



# Too Little, Too Late

Lessons Learned from the Hidden Pines Fire



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Fire Protection Task Force**

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# ***Too Little, Too Late***

## Lessons Learned from the Hidden Pines Fire

### **I. Findings and Recommendations**

#### **A. Background**

##### **Who we are**

This report is being issued by the Lost Pines Property Owners Fire Protection Task Force. We are private property owners in the Lost Pines forest adjacent to Bastrop and Buescher State Parks in Bastrop County, Texas. In the last six years, thousands of families have been evacuated from three out-of-control wildfires in our county that inflicted unprecedented damage. We lost homes and furniture, outbuildings, vehicles, beloved pets, family photographs and heirlooms, tools essential to our livelihood, boys' and girls' favorite toys and bicycles, our clothing, property value, and more. Plus, adults and children lost a priceless sense of emotional calm and security that may be gone forever.

Our families also lost forests on our property comprised of towering loblolly pine trees and stately oaks, as well as deer, rabbits, squirrels, and other creatures living alongside us who perished when they could not outrun the flames.

These losses of property and a treasured ecosystem have happened in this small geographic area again...and again...and again. We are sad, frustrated, and fearful because of our losses.

##### **Focus of the Report**

Some climate scientists see flash droughts and longer-term droughts as the “new normal” for counties like Bastrop County for years to come. Our concern is with the future response to fires in wildland-urban interface (WUI) areas in Bastrop County, as property owners want and need a first class response to quickly contain wildfires. A WUI area is one where homes and other structures intermingle with undeveloped wildland or vegetative fuel. There are a number of such areas in Bastrop County.

The response to a wildfire during the first 24 hours typically determines whether the wildfire becomes a raging inferno or is contained with minimal damage to structures and wild-

land. It is for that reason this report focuses on the first 24 hours of our area's recent wild-fire. We believe that by examining the response to the Hidden Pines Fire during the first 24 hours, there are important lessons to be learned that can strengthen the response to WUI fires in the future.

This report is primarily tethered to the decisions made by those in leadership positions who were in charge of the response to the fire. In no way is this report intended to lesson or diminish the heroic actions taken by all firefighters who put their lives on the line, and especially by volunteer firefighters. In addition to firefighters, there are many others who provided outstanding service during the fire, including those who work for Bastrop County, City of Smithville, City of Bastrop, Texas Forest Service, Bluebonnet Electric Cooperative, aircraft pilots, Texas Parks and Wildlife Department, Bastrop County Long Term Recovery Team, Senator Kirk Watson, State Representative John Cyrier, Bastrop County Judge Paul Pape, Bastrop County Commissioner Clara Beckett, and many others.

### **Report is based on interviews and documents**

Over the last six months, the Lost Pines Property Owners Fire Protection Task Force tried to learn as much as possible about what happened during the first 24 hours of the Hidden Pines Fire. Several rounds of open records requests about the fire were served on the Texas Forest Service and Bastrop County. There were 37 interviews conducted by members of the Task Force with seven fire chiefs, six county officials in three counties, an official with the Texas Military Forces, a TIFMAS strike team leader, 15 property owners, a STAR Flight manager, an air tanker manager, a bulldozer operator, and managers with Texas Parks and Wildlife, Bluebonnet Electric Cooperative and Texas Forest Service.

## **B. Summary**

In early October 2015, Bastrop County was in the middle of a flash drought and was experiencing near record temperatures in the 90s. The situation from a fire danger standpoint was even more dangerous due to record rains that had occurred in May, causing rapid vegetation growth. By October, the vegetation was extremely dry.

At about noon on Tuesday, October 13, a fire was started by a spark from a shredder on the Luecke Ranch, about a quarter of a mile northeast of Buescher State Park. The first 911 call about the fire was received by the Bastrop County Sheriff's Office around 12:30 pm. The Texas Forest Service and three volunteer fire departments arrived at the fire scene around 1:00 pm. The fire was relatively small at 8-10 acres when fire crews arrived, but it grew to 50 acres within the next hour. Shortly after 2:00 pm the MD Anderson Cancer Center was evacuated.

## **20 hours advance notice a wind shift is coming that would put homes in the path of the fire**

At 2:19 pm on October 13, the Texas Forest Service received from the National Weather Service the first spot forecast for the Hidden Pines Fire. It contained a number of nuggets extremely important for attacking the fire:

- A *wind shift* to the west, then northwest, was to occur beginning at 10:00 am on October 14.
- The weather would be more favorable for firefighting beginning around 10:00 pm on October 13 and continuing until 10:00 am the following morning.

If the fire was not contained before the wind shift took hold, then there was a high risk that more than 100 homes could be in the direct path of the fire.

## **Instead of beefing up resources, resources were reduced**

Each spot weather forecast after the 2:19 pm forecast predicted firefighting weather would continue to improve before the wind shift the next morning, October 14. Yet, instead of adding resources to fight the fire, resources were reduced.

- At 2:07 am on the 14<sup>th</sup>, three of the four Texas Forest Service bulldozers were released from the fire, leaving only one bulldozer at the scene.
- The three bulldozers that left the scene were not replaced by any other bulldozer during the morning of the 14<sup>th</sup>.
- There were four single engine air tankers that came to the fire on the 13<sup>th</sup> but they did not return to the fire during the morning of the 14<sup>th</sup> before the wind shift.
- Travis County sent two STAR Flight helicopters to the scene on the 13<sup>th</sup> but they did not return during the morning of the 14<sup>th</sup>. They sat waiting to be called to the fire.
- Local fire departments did not have the resources necessary to provide structure protection to many of the residential structures that were at risk once the wind shift took hold. The Texas Intrastate Fire Mutual Aid System (TIFMAS) was not activated in time for strike teams to get to the fire scene until late afternoon or early evening on the 14<sup>th</sup> when most of the structures burned in the fire had been destroyed.

## **The size of the fire was underestimated by 400 percent**

- Repeatedly the public was told during the morning of the 14<sup>th</sup>—even up until 11:30 am—that the size of the fire was 375 acres when in fact it was 1512 acres.

In terms of resources to fight the fire, those in command should have prepared for the worst case scenario as far as the behavior of the fire is concerned. That is not what

happened on Day 1 and 2 of the Hidden Pines Fire. In fact, the risk of the fire becoming a raging inferno that would march to the north and northwest after the wind shift, leaving destroyed homes in its wake, was a real possibility. Yet, resources were reduced instead of increased to deal with that possibility.

## **Improvements for the future**

The Task Force recommends a number of improvements that should help responsiveness during the first 24 hours of a future WUI fire in Bastrop County. Here are excerpts of the recommendations found later in the report:

Prepare for the worst case scenario when deciding what resources are needed for firefighting and how quickly they are needed.

Promptly and accurately determine the size of a wildfire throughout the incident using best practices, including fix wing aircraft with infrared cameras at night or when smoke obscures the ground.

Prepare to have available adequate numbers of bulldozers on a timely basis by entering into inter-local agreements with the Texas Army National Guard, Texas Department of Transportation, and Travis County's Road and Bridge Department.

Establish an air tanker base at Austin-Bergstrom International Airport that has retardant available for Type 1 air tankers, single engine air tankers, and a DC-10 air tanker during peak fire periods or when the average KBDI drought index is at a very high level for more than 7 days in a row.

Activate Texas Intrastate Fire Mutual Aid System (TIFMAS) strike teams in the initial 24 hours that are closest to the fire scene before activating more remote TIFMAS teams.

Prepare a Pre-Attack Plan for wildland-urban interface areas in Bastrop County that is jointly written by local fire departments, Bastrop County OEM and Texas Forest Service

Encourage electric utility providers to work with volunteer fire departments to develop an electricity discount program for volunteer firefighters as an incentive for recruiting and retaining volunteers.

Consider establishing agreements with outside organizations and trained professional volunteers to assist with public information operations during fire emergencies so accurate information can be shared with affected residents around the clock.

## **C. Key Findings**

### **Major damage caused by the Hidden Pines Fire**

FINDING: More than 4600 acres burned in the Hidden Pines Fire, making it the second worst Bastrop County wildfire in recent history. The most serious destruction happened on Day 2 of the fire, October 14.

FINDING: On Day 2, sixty homes burned. On Day 3, four homes burned.

FINDING: Approximately two-thirds of Buescher State Park burned, killing about 143,000 trees out of 233,000.

### **Very dangerous fire weather**

FINDING: Central Texas experienced record flooding in May with rapid growth in vegetation in June and July.

FINDING: During the first 10 days in October 2015, local fire departments fought a number of wildfires. Based on that experience, several fire chiefs believed the fire danger to be critically dangerous.

FINDING: During the second week of October, Central Texas was experiencing record or near record temperatures in the 90s.

FINDING: The Keetch-Byram Drought Index averaged 730 to 740 October 6-13, an indication that wildfires would exhibit extreme intensity with significant spotting.

FINDING: During the weekend of October 10-11, weather forecasters began predicting a cold front would arrive in Central Texas early in the week that would drive relative humidity values down to the teens and with near record temperatures in the afternoon.

FINDING: The rapid vegetation growth that became dry as a bone as the humidity plummeted added to the extreme wildfire danger.

FINDING: Conditions were right on October 13 for a wildfire that would demand a very aggressive response in terms of resources, including fire suppression aircraft and bulldozers.

### **Fire begins**

FINDING: At around noon on October 13, a grass fire began on the Luecke Ranch property approximately a quarter mile northeast of Buescher State Park.

FINDING: At approximately 12:30 pm, Bastrop County's 911 call center received its first phone call indicating there was a fire near Hidden Pines Drive and FM 153.

FINDING: At around 1:00 pm the Texas Forest Service, Heart of the Pines VFD, Smithville VFD, and Winchester VFD arrived at the fire scene.

FINDING: At the time TFS and the fire departments arrived at the scene, the fire was still relatively small, estimated to be 8 to 10 acres.

FINDING: At around 2:00 pm the fire was heading in a southwesterly direction. MD Anderson Cancer Center voluntarily evacuated.

FINDING: Shortly after 2:00 pm the fire was reaching heavy vegetation with some extreme fire behavior (torching, crowning and spotting).

### **Wind shift predicted almost 20 hours in advance**

FINDING: At 2:19 pm on October 13, the National Weather Service spot forecast for the Hidden Pines Fire predicted a wind shift for 10:00 am on October 14.

### **Dozens of homes would be in danger**

FINDING: As the fire headed to the southwest along a line some 2.5 miles long on October 13, a significant number of homes to the west and northwest would be in the path of the fire if the fire was not contained by the time the wind shift took hold.

### **Lower atmosphere very unstable**

FINDING: The National Weather Service in its 2:19 pm forecast predicted a Haines Index of 6 from 4:00 pm to 10:00 pm on October 13. This meant that the lower atmosphere would be extremely unstable, conducive to large fire growth and extreme fire behavior at low wind speeds.

### **Resources—Fire Departments**

FINDING: Local volunteer fire departments, along with Texas Forest Service and Texas Parks and Wildlife Department, did most of the firefighting until late in the afternoon of October 14—Day 2.

FINDING: A number of local fire departments could not come to the fire on October 13 because they were engaged in either a fire at Paige and SH 21 or a fire off of Union Chapel Road near Cedar Creek.

FINDING: Fire departments in Travis County and other counties in Central Texas were available to come to the fire on October 13 and 14 but were not requested to come.

FINDING: The Texas Intrastate Fire Mutual Aid System (TIFMAS) was not activated on October 13. TIFMAS often responds to large wildfires with strike teams with various fire apparatus.

## **Resources—Helicopters**

FINDING: Travis County provided two STAR Flight helicopters during the afternoon and early evening of October 13. STAR Flight 2 arrived at the fire at 1:37 pm., and it is a Type 3 helicopter that can release up to 125 gallons of water from a Bambi bucket on each drop. Around 3:30 STAR Flight 4 arrived at the fire, and it is a Type 2 helicopter that can release up to 325 gallons of water on each drop.

FINDING: No Black Hawk or Firehawk helicopters made it to the fire scene on October 13. A Black Hawk or a Firehawk, its civilian counterpart, is a Type 1 helicopter. A Black Hawk from the Austin Army Aviation Support Facility or the San Antonio Army Aviation Support Facility can release 660 gallons on each drop. Two Black Hawks were requested to come to the fire scene during the morning of October 14.

FINDING: No records were located to indicate that a Chinook helicopter was requested to come to the fire scene on October 13 or to be at the fire scene during the morning of October 14 before the wind shift took hold. A Chinook from the Dallas Army Support Facility, located in Grand Prairie, Texas, can release 2,500 gallons of water on each drop.

## **Resources—Air Tankers**

FINDING: Four Single Engine Air Tankers (SEATs) came to the fire during the afternoon of October 13. The SEATs are converted crop dusters that can carry 800 gallons of retardant. Two of the SEATs were based in Fredericksburg and two in Abilene.

FINDING: The SEATs reloaded with retardant in Fredericksburg, approximately 105 air miles from the fire. Each time a SEAT reloaded with retardant it left the fire for about an hour and a half. The SEATS from Abilene arrived at the fire late in the afternoon.

FINDING: No Type 1 air tankers were called to the fire on October 13 even though they were available. On October 14 they were not called to the fire until long after the wind shift had occurred. Type 1 Air Tankers like the MD-87 and the RJ85 are multi-engine jet aircraft that can release 3,000 to 4,000 gallons of retardant on a wildfire before needing to reload retardant.

FINDING: A Very Large Air Tanker (VLAT) was not requested to come to the fire until the afternoon of Day 3. A VLAT can drop as much as 12,000 gallons of retardant on a fire at a time or they can break down the 12,000 gallons into 4 drops of 3,000 gallons each. A VLAT is a modified DC-10.

## **Resources—Bulldozers**

FINDING: Two Texas Forest Service bulldozers arrived promptly at the scene on October 13. A third TFS bulldozer arrived at 5:24 pm, and a fourth TFS bulldozer did not arrive until 9:01 pm.

FINDING: Bulldozers are essential in cutting fire breaks in locations where firefighters and fire apparatus cannot otherwise get access to the fire.

FINDING: Bulldozers are also essential in helping provide structure protection in wildland-urban interface fires.

### **Failure to appreciate the size of the fire**

FINDING: Between 8:45 am and 11:30 am on October 14, it was announced by the Bastrop County Office of Emergency Management, Texas Forest Service, and Bastrop County Sheriff's Office that the size of the Hidden Pines Fire was 375 acres.

FINDING: Between 9:45 am and 11:00 am Jordan Smith of TFS went up in a DPS helicopter to map the Hidden Pines Fire, and he determined the size of the fire was 1512 acres, not 375 acres.

FINDING: The public was not told about the change in size of the fire until 1:18 pm on October 14.

### **Favorable weather for firefighting**

FINDING: Beginning at 10:00 pm on October 13 the weather became much more favorable for firefighting. The relative humidity had risen to 45%, the temperature had dropped to 63° F, and the wind speed was at 0 mph. For the next 12 hours—10:00 pm to 10:00 am—the weather continued to be favorable for firefighting.

### **No aircraft at the fire before the wind shift**

FINDING: No fire suppression aircraft arrived at the fire scene during the morning of October 14 before the wind shift, including fire suppression aircraft that had been at the fire the prior day.

### **Only one bulldozer at the fire before the wind shift**

FINDING: According to the incident dispatch report, only one bulldozer was at the fire scene after 2:07 am on October 14 before the wind shift.

FINDING: Wildfire containment increased by only 10% during the 12-hour period before the wind shift when the weather was favorable for firefighting.

### **TIFMAS not activated**

FINDING: The Texas Intrastate Fire Mutual Aid System was not activated in order to have strike teams at the fire scene before the wind shift.

FINDING: The resources of local fire departments were not sufficient to fight the fire during the morning of October 14. They did not have the resources to be in all the places where structure protection was needed.

### **Command and communication issues**

FINDING: Several fire chiefs reported that the on-site command at the fire scene was disorganized and in chaos during Day 1 of the Hidden Pines Fire. Some fire chiefs maintained this condition of disorganized leadership continued in to Day 2 of the fire.

FINDING: Several local fire chiefs mentioned they could not communicate with the Texas Forest Service on-site command because TFS uses VHF radio frequencies and volunteer fire departments use digital radios that communicate at 800 MHz.

FINDING: Firefighting experts interviewed about the Hidden Pines Fire pointed to three major problems with the incident command that resulted in so much damage on Day 2:

- It appears the command did not take into account the predicted wind shift on the morning of October 14 when planning attack strategy.
- The command did not understand the total size or operational boundaries of the fire.
- As a result of these factors, the command planned a less-aggressive fire attack strategy and a premature de-escalation of fire attack resources.

### **Hydrants and fuel**

FINDING: According to several fire chiefs, water pressure at hydrants in the burn scar area outside the MD Anderson Cancer Center were subject to very low pressure that made it difficult to fill engines and tankers with water in a timely manner.

FINDING: One fire chief mentioned there was significant time lost waiting to refuel fire engines at local gas stations.

### **Communications with the public**

FINDING: Area news media provided considerable and credible coverage of the Hidden Pines Fire via web sites, print, television broadcasts and Twitter. Much of the reporting relied on the frequency and accuracy of what was provided to the media by fire incident managers. In turn, residents near and within the fire zone often based their actions in part on the information they were getting from the media.

FINDING: Many people relied in part on information from the Internet, including Facebook, during the Hidden Pines Fire, especially during the first 36 hours of the fire. However, some

important information that was posted, such as the size of the fire and the change in wind direction, was not timely, complete or correct.

### **Volunteer Fire Departments need to be strengthened**

FINDING: Three fire chiefs mentioned they were having difficulty recruiting and retaining volunteers.

FINDING: Several fire chiefs mentioned it was financially difficult for some volunteers to come to fires because employers deduct their pay while fighting fires.

### **Retardant**

FINDING: The four Single Engine Air Tankers (SEATs) left the fire scene for up to an hour and a half each time they reloaded with retardant in Fredericksburg, Texas on Day 1.

FINDING: By Day 2 retardant was brought to the Giddings-Lee County Airport for the four SEATs. By Day 4 the airport had run out of retardant. The truck to replenish retardant supplies had broken down 350 miles away. The SEATs were grounded on Day 4 without retardant.

FINDING: During the morning of Day 4, a DC-10 was to come to the fire scene to drop 12,000 gallons of retardant. The DC-10 flying from California could not come to the fire scene as planned because no retardant was readily available in Texas. Instead, the pilot had to fly to Chattanooga, Tennessee to load the plane with retardant. This delayed the DC-10 from making it to the fire scene by over five hours.

### **Much more aggressive response to other wildfires**

FINDING: The Comanche Fire near Harker Heights, Texas and the North Side Fire near Huntsville, Texas began six days after the start of the Hidden Pines Fire. Both fires were WUI fires.

FINDING: The Comanche Fire and the North Side Fire were 100% contained on the first day of the fires.

FINDING: At the Comanche Fire and the North Side Fire, two Type 1 air tankers and four Type 1 helicopters were at the fire scene within the first few hours of the start of the fires. A DC-10 also dropped retardant within the first six hours of the start of the North Side Fire.

FINDING: Nine bulldozers came to the Comanche Fire and eight bulldozers came to the North Side fire within the first few hours of the start of the fires.

FINDING: No Type 1 air tankers, no Type 1 helicopters, and only four bulldozers made it to the Hidden Pines Fire on Day 1.

## **No permanent air tanker base in Texas**

FINDING: Texas is one of three western states without a permanent air tanker base that can handle Type 1 air tankers. Type 1 air tankers can drop 3,000 to 4,000 gallons of retardant on each trip to a fire scene.

FINDING: Bastrop County is one of the counties in Texas with the highest wildfire damage risk to residential structures.

FINDING: Wildland-urban interface areas have grown dramatically in Texas in the last 10 years with explosive growth in WUI areas expected over the next ten years.

FINDING: Texas and California have the most residential properties at high risk of wildfire damage of all 13 western states in the United States.

## **D. Recommendations**

### **RECOMMENDATION #1**

Prepare for the worst.

**Explanation:** Incident commanders must prepare for the worst case in a WUI wildfire so as not to risk life, property, and the ecosystem. This means resources to meet worst case scenarios must be ordered as soon as possible, including fire suppression aircraft, bulldozers, fire departments from neighboring counties and communities, and necessary support in terms of water, fuel, retardant, and more. Resources should be pre-staged in areas where high fire danger conditions exist.

### **RECOMMENDATION #2**

Procedures must be in place to promptly and accurately size up a wildfire. Situational awareness of the size and intensity of the fire must be maintained at all times.

**Explanation:** Personnel with the training and ability to accurately determine the size and intensity of a wildfire must be on the scene quickly to provide technical consultation to incident command and information necessary to warn the public.

### **RECOMMENDATION #3**

Use infrared imaging for sizing of wildfire at night.

**Explanation:** If accurate sizing is not otherwise available at night, fixed wing aircraft with infrared cameras should be used to size up fires in forested areas.

### **RECOMMENDATION #4**

Bulldozers, operators, and relief operators must be located in sufficient numbers and contacted to arrive at a WUI fire scene in Bastrop County within a short period of time.

**Explanation:** It is unacceptable to have bulldozers and their operators arrive anywhere from 4 to 10 hours after they have been called to a critical fire scene in Bastrop County. Upon arrival, there must be a strategic plan of attack and a clear command structure for effectively using the bulldozers.

### **RECOMMENDATION #5**

Texas Forest Service and Bastrop County should explore entering into inter-local agreements with the Texas Army National Guard, Texas Department of Transportation, and Travis County's Road and Bridge Department for the rapid response of operators and bulldozers in connection with WUI wildfires in Bastrop County.

**Explanation:** The Texas Army National Guard has strike teams of bulldozers and operators that have responded to wildfires on a regular basis. The Texas Department of Transportation has also responded with bulldozers and operators to wildfires in the past. Travis County Road and Bridge Department has bulldozers and operators who have responded to wildfires in Central Texas. Private bulldozer operators who have been trained for operating in a wildfire environment should also be considered for wildfire duty when working under the incident command, similar to what is done in a number of western states.

### **RECOMMENDATION #6.**

TIFMAS needs to be activated promptly with strike teams close by as first priority. Pre-staging TIFMAS strike teams should be considered in areas being affected by high fire danger.

**Explanation:** The Texas Intrastate Fire Mutual Aid System (TIFMAS) needs to be activated promptly when a worst-case scenario indicates that local fire departments do not have the resources to either contain the wildfire or comprehensively provide structure protection. Strike teams during the first 24 hours should be considered as part of an initial attack on the wildfire. Under that scenario, TIFMAS protocols call for the closest most appropriate resources to be identified and mobilized. It makes little sense to mobilize TIFMAS strike teams that are four to five hours away when there is a severe time crunch for achieving containment, such as when containment must be achieved before a wind shift takes hold.

### **RECOMMENDATION #7**

Local fire departments, Texas Forest Service, and Bastrop County Office of Emergency Management are encouraged to work jointly on an After Action Report for the Hidden Pines Fire within the next 45 days.

**Explanation:** There are differing views among the firefighting entities about how the on-site command of the Hidden Pines Fire functioned during the first 24 hours and what improvements could be made for the future. In addition, there are differing views about the effectiveness of radio communications between the volunteer fire departments and the Texas Forest Service. These matters and other lessons learned should be sorted out as part of an After Action Report.

### **RECOMMENDATION #8**

Local fire departments, Texas Forest Service, and Bastrop County Office of Emergency Management should meet jointly to prepare a Wildfire Pre-Attack Plan with the goal of having the plan completed by July 2017.

**Explanation:** The Bastrop County Wildfire Pre-Attack Plan should focus on WUI areas most at risk for future wildfire. It also should include attack plans for the two state parks and adjacent areas because of their historical and economic significance. The Plan should identify areas where there is not enough water for engines and tenders and where hydrant water pressure is not sufficient for firefighting. The Plan should identify on maps locations where the terrain is too steep for construction of fire breaks and locations of lakes and ponds that may be used as a water source.

### **RECOMMENDATION #9**

An Air Tanker Base should be located at Austin-Bergstrom International Airport (ABIA) with sufficient retardant to serve Type 1 air tankers and a VLAT (DC-10) during the peak fire season and when the average KBDI drought index exceeds 700 for more than 7 consecutive days in Bastrop County.

**Explanation:** There are three areas within 200 miles of Austin that rank in the top 10 areas for highest wildfire risk to residential properties among the 13 western states in the U.S. It is high time for an air tanker base with the necessary retardant to be located at ABIA. That would enable Type 1 air tankers or a DC-10 to make it to a WUI fire in Bastrop, Travis, Bexar, and other central and southeastern Texas Counties in a matter of minutes and reload without leaving a fire scene for hours at a time.

### **RECOMMENDATION #10**

Inter-local agreements should be entered into with the Texas Army National Guard and Texas Department of Transportation for the use of fuel and water tankers.

**Explanation:** To reduce the time away from a large wildfire, it would be helpful to local fire departments and TIFMAS strike teams to have fuel tankers and water tankers from the Texas Army National Guard and Texas Department of Transportation available at or near the fire scene.

### **RECOMMENDATION #11**

Bastrop County Office of Emergency Management should consider establishing agreements with other outside organizations to assist with public communications during fire emergencies.

**Explanation:** Bastrop County OEM would better serve the public by entering into agreements with the Lower Colorado River Authority or Bluebonnet Electric Cooperative to assist staff public information operations during fire emergencies around the clock, when needed. OEM also should consider developing and maintaining a list of professional, trained volunteers who can support and, when necessary, relieve the small OEM staff in handling public information duties during emergencies.

### **RECOMMENDATION #12**

Chambers of Commerce in Bastrop County and surrounding counties are encouraged to work with their members to propose policies that would encourage their employees to volunteer with local fire departments.

**Explanation:** Area employers must be sensitive to the needs of volunteers who must take off work in order to fight fires. Volunteers should not be unduly penalized in pay or promotion for time spent fighting fires. Employers also could help in recruiting firefighting volunteers.

### **RECOMMENDATION #13**

Electric Utility Providers are encouraged to offer a substantial discount to volunteer firefighters.

**Explanation:** Some volunteer fire departments are having a difficult time recruiting and retaining volunteers. A substantial discount on electric utility bills could be a meaningful incentive for retaining and recruiting volunteers. Volunteer fire departments should work with electric utility providers on determining the criteria for awarding electric discounts.

### **RECOMMENDATION #14**

Smithville VFD should explore becoming part of ESD No. 1 or consider creating its own ESD that would cover the City of Smithville and the rural eastern third of the county. Heart of the Pines VFD should explore becoming part of Bastrop County ESD No. 2.

**Explanation:** The recommendation is made because both VFDs need a better financial footing for the long term. The impact of such a move on recruiting volunteers will have to be considered. Also, the financial impact on both ESDs will be an important consideration as well.

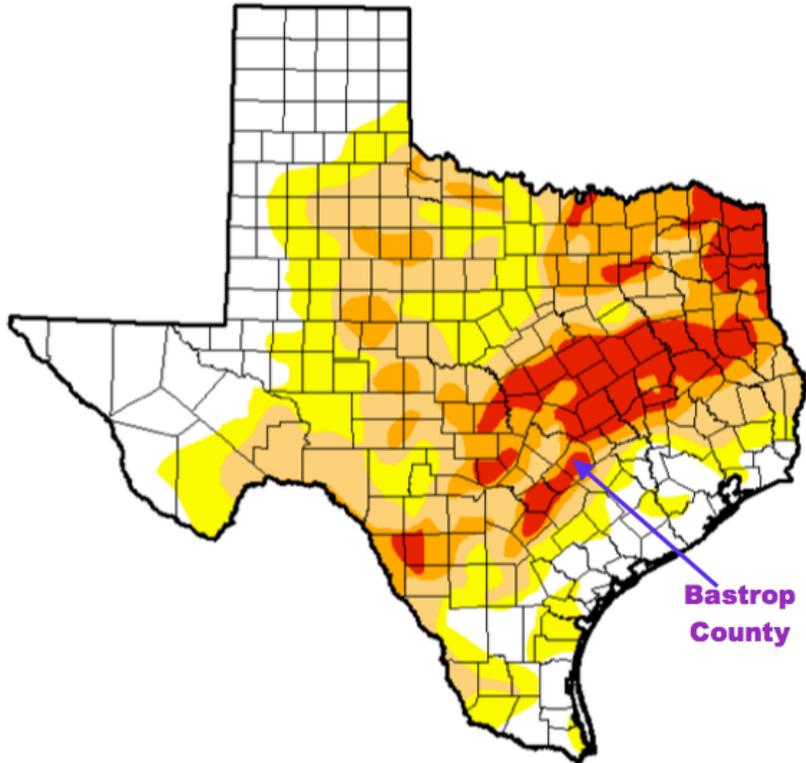
## **II. Fire Danger Extreme**

The Hidden Pines Fire began sometime between 11:30 am and noon on Tuesday, October 13, 2015. While the Texas Forest Service (TFS) indicated the fire danger was moderate on that day for Bastrop County, there were many signs that the fire danger was extreme. One fire chief who had fought several brush fires earlier in October told us the fire danger designation by TFS did not match reality. Based on his experience, the fire danger should have been categorized at the highest level. There had been a number of sizable wildfires earlier in the month, and also on October 13. Around the time of the Hidden Pines Fire, two other wildfires were reported in Bastrop County. One fire was on Union Chapel Road near Cedar Creek, and another wildfire was on SH 21 just north of the Whoop Stop in Paige. Bastrop County Volunteer Fire Departments (VFDs) responded to those fires, including Elgin, Paige and Bluebonnet. Those VFDs were not available to respond to the Hidden Pines Fire.

The rash of grass fires in October provided information about the fire danger, and information from the U.S. Drought Monitor should have put Bastrop County and TFS on high alert<sup>1</sup>. On July 14, 2015, Texas was 95.37% drought-free. However, by October 6, 2015, approximately 25% of the state was experiencing severe to extreme drought with another 10.17% experiencing extreme to exceptional drought.

# U.S. Drought Monitor Texas

October 6, 2015  
(Released October 8, 2015)



As shown on the map, the severity of the drought was not the same in Travis County as it was in Bastrop County. All but a portion of western Bastrop County was in extreme to exceptional drought, while only a very small amount of Travis County fell into those categories<sup>2</sup>.

## October 6, 2015 Extreme Drought

Bastrop County	Travis County
54.63%	2.26%

From a wildfire standpoint, droughts are measured using the Keetch Byram Drought Index (KBDI). The index measures the amount of precipitation needed to bring the top eight inches of soil back to saturation. The index goes from 0 to 800. At the lower end of the

scale, soil and fuel moisture are high. Once the index gets above 600, wildfires will show extreme intensity with significant spotting<sup>3</sup>. The KBDI index for Bastrop County averaged 730–740 from October 6 to October 13, 2015. The day before the Hidden Pines Fire the KBDI reached a high of 766.

There was rapid growth in vegetation following record rainfalls in May. The rain was followed by a flash drought resulting from little or no rain after June. In addition, temperatures during the first two weeks of October were summer, not fall, temperatures, reaching the upper 90s<sup>4</sup>. So the dry-as-a-bone vegetation growth was one more reason to be on high alert for wildfires. The National Weather Service recognized this fact.

So, all the makings were there for extremely critical fire danger, especially in areas in or near Buescher State Park that missed out on the Wilderness Ridge and Bastrop Complex Fires. During the weekend of October 10 and 11, weather forecasters began predicting that a cold front was headed for the area and would drive down relative humidity, while daytime temperatures were still in the 90s. At 4:10 am on Monday, October 12, the National Weather Service put out a Hazardous Weather Outlook<sup>5</sup> for South-Central Texas, including Bastrop County. Here is what the Outlook said:

TUESDAY THROUGH SUNDAY.

ELEVATED FIRE WEATHER CONDITIONS ARE EXPECTED BEHIND A COLD FRONT TUESDAY. MUCH DRIER AIR WILL BE BROUGHT INTO THE AREA FROM NORTHERLY WINDS OF 10 TO 15 MPH. LATE AFTERNOON HUMIDITIES WILL FALL INTO THE TEENS AND 20S...WITH DRIEST AIR EXPECTED AFTER THE WINDS FALL TO AROUND 10 MPH OR LESS. WITH DRY VEGETATION OVER MUCH OF AREA....THE BREEZY AND DRY CONDITIONS WILL PROMOTE SPREAD OF WILDFIRES.

To emphasize once again the hazardous nature of the fire weather for October 13, the National Weather Service put out a special weather statement at 3:04 am that morning<sup>6</sup>.

CONDITIONS WILL BE FAVORABLE FOR THE SPREADING OF FIRES TODAY .....

A FRONTAL BOUNDARY MOVING THROUGH CENTRAL TEXAS WILL SERVE TO SHIFT WINDS TO THE NORTH AND DRY OUT AREAS TODAY CREATING FAVORABLE CONDITIONS FOR THE SPREAD OF FIRES...SHOULD ANY OCCUR. WINDS ARE EXPECTED TO BE BREEZY IN THE MORNING HOURS AND SUBSIDE BY THE MIDDLE OF THE AFTERNOON. AT THE SAME TIME RELATIVE HUMIDITIES WILL FALL IN THE TEENS AND 20S RESULTING IN A VERY DRY AND BREEZY ATMOSPHERE...WHICH COULD LEAD TO THE EFFICIENT SPREADING OF WILDFIRES.

While much emphasis is placed on wind speeds for the spread of wildfires, the mere fact that wind speeds are low does not mean that wildfires cannot spread efficiently once started through a combination of dry, unstable air. In 1988 the Haines Index, also known as the Lower Atmosphere Stability Index, was developed to measure in combination, the instability and dryness of the air in the lower atmosphere. By so doing, the Haines Index can predict the potential for large fire growth, even in times of low wind speeds<sup>7</sup>. The Index

starts at 2, indicating very low potential for fire growth and ends at 6, indicating there is the danger of rapid fire growth. At around 2:00 pm on October 13, the Texas Forest Service requested a spot forecast from the National Weather Service. A few minutes later the Weather Service provided a spot weather forecast for the Luecke Fire (Hidden Pines Fire) that predicted the Haines Index would be at a 6 from 4:00 pm to 10:00 pm on the 13th. Thus, the danger of rapid fire growth was a very real possibility even with low wind velocities.

## III. First Day

### A. Early Hours

#### **1. Time when fire started**

At 12:30 pm on October 13, 2015, the first call of a fire in a field near Hidden Pines Road and FM 153 came into the Bastrop Sheriff Office's 911 call center<sup>8</sup>. According to the Texas Forest Service investigation, the fire started between 12:15 pm and 12:37 pm<sup>9</sup>. Bastrop County's Case Study on the Hidden Pines Fire indicates the fire started about one hour before any fire department made it to the scene<sup>10</sup>. The first fire department that made it to the scene was Heart of the Pines VFD at 12:59:51<sup>11</sup>. So, the County believes the fire started around noon on the 13<sup>th</sup>. Bastrop County had a 911 call about the fire within 30 minutes of the start of the fire if the case study was correct about when the fire began.

#### **2. Size of fire when fire departments arrived**

The first fire departments to arrive at the scene were Heart of the Pines VFD, Winchester VFD, Smithville VFD and Texas Forest Service. Here are the arrival times for each of those entities.

##### ARRIVAL TIMES<sup>12</sup>

Heart of the Pines VFD	1:00 pm
Winchester VFD	1:05 pm
Texas Forest Service	1:06 pm
Smithville VFD	1:14 pm

The start of the fire was within 2.5 miles of the Texas Forest Service offices off of SH 71 and within a mile of Buescher State Park near the middle "E" in LUECKE, which is spelled out in pines trees on a grass field. Any substantial amount of smoke from the fire should have been visible from both locations. The Texas Forest Service estimated the size of the fire at

10 acres at 1:06 pm.<sup>13</sup>At 1:37 pm Star Flight 2, which was directly over the fire, estimated the size of the fire to be 6-8 acres.<sup>14</sup>

While the fire size was small when fire departments arrived, the fire was susceptible to extreme fire behavior if not rapidly contained. Adequate fire suppression aircraft were essential along with a number of bulldozers to establish containment firelines.



Texas Forest Service      Luecke Ranch      1:22 pm      October 13, 2015

## B. Growth of Fire

The Incident Dispatch Report prepared by TFS sets forth the progression in the growth of the size of the fire. As will be discussed later in this report, there are a number of reasons to doubt the validity of the stated estimates in the size of the fire by extremely large percentages. Here are the estimates by TFS.

Time	Acres	Percent Contained
1:06 pm	10	0.00%
1:25 pm	30	0.00%
2:10 pm	50	0.00%
3:00 pm	50	5.00%
3:22 pm	50	10.00%
3:33pm	125	10.00%
5:01 pm	200	10.00%
6:02 pm	200	10.00%
7:51 pm	250	30.00%
8:43 pm	250	30.00%
10:19 pm	275	40.00%
11:34 pm	275	40.00%

It did not take long for the fire, heading in a southwesterly direction, to make it off the Luecke Ranch and into dense pine forest vegetation. By 1:51 pm MD Anderson Cancer Center was evacuating. By 2:10 pm the fire, according to TFS, was 50 acres in size. Smoke from the fire could be seen 25 miles away. Around 3:00 pm campers at Buescher State Park were evacuated. As of 5:00 pm the fire was an estimated 200 acres. Residents of Ann Powell Road were evacuated at 5:53 pm. The fire was intense over a very broad area as it headed into the most dense area of pines in and near Buescher State Park. This is an area that had not had a fire for many decades. There had been very little fuel mitigation, except at MD Anderson Cancer Center as a result of a grant awarded in 2012. The County has a fuel mitigation program, but it has been limited to an area in Tahitian Village.

By early evening the length of the fire was two to two and a half miles, stretching from the middle "E" in "LUECKE" to Park Road 1C near MD Anderson.



Creations by Cynthia

Hidden Pines Fire

7:15 pm

October 13, 2015

In the late evening hours before midnight, the fire remained very active in a few locations. This occurred in spite of falling temperatures, rising humidity and extremely light wind speeds.

From 6:08 pm to 11:08 pm the temperature dropped from 91° F to 60° F, relative humidity rose from 11% to 54%, and wind speed/wind gusts were at zero. By midnight much of the fire was creeping, with short flame lengths at ground level. On the following page there is a photograph which is an example of what the fire looked like when it was creeping.



Texas Forest Service    Hidden Pines Fire    11:44 pm    October 13, 2015

However, even at midnight there was some extreme fire behavior with torching and crowning of pine trees and other heavy vegetation. Smithville VFD was called back to the fire at midnight, but by 1:30 am Smithville was released from the fire.

## **C. Command and Communication Problems**

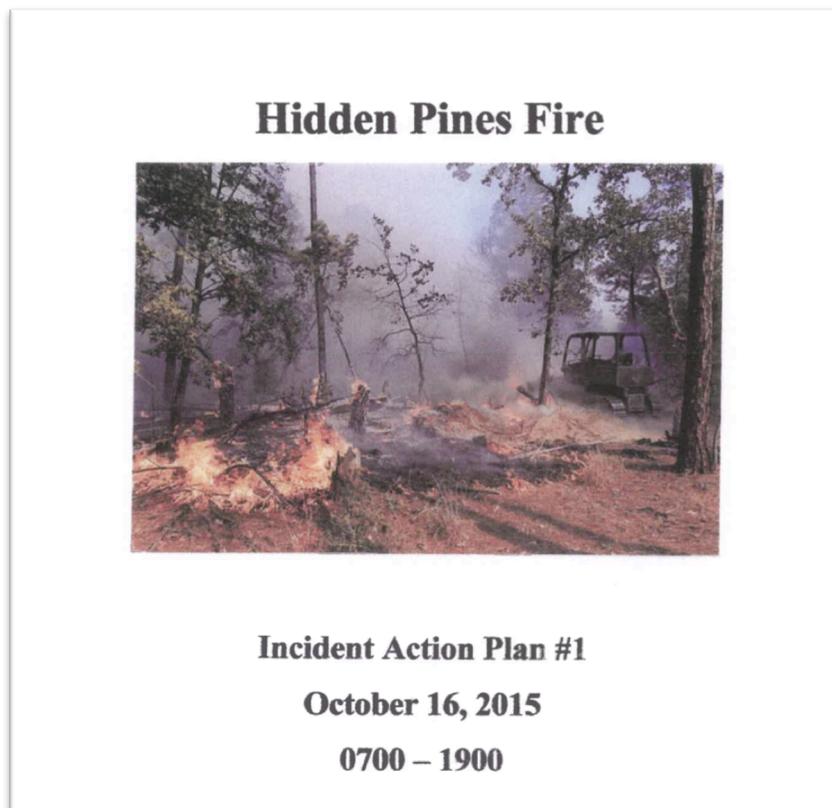
Three fire chiefs were extremely critical of the incident command during the first day of the fire. They described the command as “chaos”, “disorganized”, “couldn’t tell who was in charge”, “worried about injury and death of firefighters due to the disorganization”, “a number of calls to the incident command went unanswered during the fire”. Most of the fire chiefs interviewed were not certain when either the County or the Texas Forest Service took over the incident command. One other fire chief, who was not at the fire, thought Smithville VFD was the incident command for several hours during the first day of the fire based on the radio traffic. Two fire chiefs mentioned it was not clear who was in charge even during the morning hours of the second day of the fire.

A Public Information Officer for TFS announced in a news conference at 3:48 pm on October 13 that there was a joint incident command with Mike Fisher of Bastrop County Office of Emergency Management and Rich Gray of Texas Forest Service, but most local fire

departments did not understand this command structure to be in place at that point in time of the fire.

A list of what firefighting entities were at the fire at what time and with what firefighters and resources during Day 1 was not available. For example, during the TFS news conference on Day 1, it was announced that McDade VFD was at the fire scene; but based on interviews with McDade VFD, it was clear they had not been toned or requested to come to the fire.

An Incident Action Plan is a document that spells out the objectives to be accomplished, the leadership and firefighters for each division of the perimeter of the fire along with available fire apparatus, a map of the fire perimeter, the individuals in the unified incident command and their staff, and a medical plan for responding to a large wildfire. There is no record of Incident Action Plans being prepared for Day 2 or Day 3 of the fire. The first Incident Action Plan was prepared for Day 4 of the fire.



Preparation of such a plan for the 14<sup>th</sup> might have been helpful in recognizing shortages in leadership, manpower and resources. Due to shortages of firefighters, there were firefighters who had been at the scene for more than 18 hours straight without a rest by daylight on the 14<sup>th</sup>. Poor decisions are made when firefighters are fatigued, especially when firefighting part of the day at near-record temperatures in the 90s. No map of the fire

perimeter was available during the morning of the 14<sup>th</sup>. In fact, fire chiefs complained about the lack of availability of such a map late in the day on the 14<sup>th</sup>.

Most of the local fire chiefs reported problems communicating with the on-site incident commander. The Texas Forest Service operates its radio transmissions on VHF and several of the Volunteer Fire Departments' radios communicate at 800 MHz, which is not compatible with VHF. Direct radio communications between local fire departments and incident command is essential for firefighting and for the safety of firefighters. In interviews it was suggested that the fire chief could have a runner or a firefighter-liaison with incident command to solve this problem. A runner or liaison is a poor substitute for direct radio communications when seconds can mean the difference between life or death or saving someone's property. It was also suggested that cell phones could be a substitute for radio communications. This is not a particularly good solution since there are areas in or near the Hidden Pines burn scar where cell phone calls are frequently dropped. Firefighters also reported they did not know the cell phone numbers of all the leaders involved in fighting the fire.

## **D. MD Anderson and Fire Hydrants**

Around 2:00 pm on October 13, the MD Anderson Cancer Center was evacuated due to smoke from the fire that was still on Luecke property. The fire was headed in a southwesterly direction toward the Cancer Center. Between 4:30 and 5:00 pm the fire had entered Cancer Center property. Around that time, Single Engine Air Tankers (SEATs) began dropping retardant around the perimeter of the Cancer Center. Several of the local fire departments sent engines and firefighters to the Cancer Center to provide structure protection. Throughout the night volunteer firefighters continued to provide structure protection for the Cancer Center.

By 9:30 am on October 14, it was announced by Bastrop County Judge Paul Pape that the Cancer Center had been saved. This was a very positive outcome. The Cancer Center and TFS began a fuel mitigation effort in 2012. The mitigation was funded through a FEMA grant. The fuel mitigation effort and the dropping of retardant by the SEATs certainly were helpful in saving the Cancer Center. Most importantly, the local fire departments played the key role in saving all the buildings at the Cancer Center. This could not have been done without defensive space and the availability of plenty of fire hydrants with adequate pressure for firefighting.

Sadly, a number of fire hydrants in the burn scar area outside of the Cancer Center did not have adequate pressure for firefighting or for filling up water tenders or engines in a timely manner. This was especially the case after a number of homes were destroyed by fire and the water lines of Aqua Water Supply Corporation remained open on those properties.

## **E. Resources at Scene**

### **1. Fire departments**

On Day 1, October 13, the bulk of the firefighting was undertaken by Heart of the Pines, Smithville, and Winchester VFDs, along with firefighters and fire apparatus from the Texas Forest Service and Texas Parks and Wildlife Department. A number of Bastrop County fire departments were not available to come to the fire. Elgin and Paige VFDs were engaged with a fire near the Whoop Stop in Paige, and Bluebonnet and Five Points VFDs were engaged with a fire near Union Chapel Road in Cedar Creek. The Whoop Stop and the Union Chapel fires were contained by mid to late afternoon. There were fire departments in Travis County and other Central Texas counties willing to come to the Hidden Pines Fire during the afternoon of October 13 and the morning of October 14, but they were not requested to come.

By 7:00 pm Winchester VFD was released from the fire, and by 8:00 pm. Smithville VFD was released from the fire. Some volunteer fire department units from Bastrop County ESD Nos. 1 and 2 provided relief for the departing Smithville and Winchester VFDs but not in the same numbers of firefighters or apparatus.

Several local volunteer fire departments were handicapped by not having their full complement of volunteers. Some employers dock the pay of volunteers for the time spent at fires, and this hurts retention and recruitment of volunteers.

Some volunteers were at their jobs in Austin or in some other community and were not able to get to the fire in the first two hours.

### **2. Bulldozers**

As discussed earlier in this report, bulldozers are essential in fighting large wildfires both for creating firelines and for structure protection. The start time for the Texas Forest Service in responding to the Hidden Pines Fire was 12:46 pm. TFS had seen the fire from its office on SH 71 at that time. By the end of the day, TFS had four dozers at the scene. They were the only dozers at the scene. The first dozer arrived at 1:06 pm. and the last dozer arrived at 9:01 pm.

#### **ARRIVAL TIMES FOR DOZERS**

<b>Dozer</b>	<b>Arrival at Fire</b>	<b>From TFS Start Time</b>
# 9690	1:06 pm	20 minutes
# 9692	2:10 pm	1 hour 24 minutes
# 9691	5:24 pm	4 hours 38 minutes
# 2290	9:01 pm	8 hours 15 minutes

It was over eight hours before there were four bulldozers at the scene. As will be discussed below, three of the bulldozers were released from the fire at 2:07 am on October 14 with no replacement bulldozers before noon. Only one bulldozer was at the scene during the morning of the 14<sup>th</sup>.

### **3. Aircraft**

Travis County EC-145 STAR Flight helicopter (SF 2) was over the fire at 1:37 pm on October 13. SF 2 is a Type 3 helicopter. It uses a Bambi bucket for gathering and hauling water. It can only carry a small Bambi bucket that can drop 130 gallons of water<sup>15</sup>. Approximately two hours later SF 2 was joined by STAR Flight's 1H Huey helicopter (SF 4) over the fire. The SF 4 is a Type 2 helicopter. It draws water through a suction hose instead of a bucket. The Huey can release up to 325 gallons on each drop. The STAR Flight helicopters returned to Austin by nightfall<sup>16</sup>, which was around 8:00 pm. By comparison, the SF 4 can drop about half of what a Black Hawk or Firehawk can deliver and about one-eighth the capacity of a Chinook.

Four Single Engine Air Tankers (SEATs) made it to the Hidden Pines Fire during the afternoon of October 13. The SEATs are Type 3 Air Tankers, the smallest kind of tanker that drops fire retardant. SEATs often perform dual roles as crop dusters. Two SEATs, T-809 and T-866, came from Fredericksburg and two SEATs, T-894 and T-895, came from Abilene. The Fredericksburg SEATs arrived at the fire at 2:49 pm and 2:59 pm respectively, and the Abilene SEATs arrived at the fire at 4:31 pm. The flight time from Fredericksburg to the fire was 40 minutes, and from Abilene the flight time was 1 hour and 20 minutes. Fredericksburg was the SEAT base for the purpose of reloading the aircraft with retardant on Day 1 of the fire.

To leave the fire, reload with retardant in Fredericksburg, and return to the fire takes approximately 1 hour and 30 minutes. The Fredericksburg SEATs, making two trips to reload, *left the fire for three hours in order to reload with retardant*. The Abilene SEATs arriving at the scene late in the afternoon only reloaded once in Fredericksburg. So, they left the fire for an hour and a half for reloading.

Aerial firefighting standards recommend that a reload base be within 50 miles of the fire<sup>17</sup>. *The distance between Gillespie County Airport (T82) and Smithville Crawford Municipal Airport (84R) is 105 miles*. If the distance is greater than 50 miles, there is the danger that the fire will get ahead of the retardant's effect due to the additional time it takes to get back to the fire<sup>18</sup>. In addition, the greater distance means the SEATs will have less time to make drops over the fire.

All of the SEATs left the fire by 7:30 pm. Overnight all the SEATs, except T-866, remained at San Marcos Airport. T-866 had a hold at Gillespie County Airport in Fredericksburg. In the morning, the Abilene SEATs returned to Abilene and T-809 returned to Fredericksburg. None of the SEATs returned to the fire before 11:49 am on Day 2 of the fire. That was more than an hour and a half after the wind shift of Day 2. The Abilene SEATs got to the fire after 12:30 pm on Day 2.

# IV. Day 1 Response Compared With Other Fires

## A. Introduction

Several fire chiefs believed the response to the Hidden Pines Fire on Day 1 was much less robust than it should have been, especially with regard to fire suppression resources like bulldozers and aircraft. A number of fire chiefs believed the Texas Intrastate Fire Mutual Aid System (TIFMAS) should also have been activated on October 13, so that at the very least TIFMAS strike teams could have been available at sunrise on October 14. To get some perspective on the response to the Hidden Pines Fires, two other Texas wildfires were examined. Those fires began within six days of the Hidden Pines Fire. The fires, Comanche Fire and North Side Fire, both began on October 19, 2015. While no two fires are exactly alike, the fires were worth looking at because both the fire weather and fire danger were significantly similar to the Hidden Pines Fire. Like the Hidden Pines Fire, neither fire was a wind driven event. The response to the Comanche and North Side Fires was much more aggressive as far as fire suppression is concerned.

## B. Fire Suppression Resources

### 1. TIFMAS



The TIFMAS statewide mutual aid system is activated when a fire exceeds the resource capabilities of local and regional fire departments. TIFMAS is an exceptionally important asset for fighting large wildfires. A TIFMAS request for firefighters with fire apparatus is initiated by the Bastrop County Emergency Operations Center by contacting the Disaster District Chair (DDC), who then sends a State of Texas Assistance Request (STAR) to the State Operations Center at the Texas Division of Emergency Management (TDEM) in Austin. The approved request goes to the Texas Forest Service, which then contacts the TIFMAS

State Coordinator. The State Coordinator contacts Branch Coordinators who fill the request with strike teams of firefighters with engines, saws, water tenders or dozers, depending on what is called for in the request.

In a fire, as in other disasters, rapid response is extremely important. There is going to be some delay in getting a strike team together. Frequently, strike teams are composed of firefighters from several different fire departments many miles apart. There will be additional delay, sometimes substantial, depending on the distance that the strike team has to come before getting to the fire scene. The delay built into fulfilling a TIFMAS request is extremely important to take into account when ordering a strike team.

## **2. Bulldozers**



In large wildfires with a wildland-urban interface (WUI), often bulldozers play a critical role in fire suppression. Frequently, firefighters cannot get fire apparatus in to fight a fire except for the work of bulldozers creating firelines. This was especially true during the first 24 hours of the Hidden Pines Fire. Bulldozers also can slow the fire down around dwellings and other structures and provide defensive space for firefighters. Bulldozers also work in tandem with aircraft that are dropping retardant and water to cool the fire so that firelines can be built or reinforced.

In large wildland fires TFS provides dozers, but in cases where TFS does not have enough dozers readily available other entities have supplied dozers during large wildfires. In the Bastrop Complex Fire, Camp Swift sent dozers to help with the firefighting. Sometimes the Texas Department of Transportation (TxDOT) also provides dozers for use in wildland fires. Many counties have dozers that actively participate in wildland firefighting. Travis County, for example, uses the bulldozers in its Road & Bridge Department to fight wildfires. In a number of states, privately owned bulldozers, with properly trained operators, are also

used in fighting wildland fires. There should never be a shortage of bulldozers to fight wildfires, but there was a shortage in the first 24 hours of the Hidden Pines Fire.

### **3. Aircraft**

In fighting large wildfires, especially in pine forests, aircraft that drop fire retardant and water are essential. While dropping retardant and water may not put a fire out, it can cool a fire in order to allow bulldozers to build or reinforce firelines. The water and retardant can knock a fire down, reducing fire lengths, so that firefighters on the ground can fight the fire. Water and retardant from aircraft can be very effective in putting out hot spots started by embers from an intense wildfire. A list of available firefighting aircraft, both fixed wing and helicopters, is made available to agencies like the Texas Forest Service by the National Interagency Fire Center (NIFC) on a daily basis. In addition, every morning TDEM in Austin receives a list of available aircraft from Texas Military Forces or Texas Army National Guard (Black Hawks, Chinooks and Lakotas).

The aircraft that drop retardant can also drop water, but for the most part that role is reserved for helicopters. Aircraft that drop retardant require significant advance planning in terms of pre-positioning aircraft and in locating retardant reload bases. The fixed-wing aircraft that drop retardant are referred to as air tankers. They come in a variety of sizes. The largest of all is the Very Large Air Tanker (VLAT). A VLAT is a DC-10 that can drop 12,000 gallons of retardant at a time with a swath three-quarters of a mile long and 500 feet wide, or it can drop retardant in five separate drops, if needed. Other air tankers come in three categories; Type 1, Type 2 and Type 3. Type 1 air tankers can drop up to 4,000 gallons of retardant. Type 1 air tankers are also referred to as Large Air Tankers (LAT). Frequently, Type 1 air tankers are either a MD-87 (DC-9) or RJ85. A Type 2 air tanker can drop 2,000 to 3,000 gallons of retardant. A Type 3 air tanker is generally referred to as a SEAT, a single engine air tanker. The most common of the Type 3 air tankers is an Air Tractor AT-802 with a payload of 800 gallons of retardant. Many of the Type 3 air tankers play dual roles as crop dusters.

Texas does not have a permanent air tanker base, but airports in Austin, Abilene, Midland and Longview can serve as a Portable Airtanker Base.

## RETARDANT AIRCRAFT



VLAT (DC-10)



TYPE 1 (MD-87)



SEAT (Crop Duster)

Helicopters are used to drop water on large wildland fires. Like aircraft that drop retardant, helicopters come in a variety of sizes with regard to their payload.

Chinooks can release the largest payload at 2,500 gallons of water per drop. The home base for the Chinooks is the Dallas Army Aviation Support Facility in Grand Prairie, Texas. Type 1 helicopters can release 600 to 700 gallons of water per drop. Black Hawks are a Type 1

helicopter that drops up to 660 gallons per trip. They are housed at the Austin and San Antonio Army Aviation Support Facilities. They are requested through Texas Division of Emergency Management. The civilian version of the Black Hawk is known as the Firehawk, and it can be requested through the National Interagency Fire Center. Other Type 1 helicopters can also be requested through the NFIC. Type 2 helicopters, like Travis County's STAR Flight 4 (SF 4), can drop up to 325 gallons of water per trip. Travis County also provides Type 3 helicopters for firefighting duties. STAR Flight 2 (SF 2) is one such helicopter. Its Bambi bucket can hold up to 125 gallons of water.

## **FIREFIGHTING HELICOPTERS**



**CHINOOK (CH-47)**



**BLACK HAWK (UH-60)**



**STAR Flight 4 (UH-1H)**

## **C. Response to Comanche Fire and North Side Fire Was More Aggressive**

On October 19, 2015, six days after the start of the Hidden Pines Fire, two wildfires began, one in Bell County known as the “Comanche Fire” and the other in Walker County that became known as the “North Side Fire”. While every fire is unique, the fire weather for both of these fires<sup>19</sup> was substantially similar to the Hidden Pines Fire<sup>20</sup> except that the temperature was around 10 degrees cooler and the relative humidity was higher by around 5 percent than it was for the Hidden Pines Fire during the peak heating period between noon and 6 p.m. The wind speed for all three fires was less than 10 miles per hour. By the same token, the data for the three counties in which the fires took place were remarkably similar in terms of the KBDI (Drought Index) is concerned<sup>21</sup>. Yet, the response to the three fires was remarkably different in terms of fire suppression aircraft resources that arrived during the early hours of the fires.

### **1. Comanche Fire**



The Comanche Fire, also known as the “Dana Peak Park Fire” and the “Bell County Fire”, began in Dana Peak Park, which is less than half a mile southeast of Harker Heights between Killeen and Belton. The Texas Forest Service responded to the fire at 6:30 am<sup>22</sup>. The fire was approximately 25 acres in size at that time.<sup>23</sup> Some 50 local firefighters responded to the fire with additional firefighters coming from the metroplex<sup>24</sup>. Nine bulldozers responded to the fire, three from TFS, three from a TIFMAS team,<sup>25</sup> and three from the Bell County Road and Bridge Department.<sup>26</sup> The bulldozers were cutting

firebreaks due to inability of firefighters to reach the fire because of brush and trees.<sup>27</sup> The TIFMAS team arrived at 2:50 pm.

*The Comanche Fire was 100% contained by 6:20 pm at 50 acres. Containment was due in large part to the fire suppression aircraft that arrived at the scene quickly on the 19<sup>th</sup>. Around 11:00 am four Black Hawk helicopters made it to the fire scene.<sup>28</sup> Also, around 11:00 am a MD-87, Type 1 air tanker started dropping fire retardant at the scene.<sup>29</sup> It was joined shortly thereafter by a RJ85 Type 1 air tanker dropping retardant.<sup>30</sup> Four SEATs (crop dusters) also began dropping retardant<sup>31</sup> around 11:00 am as well. According to a story published by the Texas Military Department, the four Black Hawks saved 200 homes by dropping almost 396,000 gallons of water on the Comanche Fire.<sup>32,33</sup>*

## **COMANCHE FIRE RESOURCES—DAY 1**

- 9 bulldozers
- 4 Black Hawks
- 2 Type 1 Air Tankers (MD-87 and RJ85)
- 4 SEATs (crop dusters)
- TIFMAS strike team

The Comanche Fire was 100% contained at 50 acres by 6:20 pm on October 19.<sup>34</sup> There were no homes destroyed by the fire and there were no evacuations.

## **2. North Side Fire**



The North Side Fire began at 1:23 pm on October 19 just off of FM 980 six miles north of Huntsville.<sup>35</sup> More than 100 firefighters from 14 fire departments in four counties came to fight the fire during the afternoon and nighttime. <sup>36</sup>They were supported quickly with air

and ground resources. There were seven bulldozers cutting firebreaks—three from TFS, two from the U.S. Forest Service, and two from Walker County Road and Bridge Department. Two Chinooks and two Type 1 helicopters made water drops. A VLAT (DC-10) and two Type 1 air tankers (MD-87 and RJ85) made retardant drops.

Two TIFMAS teams were called to the fire at 4:15 pm with five engines each. They arrived in Huntsville that evening. They were on the scene doing mop up work at 7:30 am the next morning.

### **NORTH SIDE FIRE RESOURCES—DAY 1**

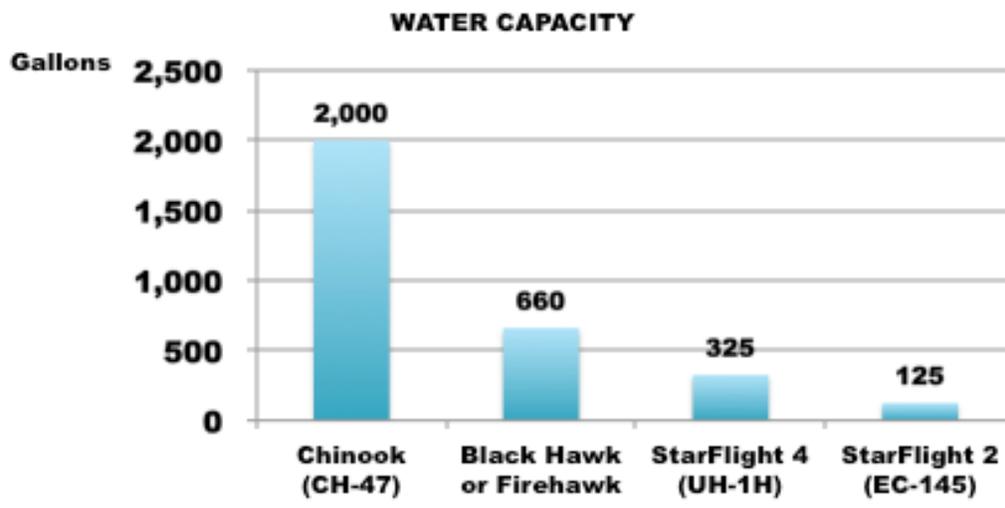
- 7 bulldozers
- 1 VLAT (DC-10)
- 2 Chinooks
- 2 Type 1 helicopters
- 2 Type 1 Air Tankers (MD-87 and RJ85)
- 2 TIFMAS strike teams activated with 5 engines each

The North Side Fire was 100% contained at 600 acres by 11:14 pm on October 19.<sup>37</sup> There were three unoccupied mobile homes destroyed by the fire.

### **3. Responses compared**

Without doubt, the Day 1 response to the Hidden Pines Fire was by far the weakest as far as fire suppression assets are concerned when compared to the Comanche and North Side wildfires that started six days later. There was an all-out effort to achieve 100% containment in the North Side and Comanche Fires on Day 1 and then to mop up the fires on the following day.

### **HELICOPTERS**



In the Hidden Pines Fire, two STAR Flight helicopters made it to the fire on Day 1. While the STAR Flight helicopters are very helpful when it comes to structure protection and spot fires, they cannot begin to match Black Hawks and other Type 1 fire suppression helicopters. Of course, the Chinooks pack the biggest wallop of them all when it comes to fire suppression.

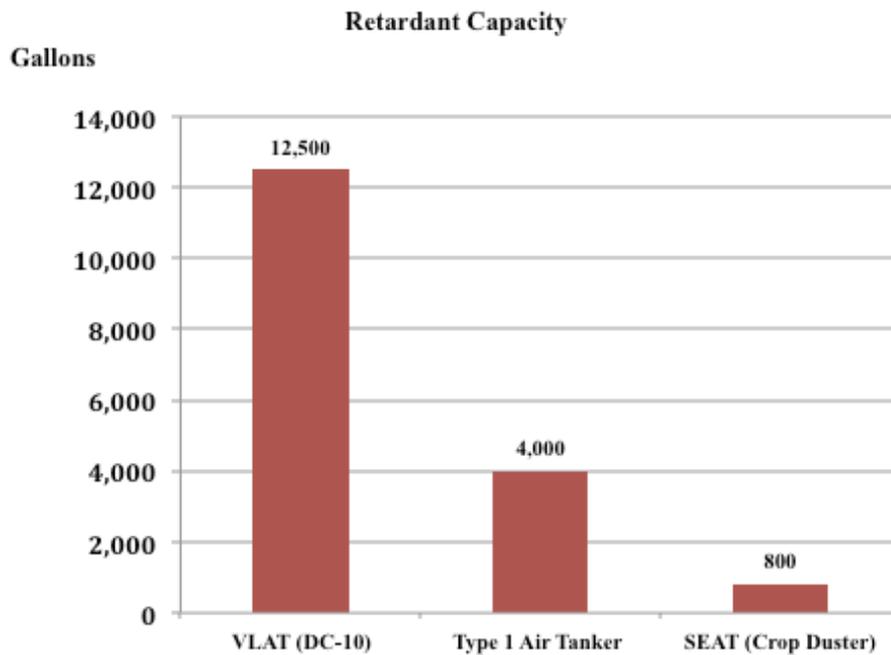
Four Black Hawks came to the Comanche Fire. They remained at the fire for almost the entire afternoon. Two Chinooks were requested for the North Side Fire and they arrived within an hour and a half of the start of the fire. A Firehawk helicopter arrived at the North Side Fire close to that time as well. Later in the afternoon a second Type 1 helicopter joined in dropping water.

### HELICOPTER COMPARISION

Hidden Pines Fire	North Side Fire	Comanche Fire
<b>1 Type 3 (STAR Flight 2)</b>	2 Chinooks	
<b>1 Type 2 (STAR Flight 4)</b>	2 Black Hawks/Firehawks	4 Black Hawks

A Black Hawk did not make it to the Hidden Pines Fire until 10:24 am on Day 2, which was after the wind shift occurred on that day. A Chinook did not make it to the Hidden Pines Fire until 11:30 am on Day 3 of the fire.

### AIR TANKERS



Two SEATs came from Fredericksburg and two from Abilene on the first day of the Hidden Pines Fire. Each time they reloaded retardant they left the fire for about an hour and a half. No other air tankers made it to the Hidden Pines Fire on Day 1. While SEATs can drop up to 800 gallons of retardant on each trip, a Type 1 air tanker can drop up to 4,000 gallons. At both the Comanche and North Side fires, Type 1 (MD-87 and RJ85) air tankers were requested very quickly after the fires began. That was not the case for the Hidden Pines Fire. Not until late afternoon on Day 3 did either of the Type 1 air tankers make it to the Hidden Pines Fire. With regard to the North Side Fire, a VLAT (DC-10) was requested within two hours of the start of the fire. Shortly after 6 pm the VLAT dropped its load over the North Side Fire.

### AIR TANKER COMPARISON

Hidden Pines Fire	North Side Fire	Comanche Fire
<b>4 Type 3 air tankers (SEATs)</b>	1 VLAT (DC-10) 2 Type 1 air tankers	2 Type 1 air tankers 4 Type 3 air tankers (SEATs)

Four TFS bulldozers arrived at the Hidden Pines Fire on Day 1, but one dozer did not make it to the fire scene until around 5:30 pm and the last dozer did not arrive until 9:00 pm. That is in contrast to the North Side Fire where all seven dozers responding to that fire were at the scene by mid-afternoon. There were six dozers at the Comanche Fire by mid-afternoon. It is unknown at what time the Bell County bulldozers arrived.

### BULLDOZER COMPARISON

Hidden Pines Fire	North Side Fire	Comanche Fire
<b>4 bulldozers</b>	7 bulldozers	9 bulldozers

At no time on Day 1 was TIFMAS activated for the Hidden Pines Fire. TIFMAS was activated for the North Side Fire and the Comanche Fire. Two TIFMAS strike teams of 5 engines each arrived at the North Side Fire by early evening.

### TIFMAS COMPARISON

Hidden Pines Fire	North Side Fire	Comanche Fire
<b>Not activated</b>	2 strike teams activated	1 strike team activated

In summary, the response, in terms of fire suppression resources, to the Hidden Pines Fire on Day 1 was much more modest than the response to the Comanche Fire and the North Side Fire. Yet, as will be seen in the next section, the Hidden Pines Fire perimeter was growing by leaps and bounds.

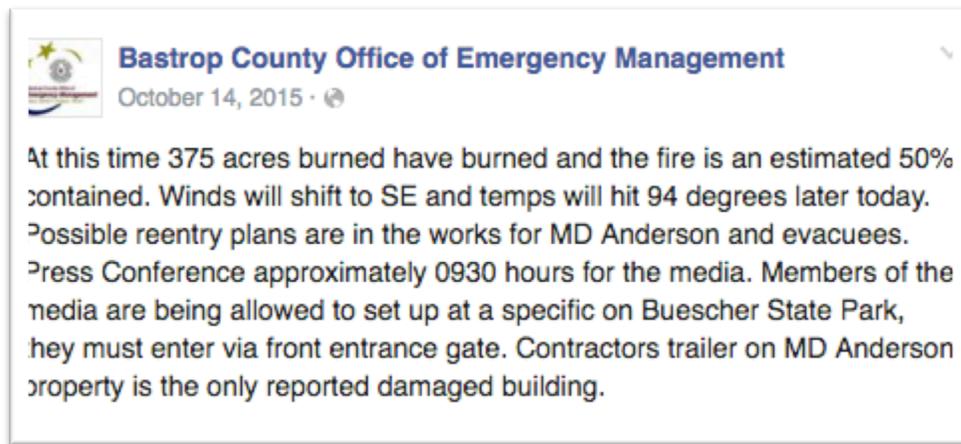
## V. Size of Fire: Four Times Larger

Properly sizing a fire is critical as far as having a handle on what resources are needed to fight the fire. A small wildfire with light wind speeds might be handled with local firefighting resources. But a large wildfire that is steadily expanding will typically call for state and federal resources, especially when the fire is located in a wildland-urban interface (WUI) area. In the case of the Hidden Pines Fire, there is good reason to believe the fire was expanding at a much more rapid rate than believed by the Incident Command. As a result, the perimeter of the fire was several times larger than the fire sizes that were being announced to the public.

### A. Size of Fire Announcements on October 14<sup>th</sup> – Day 2

**8:45 am:**

Bastrop County Office of Emergency Management announced the fire was 375 acres.



**9:16 am:**

The Texas Forest Service announced the fire was 375 acres.



**10:49 am:**

The Bastrop County Sheriff's Office announced the fire was 375 acres.



**11:30 am:**

News conference<sup>38</sup> of Sheriff Pickering with Texas Forest Service and Unified Command Public Information Officers (PIOs).

*"Acreage is the same as it was earlier today."*  
- Sheriff Pickering with Texas Forest Service



At no time was his statement corrected by the PIOs for TFS or the Unified Incident Command. Very soon after the news conference, Sheriff Pickering learned the fire had become extremely intense and was on the move. Sheriff Pickering was one of the three members of the Unified Incident Command for the Hidden Pines Fire.

## **B. Aerial Assessment Determines Fire is 4 Times Larger Than Announced**

Not until Day 2 of the fire was a Geospatial Specialist brought in to map the fire perimeter. The specialist was Jordan Smith of the Lufkin office of the Texas Forest Service. Mr. Smith undertook an aerial mapping effort from a Type 3 helicopter supplied by the Texas

Department of Public Safety. The TFS Hidden Pines Fire incident log provides the timeline for the mapping exercise.

- 7:30 am** Sunrise
- 8:00 am** Jordan Smith arrives at the Hidden Pines Fire
- 9:45 am** DPS helicopter takes off with Jordan Smith to map the fire
- 11:00 am** DPS flight is completed, landing at the Smithville airport
- 1:18 pm** Per DPS Flight, updated acreage is 1512 acres
- 1:37 pm** Public is told of the updated assessment of the fire size



While a wind shift had occurred at 10:08 am, the fire moved slowly between 10:00 and 11:00 am. The winds were extremely light. At 10:08 am the wind speed was 2 mph, gusts were at 5 mph, and relative humidity was at 26%. So, the fire movement during the time Mr. Smith was over the fire cannot begin to account for the 400% difference in fire size between the announced 375 acres and the 1512 acres that he mapped. The Hidden Pines Fire: Fire Progression Map<sup>39</sup> in Bastrop County's Case Study shows relatively small fire perimeter movement during that time frame. Even after Mr. Smith had been back on the ground for a half hour from his mapping flight, Sheriff Pickering of the Unified Command indicated the fire had not grown since the earlier announcements by his office, by the Texas Forest Service, and by the Bastrop County Office of Emergency Management that the size of the fire was 375 acres. The only conclusion that be drawn is the size of the fire was several times larger than what was announced to the public at the time Mr. Smith climbed into the DPS helicopter to map the fire.

## **C. By Midmorning On Day 2, the Hidden Pines Fire Was as Large as the Wilderness Ridge Fire**

Due to the Bastrop Complex Fire, the largest and most destructive wildland-urban interface (WUI) fire in Texas history, it may seem like the Hidden Pines Fire was not a gigantic WUI fire on Day 2 when Mr. Smith went up in the DPS helicopter to map the fire—but it was. A WUI fire sized at 1512 acres is a huge fire. The Wilderness Ridge Fire, which began on February 28, 2009, had been the largest, most destructive WUI fire in the history of Central Texas. When that fire was over, it consumed 1,491 acres. So, when Mr. Smith went to go up in the DPS helicopter at 9:45 am, the Hidden Pines Fire burn scar at that point in time was roughly as large as the Wilderness Ridge Fire.

# **VI. Window Of Opportunity Lost**

## **A. Wind Shift Predicted**

At the start of the fire, the wind was coming from the northeast, pushing the fire to the southwest. The wind continued throughout the day and into the evening from the north, northeast. However spot forecasts from the National Weather Service for the Hidden Pines/ Luecke Fire, beginning with the first spot forecast at 2:06 pm on October 13, predicted a wind shift on October 14 from the east at 10:00 am, shifting to the southeast by 2:00 pm. That meant the winds could be expected to shift and head in a westerly to northwesterly direction beginning at 10:00 am on Day 2 of the fire.

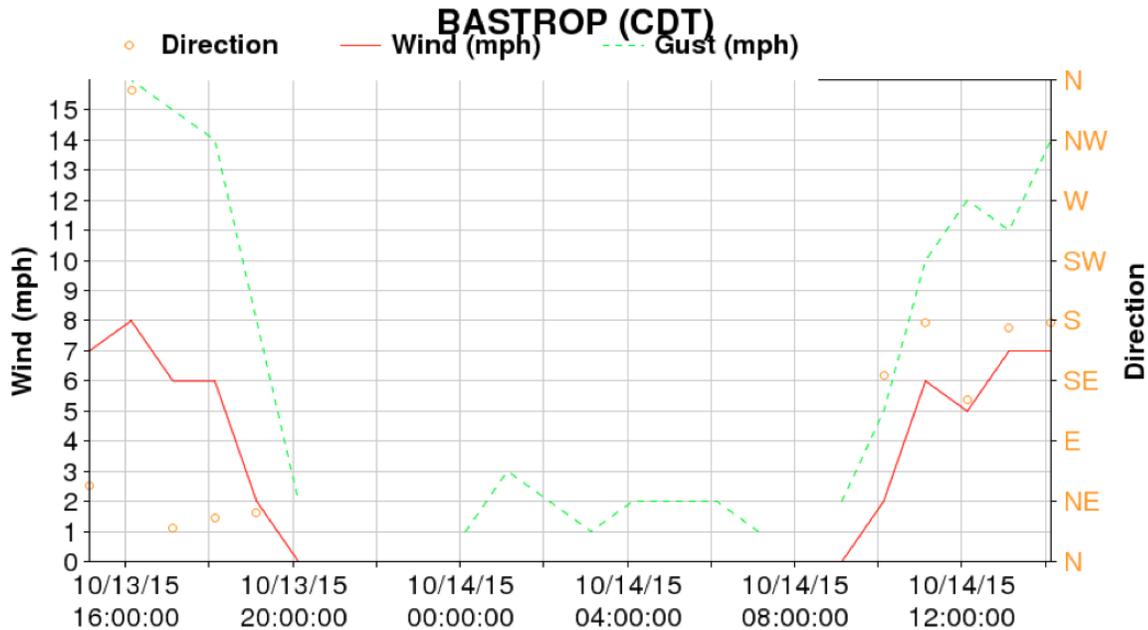
The 6:25 am spot forecast on October 14 confirmed the prediction of the wind shift at 10:00 am but indicated the wind would come from the southeast, thus heading in a northwesterly direction. In addition, the forecast predicted that by afternoon the winds would increase to 5 to 10 miles per hour with wind gusts at 10-12 miles per hour.

Whether the wind shift was coming from the east or southeast, *it was clear for more than 20 hours* that maximum effort needed to be made to get the fire completely contained, and ultimately under control, or there would be substantial risk of the fire moving into populated areas between Old Antioch Road, Cottle Town Road, and State Highway 71.

## **B. Favorable Weather**

The weather was not particularly favorable for firefighting at the start of the Hidden Pines Fire at 1:00 pm on October 13 with extremely low humidity, near record temperatures, and occasional wind gusts at 16 mph, but weather conditions began to improve in the evening.

By 10:00 pm the temperature had dropped to 63° F, relative humidity had risen to 45% and wind speeds and wind gusts were at zero. Favorable weather conditions continued through the night until around 10:00 am on October 14, when less favorable weather conditions were starting to take hold.



The data for the graph about wind speeds and direction come from the Remote Automated Weather Station (RAWS) located 13 miles northwest of Buescher State Park, near Camp Swift. Wind speeds remained at zero throughout the night until 10:00 am when the wind speed picked up to 2 mph with wind gusts up to 5 mph, still very light.

At the 9:30 am press conference for the Hidden Pines Fire on October 14, County Judge Paul Pape took note of the favorable weather conditions. “We are grateful for the weather conditions overnight and this morning,” he said.

## C. Reducing Resources Instead of Aggressively Attacking the Fire

### 1. Time to aggressively attack the fire

There was a window for aggressively fighting the fire before the wind shift took hold. Sometime between 11:30 am and noon on October 14, the wind shift took hold and the fire

started exhibiting extreme fire behavior. Given the favorable weather, the best time period for fighting the fire was between 10:00 pm on October 13 and 11:30 am on October 14. For most of the morning hours the fire laid down, creeping and smoldering at ground level. This is typical for wildland fires when there is a big drop in temperature and a rapid increase in relative humidity. In fact, the humidity was expected by the National Weather Service to climb to around 55%, when it actually climbed to 77% by 6:00 am. That was good news indeed for firefighting.

## **2. Only one bulldozer**

The TFS brought four bulldozers to the fire scene on October 13. Two arrived in the early afternoon, with one more at 5:24 pm and an additional dozer at 9:01 pm. By 2:07 am three bulldozers and their operators were released from the fire scene. At 7:00 am the fourth bulldozer with its operator was released from the scene. Another bulldozer arrived at the scene at 7:24 am. No other bulldozer arrived at the scene until 1:30 pm. *From 2:07 am to 1:30 pm there was only one bulldozer at the scene of the fire.*

There was much work to be done by bulldozers to help contain the fire, but very little progress was made after 10:19 pm, even though the fire laid down for much of the night and morning. Here are the containment percentages as reported by the Texas Forest Service.

<b>Date-Time</b>	<b>Acres</b>	<b>Pct. Contained</b>
10/14/15-- 09:05 am	375	50%
10/14/15 --07:04 am	275	40%
10/14/15--06:00 am	275	40%
10/14/15--05:00 am	275	40%
10/13/15--11:34 pm	275	40%
10/13/15--10:19 pm	275	40%

As noted above, the fire size was much larger than indicated by the Texas Forest Service, requiring a much larger commitment of bulldozers to cut fire lines and assist in structure protection than what one bulldozer could deliver.

At 10:05 am the second day, Larry Rasmuson of the Texas Forest Service in Mineral Wells, Texas was contacted to bring a bulldozer located in Greenville, Texas to the Hidden Pines Fire. It was 10 hours before the bulldozer arrived at the scene of the Hidden Pines Fire. This is more than six hours after the wind shift had taken hold and the fire had become a raging inferno.

## Greenville TFS Bulldozer

Time	Event
10:05 am	Larry Rasmuson in Mineral Wells, Texas was contacted to bring a bulldozer in Greenville to the Hidden Pines Fire
2:10 pm	Picks up bulldozer in Greenville, Texas
8:05 pm	Bulldozer arrives at Hidden Pines Fire

The TFS incident log does not reflect a request for any other bulldozers during the morning of October 14.

During the Bastrop Complex Fire, the Texas Army National Guard (TXARNG) did supply bulldozers to help fight that fire. In 2011, bulldozer teams of the TXARNG fought fires all across Texas.



***Spc. Brady Burton with the 111th En. Bn., TXARNG, clear trees and brush to create a firebreak during the Bastrop County Complex fire in near Bastrop, Texas.***

At Camp Swift at least 10 bulldozers were idle during October 13 and 14. Camp Swift is located only 14 miles from the fire. The Task Force did not discover any attempt to activate the bulldozer strike teams of the Texas Army National Guard prior to the wind shift. On October 15, Day 3 of the fire, the Texas Adjutant General was quoted as saying that *“Our dozer teams are standing by.”*<sup>40</sup> *None of those dozer teams ever made it to the fire.*

### **3. All aircraft were on the ground instead of at the fire**

Sunrise on October 14 was at 7:30 am. Two single engine air tankers (SEATs) were back in Fredericksburg and two more were back in Abilene after their firefighting the day before. The SEATs were not requested to come to the fire until 10:41 am. The Abilene SEATs did not arrive at the scene until 12:39 pm and the Fredericksburg SEATs arrived at the scene shortly before noon. The fire was on a rampage when the SEATs got to the fire.

Two Black Hawk helicopters from Austin arrived at the fire *after the wind shift*. When they arrived at 10:24 am, they were assigned to the southwest corner of the fire. It appears that two more Black Hawks were available on October 14 at the San Antonio Army Aviation Support Facility but were not called to the fire.

According to the National Interagency Fire Center, there were Type 1 Air Tankers available to be requested to come to the Hidden Pines Fire on October 13 and 14. Type 1 Air Tankers can drop from 3,000 to 4,000 gallons of retardant on each trip. Type 1 Air Tankers were not requested to come to the fire until after the wind shift had taken hold. Two Type 1 Air Tankers did come to the fire on Thursday, October 15.

Two Chinooks also came to the Hidden Pines Fire on October 15, but there is no notation in the TFS incident log of a request for the Chinooks to appear at the fire on either October 13 or 14.

Travis County’s STAR Flight 4, which can release 325 gallons of water on each drop, was in Austin on standby to be called to the Hidden Pines Fire during the morning of October 14. It had been to the fire on the first day. At 11:36 am STAR Flight operations was wondering publicly when they might be called to the fire.



Finally, after the STAR Flight tweet, STAR Flight 4 was requested to come to the fire. SF 4 arrived at the fire around noon. The wind shift had already taken hold. The temperature had reached 90 degrees, the relative humidity had dropped to 16 percent, and the wind speed was 5 mph with gusts at 12 mph. No longer was the weather nearly as favorable for fighting the wildfire.

#### **4. TIFMAS not activated**

The Texas Intrastate Fire Mutual Aid System (TIFMAS) was not activated in time for a strike team to make it to the Hidden Pines Fire before the wind shift took hold. In fact, the first TIFMAS strike team did not make it to the fire until around 3:30 pm on October 14. The first strike team leader was contacted at 10:00 am to come to the fire. *It took over 5 hours for the first TIFMAS strike team to make it to the fire.* The team leader was from Webster, Texas near NASA. The rest of his team was from fire departments in Harris and Montgomery Counties. The members of other TIFMAS teams came from Nacogdoches, Kilgore, Longview, Lufkin and Beaumont fire departments except for three firefighters from ESD No. 4 in Travis County. The other TIFMAS teams took 4 to 5 hours to get to the fire. They did not arrive until the evening on October 14, several hours after the wind shift.

From interviews with first responders, it was apparent that the resources of local fire departments were not able to meet the demands for fire containment and structure protection on October 14. Various fire departments in Central Texas were willing to come with firefighters and fire apparatus on October 13 and 14, but they were not requested to come to the fire.

## **VII. Need For Air Tanker Base at ABIA**

### **A. Response to Wildfire Hurt by not having Air Tanker Base at ABIA**

#### **1. No retardant for Type 1 air tankers**

The latest Air Tanker directory<sup>41</sup> does not have a single Air Tanker Base located in Texas. From time to time Abilene, Midland, Austin and Longview have served as temporary or Portable Air Tanker Bases for the Texas Forest Service. However, in checking with the City of Austin, there is no current agreement for ABIA to serve as an Air Tanker Base, even on a short-term basis. A short-term agreement between the Texas Forest Service and the City of Abilene for space at the Abilene Regional Airport was located that will expire in December 2016.

Two Type 1 air tankers (an MD-87 and a RJ85) came from Roswell, New Mexico, on Day 3 of the fire. Both air tankers were available to be ordered on Day 1 and 2 of the fire as well as other Type 1 air tankers. There was no retardant in Austin. To reload retardant they had to return to Roswell and leave the fire for hours at a time. Not having an air tanker base in Austin reduces the number of retardant drops that can be made during any given day.

## **2. No retardant for VLAT (DC-10)**

Late in the day on Day 3 of the fire, the Texas Forest Service put out a press release that TFS had ordered a DC-10 to drop retardant on the Hidden Pines Fire the next morning<sup>42</sup>. TFS indicated what its expectation was regarding the use of the DC-10.

*“TFS plans to use the plane strategically to protect structures, homes and to stop the forward progression of the fire.”*

The DC-10 did not make it to the Hidden Pines Fire on the morning of October 16 as promised. Instead, the aircraft had to go to Chattanooga, Tennessee, to be loaded with retardant. The aircraft was coming from California so it had to go an extra 770 air miles to the east of Austin to load up with retardant. By having to go to Chattanooga, the DC-10 dropped its 12,000 gallons of retardant five to six hours later than anticipated, at around 3:45 pm in the afternoon. The aircraft missed out on dropping its retardant during a much more favorable part of the day weather-wise for fighting the fire. In addition, by having to go to Chattanooga to reload retardant, the number of times that the aircraft could drop retardant during the day was reduced.

## **3. SEATs grounded without retardant**

Four single engine air tankers (SEATs) came to the Hidden Pines Fire on Day 1. As discussed earlier in this report, the retardant reload base for the SEATs was in Fredericksburg, Texas. It took almost an hour and a half away from the fire each time a SEAT had to reload with retardant. After the first day, the reload base was moved to Giddings-Lee County Airport. On Day 4 of the fire, October 16, TFS ran out of retardant. The truck bringing replenishment broke down in Big Spring, Texas, some 350 miles from Giddings<sup>43</sup>. The SEATs were grounded for that day.

# **B. ABIA is the Right Place for an Air Tanker Base**

## **1. Austin, San Antonio and Houston metros are among the most at risk for wildfire damage**

CoreLogic’s 2015 Wildfire Hazard Risk Report rates metropolitan areas based upon Core Based Statistical Areas (CBSAs) of the US Office of Management and Budget for the 13

western states, which includes Texas. Houston/The Woodlands/Sugar Land (Houston) CBSA is ranked number 10 in wildfire damage risk. San Antonio/New Braunfels (San Antonio) CBSA is ranked number 5 in wildfire damage risk. Coming in at number 3 is Austin/Round Rock (Austin) CBSA. CoreLogic rates 250 areas for wildfire damage risk within the 13 western states. Studies and data published by CoreLogic are heavily relied upon by property and casualty insurance companies in making risk assessments.

In the Houston CBSA, 14,092 homes are in the highest risk category for wildfire damage. For the San Antonio CBSA, 31,350 homes are in the highest risk category, and for the Austin CBSA 35,807 homes fall in that category.

**TOP 10 AREAS MOST AT RISK FOR WILDFIRE DAMAGE<sup>44</sup>**

<b>CBSA</b>	<b># Homes at Highest Risk</b>
Riverside/San Bernardino/Ontario	50,605
Sacramento/Roseville/Arden/Arcade	42,042
Austin/Round Rock	35,807
Denver/Aurora/Lakewood	35,174
San Antonio/New Braunfels	31,350
Los Angeles/Long Beach/Anaheim	17,006
Chico	15,103
Colorado Springs	14,990
Truckee/Grass Valley	14,671
Houston/The Woodlands/Sugar Land	14,092

**2. Bastrop County has the most structures at very high wildfire risk in the Austin CBSA**

The 2013 CoreLogic Wildfire Hazard Risk Report breaks down the data for the Austin CBSA with regard to the zip codes that have structures with the highest wildfire risk score (81-100) or who are in the “Very High” wildfire risk category. Needless to say, Bastrop County has the most structures in the highest risk category with the most potential loss dollar-wise.

ZIP Code - Area Name	"81-100" Wildfire Risk Score Total Properties	"81-100" Wildfire Risk Score Total Estimated Structure Value	"Very High" Wildfire Risk Category Total Properties	"Very High" Wildfire Risk Category Total Estimated Structure Value
78641 - Leander	2,823	\$811,815,349	2	\$5,388,458
78676 - Wimberley	7,248	\$786,798,329	31	\$4,097,742
78602 - Bastrop	6,020	\$740,324,047	1,548	\$180,934,067
78612 - Cedar Creek	3,313	\$558,475,763	330	\$60,861,347
78642 - Liberty Hill	2,290	\$412,150,456	0	0
78620 - Dripping Springs	3,715	\$383,745,469	1	\$160,677
78957 - Smithville	2,715	\$375,911,110	713	\$103,180,776
78633 - Georgetown	2,719	\$351,909,111	0	0
78628 - Georgetown	2,019	\$351,048,985	0	0
78621 - Elgin	2,435	\$330,590,284	203	\$27,701,308

### **3. Only Texas, Oklahoma, and Wyoming do not have a permanent air tanker base**

Texas and California are virtually tied as far as the potential for losing residential structures due to high or very high wildfire risk, according to the 2015 CoreLogic Report. None of the other 11 western states come close to having as many residential structures at risk of destruction due to wildfire. Yet, among the 13 western states, all except Texas, Oklahoma, and Wyoming have a permanent air tanker base that will accommodate a Type 1 air tanker, and many of them will accommodate a VLAT (DC-10).

Based upon interviews, the locations of permanent air tanker bases were decided, for the most part, more than 20 years ago. Much has changed since then. The explosion of WUI areas in Texas over the last 20 years should not be overlooked. More frequent droughts in Texas appear to be the new normal<sup>45</sup>.

It is time to consider setting up a permanent air tanker base at ABIA. It is centrally located to reach the major WUI areas in Texas. At the same time, a mobile retardant base should be located at ABIA during extreme drought to be able to serve Type 1 air tankers as well as a VLAT should one be requested to come to a Texas wildfire.

Many wildfires in western states occur in areas where homes are not intermingled with wildland. For those fires, the time it takes to get to the scene of a fire may not be extremely

important, but in a WUI fire time is critical. This is all the more reason for locating a permanent air tanker base at ABIA in the heart of WUI country.

## **VIII. Communications With The Public**

### **Overview**

In any emergency involving the threat to life and property, communications with the public are crucial. Those communications must be timely, accurate and proactive. During the first two days of the Hidden Pines Fire, public information staff from Bastrop County and the Texas Forest Service relied generally on briefings to the media, news conferences, Twitter and a temporary Facebook events page set up to provide information to the public about the fire.

An extensive review of news articles and broadcasts found that the media did a credible job of reporting and updating the news about the fire, based on the information the media received. However, the information provided to the media was not always timely, complete or correct. In personal interviews, a number of residents said they relied in part on information from the media in making decisions about what actions, if any, to take.

Initial statements by those in charge of fighting the fire seriously underestimated the size and containment of the fire, based on a review of news conferences on the morning of Day 2, October 14. Incident managers were generally optimistic, raising hopes that were to be dashed later in the day when the fire got out of control. Details about the wind direction, location of the fire and other information that residents were seeking during the first 36 hours were slow in coming, underplayed or not provided, a review of Internet postings from the Bastrop County Office of Emergency Management indicates.

### **News Conferences**

On October 13, Day 1 of the fire, public information officers provided updates to the media as needed, including on-camera interviews. On Day 2, incident managers held news conferences at 9:30 am, 11:30 am and 4 pm. The two morning news conferences were particularly important because they set the stage for what the news media would be reporting much of the day—and what residents in the immediate area would be hearing and how they would respond. The tone of the morning news conferences on October 14 was largely low-key and optimistic.

A key speaker at the 9:30 am news conference was Mike Fisher, coordinator for the Bastrop County Office of Emergency Management, and incident commander. He reported that firefighters had made “some good progress overnight,” but acknowledged that the fire had grown. He estimated the size of the fire to be about 375 acres, “maybe a little more

than that,” and 50 percent contained. He said two Black Hawk helicopters would be on site soon to drop water on the fire.

“I’m hoping that by the end of the day we can say that we are on the downside of this Hidden Pines Fire,” he told the gathered media, which dutifully reported that information to the public that morning.

Meanwhile, in an interview with a reporter with KXAN-TV in Austin, Fisher had this to say about the Hidden Pines Fire on October 14: “What’s of concern to me Sophie is that today we could have another fire break out in one of our rural subdivisions, another neighborhood, and we might not have that luxury of being able to be deliberate and taking our time like we did yesterday.” The interview appeared on the noon news that day.

(Interviewed months later, Fisher defended his optimism as well as the 375-acre estimate, which turned out to be about four times too low. “I felt good that we had met our objectives overnight. Optimism is part of my management style.” As for the underestimate, he said: “We did the best we could with a map and a magic marker.”)

At the 11:30 am news conference on October 14, Bastrop County Sheriff Terry Pickering, backed by public information officers from the county and Texas Forest Service, also had encouraging words about the fire. Pickering said there was no change in the size of the fire as reported by Fisher earlier that morning (375 acres). He pointed out that two Black Hawks were at the scene.

“I’m hoping they’ll be able to get it under control pretty quick today,” Pickering said. He made no mention of a wind change that had already occurred that morning and was moving the fire in the direction of homes.

(In an interview months after the fire, Pickering said he learned shortly after the news conference that the fire was growing out of control.)

The 375-acre figure also was posted by the Texas Forest Service and by the Bastrop County Office of Emergency Management. By early afternoon the estimate of the fire coverage had increased to 1,512 acres, based on analysis by a Texas Forest Service expert from the air, as opposed to the earlier apparent back-of-the-envelope estimate.

## **Facebook**

The morning of Day 2, October 14, the Bastrop Office of Emergency Management (OEM) began hosting a “Hidden Pines” Facebook page to help provide updates to the public. Use of Facebook and other Internet tools to inform the public has the advantage of immediacy, without having to rely on a third party like a newspaper or television station to get out the information.

At 11:34 am, while Sheriff Pickering was delivering optimistic news, the OEM posted the following message: “Prepare for the worst and hope for the best. Everyone downwind of the fire in the immediate area should be following updates and taking precautionary

measures to prepare their homes and plan for potential evacuation notifications. Long Road (sic) is not immediately threatened, but the fire direction and behavior is being monitored and evacuations will be posted if deemed necessary.”

The 11:34 am OEM posting offered no warning or concern about the wind shift that had begun moving the fire north and northwest in the direction of many homes. Nor did any postings identify recommended precautionary measures that residents should take.

“It was like they were afraid to get into trouble if they said anything that bordered on speculation,” said one Facebook follower who expressed frustration with the Hidden Pines page.

Another follower of the Facebook page said she saw a posting from one of her neighbors pleading for details (from the OEM) on the location of the fire. “I could read the frustration level in the request,” she said. “But there was no response.”

During that day the page drew hundreds of comments from readers. Many of them were positive, thanking staff and firefighters for their work. Others were concerned about the current location of the fire and where it was headed. Some said they were at work in Austin and were trying to decide whether to leave work early. Stated one commenter: “There’s gotta be some kind of police scanner or something to know what’s truly going on.”

The OEM did not answer those questions directly. It did provide general information, including summaries of the news conferences and regular reports listing streets where families had been ordered to evacuate because of the fire danger.

Many readers provided helpful information to fill in the gaps. Some reported when various streets lost power. Some provided detailed recommendations about what specific steps residents should take to gather important possessions and records in case they had to evacuate. Others reported critical information on the shift in the wind direction. Still others offered old or incorrect information that made for more confusion.

Around 8 pm on October 14, OEM’s public information office announced it was shutting down for the night and would resume Facebook updates the following morning. The announcement stated that readers should check the Sheriff’s Office web page. But the Sheriff’s Office also announced that it would shut down its page as well for the night.

The shutdown announced by OEM occurred at a time when many residents were frantically seeking information and when a number of homes already had been burned or were in danger. The shutdown prompted significant, sometimes angry, debate on the Facebook page. Some posters defended the staff, which had been working long hours. Other commenters were critical, including a former firefighter who expressed frustration by the decision. “You can’t call yourself an office of disaster management and log off at 8 pm. That’s like me saying I’m a breakfast cook, but I don’t wake up until 11:30.”

The next day the OEM abandoned the Hidden Pines page and moved updates on the Hidden Pines fire to its regular page, saying: “Since the level of staffing has changed, they are more focused on the media to get the information out.”

## **IX. Not Again**

### **Four Stories of People Caught Up in the Hidden Pines Fire**

The Hidden Pines Fire that burned for almost two weeks in Bastrop County in October 2015 was not just a forest fire or a statistic about how many acres burned or how many homes were destroyed or saved. It was foremost about people. The fire affected the lives of thousands of people who fought it, had homes destroyed in its path, or had homes or businesses potentially threatened by it.

Anyone who lives in, or whose job it is to protect, the Lost Pines forest and its residents has much to learn from the people who were caught up in the Hidden Pines fire — about communication, resiliency, human kindness, and the critical need to apply lessons learned. Here are four of those stories.

#### **Bob Davis - Lonesome Dove Road**



On both sides of the narrow dirt driveway on Bob Davis’s place the signs of tragedy are inescapable. Scorched trees stand near burnt stumps. Rectangular-shaped patches of grass form outlines of where two buildings once stood.

One of those buildings was Davis’s house on Lonesome Dove Road between Bastrop and Smithville. His land was a secluded forest of oak and tall loblolly pines before the fires in 2011 and 2015. Some of the trees are still standing and are still beautiful, even those with the permanent scars. Others had to be cleared out.

First came the massive 2011 Bastrop Complex fire that whipped through the Davis property. Guided by a brisk wind, the fire picked and chose what to burn. It took out dozens of trees, but left others undamaged. It also took out a cabin that Davis had custom-built as a saloon. It had been designed by University of Texas architecture students. He called it “Lonesome Dove.” It had a long wooden bar, television set and comfortable chairs and was used for regular family gatherings.

While Lonesome Dove was a total loss, the fire skipped around Davis’s house and a metal building he had erected nearby. He considered himself one of the lucky ones.

Then came the Hidden Pines fire in mid October 2015. It could not have been at a worse time for Davis. He was still in shock over the death of his wife Linda, who had lost her battle with cancer on October 3. She had died at home in a place she dearly loved. Her memorial in Giddings, where she grew up, had been three days before the fire erupted in a field east of Buescher State Park north of Smithville on October 13.

“From everything I heard on television and from neighbors, they had it under control and I didn’t see or hear any activity around here to give me concern,” said Davis, 79. “So I wasn’t worried. I had a lot of other things on my mind.”

Besides, he said, with many of the trees gone he had kept the area around his house and metal building mowed and cleared. Davis bought the property in 1986 and had fixed up the small shiplap cedar house that he and Linda had lived in for 11 years. The property initially was 9.5 acres and grew to 15 acres when he acquired adjacent land after the 2011 fire.

“I figured from the terrible lessons we learned in 2011, this (Hidden Pines) fire was going to be all hands on deck. I thought no one in his right mind is going to let this fire get away from us,” Davis said.

That’s why he was surprised when a deputy sheriff showed up at his property in late afternoon on October 14 and told him sternly that he had to leave. Now.

“My first thought was this thing is supposed to be far away and under control,” Davis said. “What had happened?”

The deputy reluctantly let Davis enter the house briefly. He grabbed his computer hard drive, some documents and a picture of his wife before heading out. By the time Davis got to the Heart of the Pines volunteer fire station on Cottle Town Road, maybe 100 yards from his property, he knew why the deputy was in a rush for him to leave. “The fire was in the field across from the fire station,” Davis said. “I couldn’t believe they had let that fire come across that field.”

Still, he held out hope that his land, house and belongings would be OK. After all, the house had survived the horrible 2011 fire and had more cleared space around it now, he thought.

He got the bad news two days later. The house burned to the ground. The flames had missed the homes of two nearby neighbors. It was a week before he was allowed back to his property to see the ruins.

Fortunately the metal building was not damaged, except for a burned-up air conditioning unit out back. Davis had remodeled the building after the 2011 fire as a substitute for the Lonesome Dove saloon, a place for family members to relax and stay on weekends. The UT architecture students had designed that building, too. He soon converted the 1,800 square-foot building to his new home.

“I had thought about leaving, but at my age, I really had no other place to go,” he said.

Months later, Davis still gets agitated when he talks about the Hidden Pines Fire. He is upset, not with the firefighters, but with those in charge, based on what he says he has learned since the fire.

“What upsets me most is that these people say now that they did everything right. They didn’t even know the size of the fire until it was too late,” Davis said.

(On the second morning of the fire, officials estimated the fire to have burned 375 acres and expressed optimism at two news conferences that the fire would be controlled soon. A few hours later they revised the estimate of the fire to 1,512 acres. It would be another 10 days before the fire was declared 100 percent contained. By then it had affected nearly 4,600 acres and destroyed 64 homes.)

“From talking to some of the rural firefighters later, they said that coordination was a disaster from the very beginning,” Davis continued. “The most ironic thing is that they said they saved 400 homes when the truth is that 64 homes should not have burned.”

## **Anne and Richard Smarzik – Long Trail**



Anne Smarzik loved living in the Lost Pines area of Bastrop. She loved the woods and the solitude and the shade. But the scorching summers and bone-dry conditions – and the fires that accompanied them - have been too much for Anne and her husband Richard.

“We have decided it is too risky to live in the forest,” she said. And for good reason.

The massive Bastrop Complex fire in September-October 2011 spared their half-built house on Long Trail between Bastrop and Smithville. But it burned more than 90 percent of the loblolly pines and oak trees on their 5.5-acre property.

Then in October 2015 the Hidden Pines Fire took aim at their property again. This time it took away the Smarziks’ house and all their belongings, three cats and two large pet parrots inside. The loss, especially the pets, was devastating and Anne tenses up with a combination of sadness and frustration when she talks about it.

“From what we are hearing now, this didn’t have to happen,” she said. “We’ve heard that there were firefighters in other counties who offered to help, but their help was turned down. There were helicopters ready and just sitting there because they didn’t get called. Plus, if we had been given any kind of early warning, we would have had time to get our animals and a few belongings out.”

The Smarziks moved to the Lost Pines four years ago from San Antonio when their house was finished. Anne had been drawn to Bastrop because her parents had taken her camping

at Bastrop State Park as a child. She had fond memories of the Lost Pines area and always dreamt of returning. She took Richard there on a road trip. He fell in love with the area too and they bought their place in the forest. She also set up a jewelry business at the Crossing, a downtown Bastrop shopping area near the Colorado River. When her jewelry making prospered, they bought a building on Main Street. She had opened the shop 11 days before the Hidden Pines fire erupted.

When Anne and Richard left the house the morning of October 14, the second day of the fire, a light wind was blowing away from the house, Anne said. The reports they had heard about the fire were encouraging. Nevertheless, Richard, who commutes to his job in San Antonio, stayed home that day as a precaution. They decided to go to Bastrop to work at the shop and pay attention to the news.

“We left the house about 9:30 thinking we could get back there quickly if we needed to,” she said. “We had no reason to think we were in trouble.”

They monitored the movement of the fire on a Hidden Pines “event” page hosted on Facebook by the Bastrop County Office of Emergency Management. They figured it would have the latest and most reliable information.

“But the information we were getting was spotty and not really up to date. It was very frustrating,” Anne said. Particularly frustrating, she said, was when she read on the Facebook page that those updating the site were at a location without Internet and the WIFI was “spotty.”

“They had put their communication hub in the (Buescher State) park and then were unable to get word to people because of problems staying connected to the Internet,” she said. “It was unbelievable.”

Still, there was nothing suggesting a need to be alarmed. Officials that morning had reported that the fire had burned about 375 acres and expressed optimism they were making good progress in getting it under control soon.

The first sign of trouble came early that afternoon when Anne got a call from a park ranger saying that her neighbor, who did not have a vehicle, needed to be picked up with her two small children. Richard hurried out to get the neighbor, her kids and a car full of suitcases and then deliver them to Anne’s shop in town temporarily.

Realizing the situation was worsening, Richard then headed back to the house, but by then law enforcement officers had blocked off entrance to the neighborhood.

“By that time the ash was falling heavily and the smoke in the area was intense,” Richard said. “From what I could see, it was pretty much a ground fire.”

Still, they hoped that the house and pets would survive. For one thing, Richard said, there were helicopters in the air dropping water.

“My expectation was that if the house was properly defended it would still be standing,” he said. The house had a metal frame, with a metal roof and siding. It had been designed by their oldest daughter, an architect.

For another thing, Anne pointed out, with most of the trees already cleared from the 2011 fire, they felt the house had good defensible space around it.

While waiting to hear the fate of their house and pets, the Smarziks said they were upset by comments from one county official who told a press conference: “This isn’t our first rodeo,” referring to the fact that local officials had experience fighting three major fires in the county since 2009.

“By the time we heard that comment we were pretty sure we had lost our home,” Anne said. “The comment didn’t sit well with us. If these people were so experienced, they should have been better prepared.”

Anne and Richard also were upset by another comment, this time at a public meeting at the Smithville Recreation Center on day three of the fire. They had gone to the evening meeting to try to learn whether their home and pets had survived. Exhausted and worried sick, they already had spent two agonizing days without answers when the speaker said officials had debated whether to release the information.

“They knew which homes had been destroyed but were not planning to reveal the list that day,” Anne said. “We would like to know why.”

Eventually, at the meeting officials did hand out a list of destroyed homes. Theirs was on the list.

“A firefighter told me later that the inside of the house had been glowing orange,” Anne said. Apparently the metal on the outside had turned the inside of the house into a giant oven. All that was left was a metal skeleton, which they have since had removed.

For their new home, the Smarziks have been remodeling an apartment behind their business in downtown Bastrop. It is small but comfortable, convenient and as close to the forest as they want to live.

## **Janice and Ken Jenkins – Powell Road**



It was early afternoon on October 13, 2015, and the thickening plume of smoke in the distance made Janice Jenkins nervous. The weather was hot, windy and very dry, making conditions ripe for a wildfire.

From her angle at the Fayette County regional airport at La Grange, the smoke seemed to be coming from the general

direction of her neighborhood about 20 miles away.

Not again, Janice thought.

She and her husband Ken has been forced to evacuate their home on Powell Road between Smithville and Bastrop during wildfires in 2009 and 2011. The 2009 fire had gotten within half a mile of their house before it was stopped. The 2011 Bastrop Complex fire, the worst in the state's history, had destroyed thousands of trees around them but left the house undamaged.

Janice, a bookkeeper at the airport, mentioned the smoke to the airport manager, who also lived in the direction of the fire. They decided to take a quick look from the air. From her vantage point in the Piper Cherokee single-engine plane that sunny afternoon, Janice could see the fire clearly. She saw a small helicopter a couple of miles away taking water to the fire but did not notice firefighting activity on the ground. The fire probably had been burning for two or three hours, she guessed.

"The fire was beginning to get into the woods line," she said. "It gave me the idea that this is going to be bad if they don't throw everything they have at it."

They flew over her house several miles away from the fire. For now, she thought, we are OK. The wind was blowing the fire southward and her house was to the west. At the same time she noted that between the fire and her neighborhood there was nothing but woods to fuel it. It was very troubling, she said.

Back at home that evening Janice and Ken could see the smoke and the glow of the fire in the distance. They weren't hearing much news about its movement. But they began taking precautions by packing up valuables.

Janice and Ken bought their 10-acre tract 14 years ago and lived in a mobile home on the property while Ken, a retired carpenter, built a wood-working shop. They built and moved into their house 10 years ago.

That night the fire seemed to calm down, Janice said, thinking maybe firefighters had gotten it under control. But the next morning everything changed. By late morning the wind shifted and was coming out of the south, pushing the fire more toward their neighborhood. Smoke started billowing again, Janice recalled. At about 1 pm the power went off. By 3 pm they had packed up as much as they could and evacuated.

"At that point we were seeing a lot of smoke and flames. We knew we needed to go," Janice said.

"We were surprised that things changed so quickly," she continued. "We were using the emergency frequency scanner that we had bought after the 2011 fire for this purpose, but there was very little usable information out there to help us."

That night they feared the worst. Their home had escaped the two earlier fires and they were unsure whether they would be fortunate a third time.

“With the wind and the forest fuel load, we never did understand why they didn’t fight this fire with everything they had early on. But they didn’t,” Janice said.

But an angel in a black bulldozer smiled on them.

An Austin television reporter told Ken that Chris Sievert had saved their house. The reporter had done a story on Sievert, who spent two days and nights in his bulldozer building fire breaks to help protect houses along Powell and Kellar Roads. The mother of Sievert’s fiancé lived in the neighborhood and hers was one of the houses he helped protect.

“Chris was doing work in the area and heard about the fire. He had his own bulldozer and took it upon himself to help out,” Ken said. “He did a beautiful job grading around the house to keep the fire away. He did it in the middle of the night and while the yard was on fire. We couldn’t thank him enough.”

Ken eventually tracked Sievert down to thank him and ask what he owed him. But Sievert asked for nothing. Ken later built cabinets for the front of a trailer Sievert used to haul his racing pick-up trucks.

“It was the least I could do for him,” Ken said.

The fire, known as the Hidden Pines Fire, eventually affected nearly 4,600 acres and destroyed 64 homes before it was declared fully contained on October 24.

Despite the scare from three fires in six years, Janice and Ken Jenkins said they are not planning to move. They’ve bought high-pressure pumps and water tanks and other equipment to be ready for the next fire, if and when it comes.

“I have everything I need right now to fight the next one. We think people should take their share of responsibility,” Ken said. “Not that we didn’t think about leaving, but we love this area. We really believe this is where God wants us to be.”

## **Chris Sievert - Bulldozer Man**



Chris Sievert will tell you matter-of-factly that he just may be the best bulldozer operator on the planet. Residents near ground-zero of the Hidden Pines Fire that raged between Bastrop and Smithville in October 2015 might agree.

Sievert, who has his own bulldozing business in Bastrop, was working a job near Cistern when he heard

that the Hidden Pines Fire had gotten out of control on October 14, a day after it started. He thought he and his black bulldozer could help. His dozer, with its 10-foot-wide blade, was easily capable of clearing out brush and trees to create a firebreak to help stop the fire from spreading.

Sievert lives in Bastrop near the Colorado River. He has lived in Bastrop County all his life. He worked as a bulldozer operator for two decades for big construction firms in the Austin area. A few years ago he decided to start his own business. During the day he does all kinds of jobs requiring a bulldozer, from clearing land to cutting out driveways. In the evenings he often works at his shop near his home on pickup trucks that have been adapted for street races. Sometimes he competes in Oklahoma and Louisiana.

Sievert recalls vividly the horrible 2011 Bastrop Complex fire, the worst in Texas history. Two people died, nearly 1,700 residential structures were destroyed and more than 32,000 acres burned. He and his fiancé Jackie went over to Tahitian Village to help residents fight the fire to save homes. He didn't have a dozer then. They used shovels and garden hoses and he even climbed on roofs and set garden sprinklers running.

"Some people might have thought we were crazy, but anything to help keep a house from burning," he said. The heartbreak and frustration he witnessed from the 2011 fire helped motivate him when the Hidden Pines Fire got out of control, he said.

Sievert hauled the dozer on a flat-bed trailer to Kellar Road at Highway 71 in the early afternoon of October 14. He carried extra fuel in containers. To his surprise, the young officer standing guard at the road to keep people out took a look at the dozer, smiled and waved him through.

"I knew I wasn't supposed to be going in there and they might give me trouble," Sievert said. "But I couldn't sit around knowing I should have done something when people's homes were in danger. I thought if I can keep one house from being destroyed it would be worth it."

Covered in ash and soot, he worked an exhausting two days in the neighborhood called Smithville West. He left only twice, once to get fuel and something to eat, and once to go back to his shop to repair the big blade, which had broken as it pushed away fallen trees. He left when a cold front came in and began to slow the fire down, he said.

Initially, Sievert moved northward along Kellar Road for hours, using the dozer to grade the land to create a firebreak as he went along. Some of the terrain was rough. "But there is no place you can't go with a bulldozer," he said.

He worked his way up Kellar, clearing brush and trees away from homes, and then moved over to Powell Road where the mother of his fiancé lived. He knew the area well. He used to own 11 acres nearby until he sold it in 2012.

At about 3 am, he recalled, as he got to a house at the end of Powell Road, he noticed that steps on the deck were burning. He jumped out of the dozer and smacked the fire out with

a shovel. Then he hopped back into the dozer where he continued clearing the area around the house to keep the fire at bay. He eventually made a firebreak around the whole neighborhood, he said.

“I thought the fire trucks would be coming, so I made it so that they could drive in there,” Sievert said. “But they never came.”

After many hours of battling the fire and smoke, Sievert said he was disturbed not by what he saw but what he didn’t see.

“I followed the fire line for hours and never saw another person the whole time,” he said. In the two days, he saw only two bulldozers and a few firefighters, one of them a battalion chief who had come from Austin to help, Sievert said.

“The chief said I was doing a phenomenal job and to just keep doing what I was doing.”

Near daybreak on October 15 Sievert ran out of fuel for the dozer. He drove his truck to Buc-ee’s a few miles away. When he tried to get back in, the young officer was gone, replaced by a state officer who was not as friendly.

“I understood the need for safety, but I had been in there all night,” Sievert said. “Besides, there was no one else in that neighborhood working, so there was no way I was not going back.”

Sievert recalls the conversation with the officer: “He leaned in at me and told me I couldn’t go in there. I told him my \$46,000 bulldozer was there and I needed to get it out. He asked me how long it would take to get the bulldozer out and I said 15 minutes. He said if I wasn’t out of there in 15 minutes I was going to jail.”

Sievert went back to the dozer, fueled it and went back to work.

Late that afternoon, the blade broke. He had to load the dozer and take it back to the shop to repair it. As he was loading up, the Austin battalion chief came by and asked where he was going.

“He told me he needed me here and I told him that I need to go to my shop and fix the blade, but I might not be able to get back in. Then I told him about the officer who threatened to take me to jail. He said he would take care of it.”

It took a couple of hours to repair the blade, then he loaded up the dozer again and headed back to the fire. At Kellar Road he got waved through. He worked until daybreak the next morning when the cold front moved in.

Sievert said he doesn’t know how many houses he may have saved during those two days of battle with the fire. “I really didn’t take time to count.”

He learned later that one of the houses he had saved, the one with the burning steps, belonged to Ken and Janice Jenkins. Ken Jenkins found Sievert to thank him after a television reporter from KXAN in Austin told Jenkins that Sievert had saved his house. The television station ran a feature story on Sievert's heroism, as did two other stations days later.

"He single-handedly saved our home," Jenkins said. "And other homes too."

In all, 64 residential structures were destroyed by the Hidden Pines Fire, according to Bastrop County. No houses on Kellar or Powell Roads are on the list of destroyed structures posted on the county's web site, although a number of houses on nearby roads, including Spring Hollow Trail and Long Trail, are on the list.

"I've seen enough fire, but if there's another one, you can bet that I'll be ready to go back," Sievert said. "Sometime you just have to go out there and help."

## **ACRONYMS**

<b>CBSA</b>	Core Base Statistical Area
<b>ESD</b>	Emergency Services District
<b>IR</b>	Infrared
<b>RJ85</b>	British Aerospace 4 engine air tanker
<b>KBDI</b>	Keetch-Bryan Drought Index
<b>MD-87</b>	Converted DC-9 air tanker
<b>NIFC</b>	National Interagency Fire Center
<b>NWS</b>	National Weather Service
<b>SEAT</b>	Single Engine Air Tanker
<b>SOC</b>	State Operations Center of TDEM
<b>STAR</b>	State of Texas Assistance Request
<b>TDEM</b>	Texas Division of Emergency Management
<b>TFS</b>	Texas A&M Forest Service
<b>TIFMAS</b>	Texas Intrastate Fire Mutual Aid System
<b>TPWD</b>	Texas Parks and Wildlife Department
<b>TXANG</b>	Texas Army National Guard
<b>TxDOT</b>	Texas Department of Transportation
<b>USFS</b>	United States Forest Service
<b>VLAT</b>	Very Large Air Tanker (DC-10)
<b>WUI</b>	Wildland-Urban Interface

## ENDNOTES

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- <sup>1</sup> <http://droughtmonitor.unl.edu/MapsAndData/MapArchive.aspx>
- <sup>2</sup> <http://droughtmonitor.unl.edu/MapsAndData/DataTables.aspx>
- <sup>3</sup> <http://texasforests.tamu.edu/main/popup.aspx?id=10548&terms=drought+index>
- <sup>4</sup> <http://www.usclimatedata.com/climate/smithville/texas/united-states/ustx1271/2015/10>
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- <sup>7</sup> <http://www.nps.gov/fire/wildland-fire/learning-center/fire-in-depth/understanding-fire-danger.cfm>
- <sup>8</sup> Bastrop County Sheriff's Office 911 calls for the Luecke/Hidden Pines Fire.
- <sup>9</sup> Origin and Cause Investigation Report, Investigation No. TX-TXS-016001, Hidden Pines Fire, Texas A&M Forest Service, Law Enforcement Department at p. 1.
- <sup>10</sup> Case Study of the 2015 Hidden Pines Wildland-Urban Interface Fire in Bastrop County ("Bastrop County Case Study") at p. 32.
- <sup>11</sup> Bastrop County Sheriff's Office, Call Sheet Report for the Hidden Pines Fire ("Call Sheet").
- <sup>12</sup> Id.
- <sup>13</sup> Texas Forest Service, Incident Dispatch Report, Hidden Pines Fire, at p. 2.
- <sup>14</sup> Call Sheet at p. 16.
- <sup>15</sup> <http://fireaviation.com/2014/02/24/firefighting-helicopters-in-central-texas/>
- <sup>16</sup> <http://www.fox7austin.com/news/local-news/32902068-story>
- <sup>17</sup> "Aerial Firefighting Tutorial", American Helicopter Services & Aerial Firefighting Association. [http://www.ahsafa.org/?page\\_id=52](http://www.ahsafa.org/?page_id=52)
- <sup>18</sup> Lavender, Bill, "SEATs key element in Texas wildfires", AgAir Update (June 1, 2011).
- <sup>19</sup> [http://mesowest.utah.edu/cgi-bin/droman/meso\\_base\\_dyn.cgi?product=&past=1&stn=TMPT2&unit=0&time=LOCAL&day1=20&month1=10&year1=2015&hour1=0](http://mesowest.utah.edu/cgi-bin/droman/meso_base_dyn.cgi?product=&past=1&stn=TMPT2&unit=0&time=LOCAL&day1=20&month1=10&year1=2015&hour1=0) (Comanche Fire weather) and [http://mesowest.utah.edu/cgi-bin/droman/meso\\_base\\_dyn.cgi?product=&past=1&stn=HTVT2&unit=0&time=LOCAL&day1=20&month1=10&year1=2015&hour1=0](http://mesowest.utah.edu/cgi-bin/droman/meso_base_dyn.cgi?product=&past=1&stn=HTVT2&unit=0&time=LOCAL&day1=20&month1=10&year1=2015&hour1=0) (Northside Fire weather).
- <sup>20</sup> [http://mesowest.utah.edu/cgi-bin/droman/meso\\_base\\_dyn.cgi?product=&past=1&stn=BTRT2&unit=0&time=LOCAL&day1=14&month1=10&year1=2015&hour1=0](http://mesowest.utah.edu/cgi-bin/droman/meso_base_dyn.cgi?product=&past=1&stn=BTRT2&unit=0&time=LOCAL&day1=14&month1=10&year1=2015&hour1=0) (Hidden Pines Fire weather)
- <sup>21</sup> <http://twc.tamu.edu/kbdi>. Compare Bastrop County data for October 13, 2015 with Bell County and Walker County data for October 20, 2015.
- <sup>22</sup> Incident Dispatch Report, Comanche Fire, p. 1.
- <sup>23</sup> Id.
- <sup>24</sup> <http://hheveningstar.com/dana-peak-park-brush-battle/>
- <sup>25</sup> Incident Dispatch Report, Comanche Fire, at p. 2.
- <sup>26</sup> Interview, Bell County Fire Marshall, March 22, 2016.
- <sup>27</sup> *supra*, fn. 6.

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<sup>28</sup> supra., fn 7.

<sup>29</sup> [http://kdhnews.com/news/area-firefighters-fight-brush-fire-at-dana-peak-park/article\\_61619bb4-76da-11e5-83d6-773410df8d6f.html](http://kdhnews.com/news/area-firefighters-fight-brush-fire-at-dana-peak-park/article_61619bb4-76da-11e5-83d6-773410df8d6f.html)

<sup>30</sup> Incident Report, Comanche Fire, at p. 4.

<sup>31</sup> Id.

<sup>32</sup> <https://www.dvidshub.net/news/179544/texas-guardsmen-fight-fires-bell-county-save-200-homes#.VvFu42QrKX0>

<sup>33</sup>

<sup>34</sup> Incident Dispatch Report, Comanche Fire at p. 1.

<sup>35</sup> Incident Dispatch Report, North Side Fire at p. 1.

<sup>36</sup> Interview of Walker County Emergency Management Coordinator, January 26, 2016.

<sup>37</sup> Incident Dispatch Report, North Side Fire at p. 1.

<sup>38</sup> <https://www.youtube.com/embed/YA3XzFnuXG8?rel=0>

<sup>39</sup> Case Study of the 2015 Hidden Pines Wildland-Urban Interface Fire in Bastrop, Texas at p. 29.

<sup>40</sup> Wiggins, Mark, “State cautiously ramping up resources to fight wildfire”, KVUE (October 15, 2015).

<sup>41</sup> Interagency Airtanker Base Directory 2013 (US Forest Service)

<sup>42</sup> <http://tfsweb.tamu.edu/content/article.aspx?id=22651>

<sup>43</sup> <http://aviationphotodigest.com/10-tanker-texas/>

<sup>44</sup> Hillebrand, Melissa, “Here are top 10 areas most at risk for wildfire damage”, PropertyCasualty360.com.

<sup>45</sup> McBride, Hannah, “Wildfires Likely the ‘New Normal’ for Bastrop”, Texas Observer (October 22, 2015)