

A: DIVISION / BATTALION / PROGRAM PLANS**SHU Battalion 1**

Shasta-Trinity Unit Battalion 1 is comprised of two seasonal CAL FIRE stations and one forest fire lookout. Burney Station is the Battalion headquarters and houses two type III engines, one initial attack bull dozer, one Battalion Chief and one Forester I. Big Bend Station houses one type III engine and is co-located with a type III engine from the Shasta Trinity National Forest. Soldier Mountain Lookout is staffed during times of severe fire danger. Most of the Battalion is comprised of eastside pine and mixed brush (in the old burns). The north end of the battalion through the Pit River drainage and into Big Bend is more of a mixed conifer fuel type, depending on the exposure.

Battalion 1 has a significant fire history of both lightning and human-caused fires. The fires in the battalion tend to burn from west to east with the afternoon wind. Under normal summer high pressure, the fire activity will diminish after dark. The normal wind pattern is a west to southwest push during the afternoon, and there are many occasions we will get a significant down canyon wind after midnight down the Pit River canyon and down the west slope of Hatchet Mountain.

Battalion 1 borders the USFS Lassen National Forest to the south, the USFS Shasta-Trinity National Forest to the northwest, the Modoc National Forest to the northeast, the CAL FIRE Siskiyou Unit to the north and the CAL FIRE Lassen-Modoc-Plumas Unit to the east. Within Battalion 1's Direct Protection Area (DPA), there is a mixture of private property, National Forest, BLM, and State land. There are two BLM wilderness study areas (WSA's) comprising of approximately 30,000 acres. In the Fall River valley there are 3 local responsibility areas (LRA) that border the state DPA. They are protected by the Shasta County Fire Department (administered by CAL FIRE SHU), Fall River Fire District and the McArthur Fire District.

There are two active fire safe councils within Battalion 1. The Hat Creek Fire Safe Council covers the Hat Creek Valley through the community of Cassel north to the Burney Falls State Park. Hat Creek Fire Safe Council operates under the Western Shasta Resource Conservation District (RCD). The Day Road Fire Safe Council covers Day Road in both SHU and LMU. The Day Road Fire Safe Council operates under the Fall River RCD. There are hopes to start a fire safe council in the Burney area; they are working with the Fall River RCD.

Battalion 1 personnel have been completing LE-100 inspections in most areas of the battalion at least 6 years. The Hat Creek Fire Safe Council has successfully completed several shaded fuel breaks in and around the community of Cassel. Battalion 1 has a established Lightning Plan, and is updated regularly due to lightning potential, with an established Incident Command Post held the Battalion Headquarters in Burney. Other emergency pre-plans, consisting of roads, addresses, and assets at risk within Battalion 1, have been established, and are monitored for changes annually. Both Hat Creek and Day Bench Fire Safe Councils have exceptional pre-plan maps for public use.

SHU Battalion 2

Battalion 2 is located along the southeast shores of Shasta Lake east of Interstate 5 in Jones Valley, across the southern boundary of the community of Big Bend to the Chalk Mountain, south across HWY 299E, just east of Hatchet Mountain, and south along Tamarack Road to the Whitmore area, west toward Millville along Whitmore Road, around Palo Cedro, north along the Redding City boundary, and back to Jones Valley to the lake.

Battalion 2 consists of four CAL FIRE Stations as well as four Shasta County Volunteer Fire Companies, under the supervision of Battalion Chief Ken Lowe. Shasta College Station 73 provides service for Northern Shasta County in the communities of Bella Vista, Jones Valley, Lakehead and the areas in and around the Shasta College Fire District as a year round contract with CAL FIRE. The Station has one CAL FIRE Type III engine which is staffed 24 hours a day with a minimum of one CAL FIRE Fire Officer and one CAL FIRE firefighter during Amador months, and CAL FIRE minimum staffing during declared fire season. Three CAL FIRE stations are open 24 hours for the duration of fire season, each with a type III engine. Diddy Wells Station 74 protects the communities from Bella Vista to Round Mountain and from Shasta Lake to Oak Run. Hillcrest Station 75 covers life and property from Round Mountain to Burney, also from Big Bend to Oak Run. Buckhorn Station 34 is located between the communities of Oak Run and Whitmore, and protects from Hillcrest to the Millville Plains, to Ingot Canyon. Fire fuels along the southwest area of Battalion 2 include grass and oak woodland, which carry fire quickly and upslope within the foothills and wild urban interface within the communities of Oak Run, Hillcrest, and Whitmore. There is a predominate brush belt within the 1000-2000 foot elevations including Diddy Wells and Oak Run, that transition into mixed pine and oak in the communities of Hillcrest, and Oak Run. Assets at risk include, but not limited to, a major PG&E power substation and two sets of 500kv transmission lines, Phillips Mill Historical sight, private timber lands, private property, and watersheds that extend into the Sacramento River.

Battalion 2 has experienced several catastrophic wildfires, historically. While fires caused by lightning have destroyed several thousand acres within the battalion in the last few years, most fires have been created by humans, and were predominately wind-driven, destroying structures and private property. Burn patterns indicative of the west-east drainages and local up-canyon winds influenced by the valley heating, have scarred the landscape with historical fires such as the Fountain Fire in 1992, which burned 60,290 acres with significant structure and timber loss. Both the Jones fire in 1999, which burned 26,202 acres, and the Bear fire in 2004 that destroyed 10,441 acres, were wind-driven, and human-caused. LE-100 inspections have become an integral part of pre-fire season operations intended to educate property owners of the benefits to preparing their homes against the potential for catastrophic loss due to wildfire.

In 2008, California experienced an overwhelming influx of lightning-caused fires that taxed firefighters at every level, increasing the recognition and importance of structural defensive space, addressing, and access, as well as the apparent benefit of pre-fire projects that proved to slow and/or stop fires at existing breaks. Battalion 2 experienced an overwhelming participation with stakeholders to suppressing wildfires and save structures during the Siege. Pre-plans to ranches and private industry have been collaborated and in place to speed suppression efforts for emergency personnel, ultimately saving life and property. Battalion Pre-Plans are in place to pre-identify

helicopter landing zones for medical emergencies, safety zones for firefighters, evacuation points and routes for citizens, water sources for catastrophic fires, staging areas for firefighting equipment, and augmentation to initial attack resources. A Lightning plan is maintained, and was utilized in 2008 and 2009 to organize and deploy firefighters to over 100 fires collectively.

SHU Battalion 3

Battalion 3 is located at the north end of the Sacramento Valley in southeastern Shasta County. It is bordered on the west by the Sacramento River and runs east paralleling the Tehama County border until reaching the Lassen National Forest and Lassen National Park. It includes the communities of Manton, Millville, Shingletown, Whitmore and Viola. The elevation ranges between 375 ft. at the Sacramento River up into the Cascade Range and Latour Butte Lookout at 6740 ft. The fuel types range from grassland in the Sacramento Valley and the Millville Plains through oak woodland, brush, mixed hardwood/conifer to conifer as elevation increases. The climate is characterized as Mediterranean with hot and dry summers. Temperatures average in the summer in the Sacramento Valley over 100 degrees and the higher elevations near 90 degrees. The relative humidity averages from 10-25 % in the afternoon, and is often followed by poor nighttime humidity recovery in the mid to upper elevations. Rainfall during the summer is normally less than 1 in. The winters are cool and wet. Average rainfall in the valley averages around 30 in. and in the higher elevations 30-50 in. Latour State Forest can see as much as 12-15 ft. of snow pack in a good winter. Normal gradient winds are from the southwest and average between 8-15 mph in the mid-afternoon. Foehn or North wind events often occur during the late summer and early fall. On the eastern side of Shasta County this wind is normally the strongest toward the end of the wind event and occurs at night when the normal gradient winds enhance the northeast wind flow of the Foehn wind. These winds are also enhanced and funneled by the alignment of the main drainages within the battalion that run from the northeast to the southwest. Peak winds during these wind events can reach 50+ mph. Examples of these Foehn wind driven fires listed below include the 1988 Fern Fire and the 2003 Whitmore Fire.

Battalion 3 has had numerous significant fires in the past demonstrating the significant fire danger within the battalion

1958	Blue Mountain	7,731 acres
1965	Highway 44	13,708 acres
1978	Whitmore	7,285 acres
1988	Fern	7,558 acres
2003	Whitmore	1,004 acres

The battalion works closely with many cooperators in both the private and public sector. Fire and resource agencies include Shasta County Fire, Millville Fire Protection District, Lassen National Forest, Lassen National Park and Tehama County Fire. Other public cooperators include Shasta County Sheriff's Office, California Highway Patrol and Cal Trans. Private cooperators include Sierra Pacific Industries, Beaty and Associates, Pacific Gas and Electric and Roseburg Lumber.

With the continued threat of catastrophic wildland fires and the increasing population growth within the wildland urban interface, the battalion aggressively provides Defensible Space Inspections and Information/Education presentations on an ongoing basis. There are two Fire Safe Councils within the battalion. One is located in Shingletown and was one of the first counsels formed in the state. The other is located in the community of Manton. Both counsels have provided numerous hours toward educating the public from the dangers of wildfire along with securing grants to build and

or maintain shaded fuel breaks. Both counsels are currently working hard ensuring their communities are designated as “Fire Wise” in the hopes to secure additional grants.

SHU Battalion 4

The Shasta-Trinity Unit's Battalion 4 (Redding Battalion) is comprised of an integrated, multi agency workforce of State, Local and Federal firefighting resources which provide wildland fire protection to the heart of Shasta County under cooperative agreements. Battalion 4 is located on the valley floor of Shasta County along the Interstate 5 and Sacramento River corridor running from Siskiyou County to the north and Tehama County to the south. Battalion 4 is interspersed with three incorporated cities, the City of Redding, the City of Anderson, and the City of Shasta Lake. There are also three unincorporated communities within the Battalion which are served by independent Fire Districts which include (from north to south) Mountain Gate, Happy Valley, and the community of Cottonwood. The northern portion of Battalion 4, north of the community of Mountain Gate, is Federal direct protection area (DPA) and is administered by the Shasta-Trinity National Forest and the Shasta Lake National Recreation Area. While the statutory responsibility for all wildland fires is federal responsibility, the protection responsibility for medical aids, traffic collisions, boat fires on Lake Shasta, and other improvement fires is served by the Shasta County Fire Department (SCFD), administered by CAL FIRE under contract. Lake Shasta is located within this federal DPA/Battalion and is the largest reservoir in California. At full pool, the lake has an elevation of 1,067 feet, a surface area of 30,000 acres, and a storage capacity of more than 4 million acre feet of water.

Fire Protection within the Battalion is largely made up of career paid staffing, specifically within the incorporated cities, while CAL FIRE/SCFD career and volunteer firefighters make up a large majority of the firefighting work force in the unincorporated areas. Battalion 4 houses two career fire stations and three volunteer fire companies. Redding Fire Station 43 is served by 2 Type III Schedule B engines and one Type II Schedule A engine during the peak fire season months, while in the winter months the staffing is reduced to two engines under Amador and Schedule A contract. The Palo Cedro Fire Station 32 is a career staffed Schedule A fire station which houses one Type II fire engine. Volunteer fire companies include the Palo Cedro Volunteer Fire Company Station 32, the Lakehead Volunteer Fire Company Station 54, and the West Valley Volunteer Fire Company Station 55. Battalion 4 is also home to the Shasta Bear Lookout which is staffed by career or retired firefighters during times of severe fire danger (red flag conditions).

Battalion 4 is largely comprised of commercial, residential, agricultural, and highway uses, including Interstate 5 and State Highways 44, 273 and 299 east. Commercial properties include three active lumber mills, three large bulk propane facilities, and the Knighton Road Truck Stop to name a few. There are numerous public schools, and plans for a new retail center located on 92 acres on the northeast corner of Knighton Road and the Interstate 5 interchange. When completed, the Knighton and Churn Creek Commons Retail Center would include 740,000 square feet of mixed commercial development, which may include retail shops, restaurants, lodging, food supplies, recreation activities and equipment, traveler services including gasoline fueling facilities, and entertainment related facilities. While most of these occupancies exist within the

large portion of LRA in Battalion 4, other mixed retail and commercial occupancies exist throughout the Battalion's SRA areas.

Fuels within Battalion 4 transition from grass/oak woodland to brush to conifer stands, fuel models 1, 4, and 10. At lower elevations, open areas of annual grasses are interspersed with 15 to 50 year old stands of decadent brush (chaparral). These fuel's dead to live ratio average approximately 20%. Annual chaparral live fuel moistures vary from 120% to less than 75%. Fuels transition from chaparral to conifer stands above 3000 feet. Current mixed conifer stands have occasional pockets of dead trees due to bug and snow kill.

Weather is generally warm and dry during the day with moderate humidity recovery at night. Peak summer temperatures average 85 to 95 degrees with temperatures reaching in excess of 110 degrees for 2 to 5 day periods. The average relative humidity is 15 to 35%. Gradient winds are generally out of the west, southwest 5 to 12 mph. Occasional light east winds occur in the morning then shifting to more W/SW flow in the afternoon and can reach speeds of 15 to 20 mph, generally up slope and up canyon. North wind events occur periodically throughout the fire season and can reach in the 10 to 30 mph range with associated higher gusts. These winds frequently switch to the Northeast and strengthen after dark, maintaining low relative humidities, often in the single digits throughout a 24 hour period.

Fire history suggests moderate to rapid rates of spread, sometimes reaching 1 to 3 mph specifically within fuel model 1. Spotting can be expected to have a major impact on firefighting resources, especially within the wildland urban interface (WUI) which is a large make-up of Battalion 4's geography (43 homes per square mile according to the 2000 U.S. Census Data). Flame lengths in the chaparral can range from 12 to 20 feet. Normal Burning Indexes (BI's) from July to October average over 40. The 1999 Canyon Fire and Jones Fire, both driven by powerful north wind events, burned 2,580 and 26,200 acres respectively, and consumed more than 1,184 homes throughout a large portion of Battalion 4 within a single burning period. Lightning fires are also common place in Shasta County. In 2008, the valley floor was hit with hundreds of lightning caused fires that were quickly contained due to the lighter fuel models. Battalion 4's Lightning control plan was initiated and was instrumental in the rapid and efficient deployment of initial attack resources to extinguish these fires quickly, thereby making resources more readily available to assist with larger fires at higher elevations and in heavier fuel models.

There is no large scale fuel breaks located within Battalion 4. Many subdivisions have completed defensible space projects including small scale or isolated fuel breaks. There are many natural and man made features that may serve as fire breaks including roads, highways, railroads, and the Sacramento River. Local, state, and federal budgetary constraints have led small local community fire safe councils within the Battalion to merge their efforts for project work under the umbrella of the Shasta County Fire Safe Council, administered under the direction of the Western Shasta Resource Conservation District (WSRCD). The WSRCD has established fire plans for areas within Battalion 4 that include the Cottonwood Creek Watershed to the south, the Cow Creek Watershed to the east, the Community of Lakehead to the north, the lower Clear Creek Watershed to the west, and the Stillwater/Churn Creek Watershed plan in the heart of the Battalion which includes the communities of the City of Shasta Lake,

Buckeye, the City of Redding, and the City of Anderson. The goal of these plans is to reduce the destruction and associated costs from wildfire by creating shaded fuel breaks, increase homeowner and fire department access and egress, watershed restoration, and public information and education on developing fire wise communities.

SHU Battalion 5

The battalion is located at the northern end of the Sacramento Valley with the City of Redding forming the eastern border and the Trinity County line forming the western border. The battalion includes portions of the Coast Range with elevations ranging from 500 to 6919 feet. Fuels transition from oak woodland to chaparral to conifer stands at the higher elevations. The climate is characterized by hot, dry summers and cool, wet winters. The summer high temperatures average from 90°F to 95°F with average relative humidity ranging between 15% - 35%. The majority of the precipitation occurs during the winter with an average of 33 inches falling per year. Gradient winds are generally out of the West to Southwest with wind speeds of 15-20 mph in the late afternoon during the summer. Foehn wind events occur periodically throughout the summer and fall with wind speeds for these events ranging from 10-30 mph.

The battalion has a rich fire history ranging back into the 1940's. Below is a sampling of some of the larger fires in the battalion.

- 1946 Muletown Fire 25,993 acres
- 1950 Kanaka Creek Fire 4,828 acres
- 1962 East Fork Fire 5,162 acres
- 1972 Swasey Fire 3,215 acres
- 1990 Kanaka Fire 2,901 acres
- 2004 French Fire 12,675 acres
- 2008 Motion Fire 28,330 acres
- 2008 Moon Fire 35,312 acres

The battalion aggressively pursues defensible space inspections as well as fire safety presentations within the community. Information and education presentations are made at the local school, churches, and at the two CAL FIRE stations within the battalion. The battalion works closely with its many cooperators which include:

- Shasta County Fire Department
- Shasta Fire Protection District
- Whiskeytown National Recreation Area
- Western Shasta Resource Conservation District (WSRCD)
- Shasta County Fire Safe Council
- Bureau of Land Management
- Shasta-Trinity National Forest
- Redding Fire Department
- Shasta County Sheriffs Office

The WSRCD has established fire plans for areas within the battalion that include the communities of Keswick, French Gulch, and Lower Clear Creek. The goal of the plans are to reduce the destruction and associated costs from wildfire by creating shaded fuel breaks, increase homeowner and fire department access and education on developing fire wise communities.

SHU Battalion 6

Battalion VI is located in the central and eastern Trinity County in and around the communities of Douglas City, Hayfork, Junction City, Lewiston and Weaverville. The area is between the Sacramento Valley and the Coastal Mountain range. Terrain is steep with a small percentage of flat ground. Communities and developments tend to be in the drainages and flatter areas of the county. Driveways and roads serving residences tend to be narrow and steep. Most residents outside of the communities do not display street names or addresses. There are no areas in Trinity County that currently meet the Local Direct Protection Area criteria. There are areas of the County that are not part of a Fire District/Department. Most district routinely respond outside of there district to provide some response to this areas. All areas of Trinity County are either State Direct Protection Area or Federal Direct Protection Area. Most of the private lands in the battalion are owned by a timber company.

Predominated vegetation cover is pine, fir, and hardwood mixture. There is a mixture of chaparral, gray pine and grass at the lower elevations. Snow, wind damage, and bug kill has created large pockets of dead fuel above the 3000' level. The majority Chaparral fields are too dense to walk through. Lack of fire occurrence and maintenance has allowed build-up of fuels that pose significant control problems during peak season.

The Battalion is responsible for implementing the Public Resource Code 4290 in Trinity County dealing with; road standards for fire equipment access; Standards for signs identifying streets, roads, and buildings; Minimum private water supply reserves for emergency fire use; Fuel modifications. Working in conjunction with the County Department, Planning Commission and Subdivision Committee, Battalion personnel provide guidance to prepare and interpret ordinances as subject matter experts. In addition personnel assist developers in applying Fire Safe ordinances to their projects. Because of the terrain there are multiple areas in the county that do not have a secondary ingress/egress.

The Trinity County Resource Conservation District (TRCD) and Hayfork Water Shed Center in conjunction with the Trinity County Fire Safe Council have taken lead roles in implementing fuels reduction projection and pre fire activities within the battalion. All communities have been identified as community at risk and are registered "Fire Wise Communities". TRCD in partnership with Bureau of Land Management created the Weaverville Community Forest, a stewardship to reduce the fuel loading on the west side of Weaverville. The plan is to expand the Community Forest to include addition areas to the west and north of Weaverville and include Forest Service lands. The local Volunteer department has received grant funding to assist land owners in Defensible Space clearances. This approach has produced a positive impact in the community by providing residents that other wise could not complete the clearances, a means to comply with the law at little to no cost. A current project has TRCD crews creating a roadway fuel break, followed by another crew creating defensible space clearances. A sign on the road gives residents contact information. TRCD assisted in up dating a map book of the county, created pre fire attack maps with water sources, structures locations, roads, staging areas, and gates. The Community Wildfire Protection Plan has

identified and prioritized areas within the county that fuel treatments are needed to occur to limit the impacts of wildland fires.

Fire Behavior in the Battalion is highly influenced by the terrain and fuels. The general wind pattern is west to east with directional changes due to terrain and diurnal flows. Historically, most large fires burn west to east. The last several years has seen an increase in large fire grow in Trinity County. The communities of Hayfork, Junction City, Lewiston and Weaverville all have been threatened by wildland fire larger than 1000 acres with the last ten years. A 1.5 hour response time to get all equipment to an incident is not uncommon. Augmented resources have extended response times. The Battalion relies heavily on USFS, local government, resources for initial and extended attack fires.

During the late 1990's and early 2000 the lightning activity for the battalion was limited. In 2008, the battalion saw a return of the lightning cycle. The Battalion VI Lightning Plan, in conjunction with the Unit Lightning Plan, was developed to streamline and prioritizes the response of multiple fires within the Battalion. Bully Choop Lookout is staffed during wind and lightning events to provide early detection in remote areas (cell phone coverage is low in Trinity County).

SHU Battalion 7 Training

The Shasta – Trinity Unit Training Bureau statement of goals:

The Shasta Trinity Unit is dedicated to providing our employees with the highest degree of training, incorporating industry recognized standards and certifications, focusing on cost efficiency and fiscal responsibility while assuring operational needs are met. The Shasta Trinity Unit training goals are based on defined, measurable training objectives, provided in a safe and harassment free environment, meeting Department policy and State statutes. It is expected that each employee dedicate 15% of their shift to training, whether it's informal at the fire station, or formal multi-agency training. By maintaining this commitment, we can perform at the highest level of service in; mitigating all types of emergency incidents, public education, law enforcement and administration for our customers, the people of California and its valuable resources.