside fuels reduction. Fighting the fire cost several millions of dollars. By shortening the duration of the fire, the roadside fuel breaks likely saved millions more.



Before and After photos from roadside fuels reduction done in 2009. Note the amount of fuel reduced in the circle to the left and the removal and maintenance of invasive broom species in the circle to the right. Photos by BCFSC.



Photo courtesy of CAL FIRE - depicts Global Super Tanker 747

Agency Response

CAL FIRE dispatched a high initial response to the incident that was rapidly augmented with additional air and ground resources; however, despite the aggressive attack the conditions were such that the fire developed in to a major fire and CAL FIRE assigned IMT #2 to the fire. Firefighting resources from multiple agencies were called in from throughout the state to help CAL FIRE, including those ordered through the OES mutual aid process. Through aggressive operations, firefighters could contain key areas of the fire relatively quickly, such as those flanks along Lumpkin Rd. and to the north where the fire had slopped over in to the Middle Fork of the Feather River.

To support the firefight in the Middle Fork, the Global Super Tanker 747 was used marking its first use in the United States on a fire. The Super Tanker had been stationed at the McClellan Air Force Base near Sacramento. It made two drops on the fire on August 30th, dropping 8,500 gallons of fire retardant. The super tanker can drop retardant up to 2 miles long.



Photo courtesy of CAL FIRE - depicts the extreme fire behavior impacting Lumpkin Road

At the height on September 4, 128 fire engines, 1,685 firefighters, 43 fire crews, 12 helicopters, 22 dozers, and 26 water tenders were fighting the fire. Strike teams from throughout Northern California were instrumental in assisting with the effort.

In addition, law enforcement was integrated in the operation to effect evacuations and road closures. The Butte County Sheriff's Office (BCSO), who is responsible for evacuations, led the effort. It was supported by other law enforcement agencies to ensure the public was evacuated where needed. The CHP provided traffic control in the area to ensure the area remained secure during the emergency.



Photo courtesy of CAL FIRE – Chief Darren Read and North Valley Animal Disaster Group

Throughout the fire, the County of Butte maintained the EOC, which coordinated with the Command Post and other agencies to assist in the emergency response and support evacuees as well as to help with county services for those who were impacted by the fire. North Valley Animal Disaster Group was instrumental in helping many animals to safety and caring for animals in place while residents were evacuated.

PG&E had shut power off to the area initially, because the Ponderosa Reservoir electricity facilities run through the area. However, PG&E came in quickly and helped in every way they could to get electricity back to homes remaining in the area.

American Red Cross provided food to the Feather Falls Grange to feed the fire victims for several days.

Feather Falls Grange and the Fire Safe Council provided communication support for community members. The Grange volunteers cooked dinner and breakfast for fire fighters for several days.

Fire Cause

On August 29, California Department of Forestry and Fire Protection law enforcement officers arrested a 29-year-old man, John Ballenger, from Oroville, California, on suspicion of starting the fire.



Future Considerations

Fuels Reduction - The Feather Falls Fire Safe Council has identified two priority work areas in the community for continued fuels reduction. The first is the Craig Access area, which is a combination of private ownership and Department of Water Resource Ownership. The second is along the Bryant Ravine Ridge line, which is under mixed ownership with some USFS and some SPI. The Butte County Community Wildfire Protection Plan Landscape Level Planning process will provide the community an opportunity to do further fuels reduction planning.

Communications – The community would like to see a public phone at the Feather Falls Trail head for emergencies, Internet Service at the Feather Falls Grange, and a Cell phone tower to service the community.

Sources and Credits:

[https://en.wikipedia.org/wiki/Ponderosa_Fire_\(2017\)](https://en.wikipedia.org/wiki/Ponderosa_Fire_(2017))

<https://wdef.com/2017/09/05/worlds-largest-firefighting-aircraft-goes-to-work-in-u-s/>

CALFIRE related information provided by David Hawks, Division Chief

USFS related information provided by Eric Murphy, Supervisory Forester

SPI information provided by Steve Roberts, Area Forester

Butte County Fire Safe Council information provided by Calli-Jane DeAnda, Executive Director