



MEDIA FIRE GUIDE

Safely covering wildfires in Texas

MEMBER OF THE
TEXAS A&M
UNIVERSITY
SYSTEM



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Texas A&M Forest Service was created by the 34th Legislature in 1915 as a member of The Texas A&M University System.

The agency’s mission is to ensure the state’s trees, forests and related natural resources are protected and sustained for the benefit of future generations. The agency also has statutory authority for wildfire suppression and all-hazard disaster response across the state.

For more information about the agency and its programs, go to <http://tfsweb.tamu.edu>.



GENERAL INFORMATION

At Texas A&M Forest Service, we know information is valuable. You want to know what is going on in the world around you and how it affects you. And you want that information quick.

Texas A&M Forest Service places a top priority on disseminating information to the public, especially during times of crisis.

Generally, the Communications Team — based at agency headquarters in College Station — serves as the primary point of contact for media inquiries. Team members answer phone calls and emails and facilitate interviews and fireline escorts.

Forestry and fire field staff who are scattered across the state may also serve as a point of contact for local media.

The procedure changes when fire season ramps up and an Incident Command Post (ICP) is established.

The ICP serves as a tactical-level emergency operations center operated by the Lone Star State Incident Management Team. The team is led by an incident commander and staffed by emergency responders who oversee operations, planning, logistics, finance, safety and — most importantly, in our case — public information.

The ICP usually is located in the region facing the most fire danger. In recent years, it has been based in Merkel, and Granbury before that.

When fire season is underway and the ICP has been established, the public information officer based at the post serves as the primary point of contact for fire information — *fire location, acres burned, homes destroyed, weather conditions, firefighting tactics, etc.*

Big-picture, agency-related questions regarding policies, procedures, costs, safety and legislative issues still should be referred to the Texas A&M Forest Service Communications Team.

TEXAS A&M FOREST SERVICE CONTACTS

- TFS Communications – College Station: 979-458-6606, newsmedia@tfs.tamu.edu,
- TFS Fire Prevention – Statewide: 979-458-6507, tfsprevention@tfs.tamu.edu
- TFS Fire Information – Incident Command Post: 979-229-7921, information@tfs.tamu.edu
- Texas A&M Forest Service Wildland Arson Hotline: 800-364-3470



DISSEMINATING INFORMATION

When fire activity increases, the agency issues fire information updates through its eNews listserv, *TFS Incident News*.

Generally, these updates will detail the current fire danger and the latest statistics — number of fires, acres burned, homes destroyed, etc. The frequency with which fire information updates are sent depends on fire activity. Updates can be sent occasionally, weekly, daily or even multiple times a day if fire activity warrants it.

To subscribe to *TFS Incident News* go to <http://tfsweb.tamu.edu/subscribe>. You can subscribe to the companion listserv — *TFS Tree News* — at the same link.

Information related to fire and emergency response will be issued through *TFS Incident News*. Updates about forest, trees and related natural resources will be issued through *TFS Tree News*. General information will be sent to both listservs.

If you receive an update or news release, but still have questions or need an interview, call or email the public information officer listed on the release or one of the contacts listed in this media guide.

FIRE RESPONSE STRUCTURE

Local — often volunteer — fire departments are considered the first line of defense when a wildfire ignites in Texas. In fact, local fire departments respond to 80 percent of the state's wildfires.

When the capabilities of local fire departments are exceeded, they can request help from Texas A&M Forest Service. The state agency responds to just 10 percent of the wildfires across the state, but those blazes usually are the biggest and most devastating, charring roughly 70 percent of the total acreage burned each year.

Note: When agency firefighters arrive at the scene, they do not take control of the fire. Rather, they join with local officials and assume a unified command.

When wildfires exceed the capabilities of Texas A&M Forest Service, the agency can request help from its state and federal partners.

The agency also can bring in national incident management teams to help oversee fire management and operations when multiple wildfires are burning across the state. *Though these teams are given the authority to manage designated fires or regions of the state, they still work for and report to Texas A&M Forest Service.*

Note: Texas A&M Forest Service public information officers only can provide information — if it's available — for fires to which the agency has been called. They do not have information on fires being handled by local departments.



FIRE ACCESS

Wildfires are dangerous and unpredictable — even for the most seasoned firefighters. As such, guided access to the fireline is not automatic or guaranteed.

Reporters and photographers must have a complete set of personal protective equipment and must be escorted by a credentialed agency representative.

If you would like guided access to the fire line, contact the appropriate public information officer. You must be able to walk in rough terrain and be in good physical condition with no known limiting conditions. You may not perform any aspects of fire suppression while on the fireline.

All requests must be approved by the incident commander or burn boss. Generally, however, requests are approved — in a first-come, first-served manner — if conditions are safe and personal protective equipment and credentialed escorts are available.

General Safety

It is important to pay attention to your surroundings and your escort. Wildfires can be extremely unpredictable. Do not wander off; losing your communication link can prove fatal. As long as your escort knows where you are, he or she can try to keep you safe.

Your escort has been trained in wildfire behavior. If he or she tells you it's time to go, *it's time to go*.

Do not walk, park or stop anywhere near or downslope from a bulldozer or any other piece of heavy equipment. Wildfires can be loud and visibility often is limited. Never assume that an equipment operator can see you.

Personal Protective Equipment

No one is allowed guided access to the fireline without a complete set of personal protective equipment. That includes Nomex shirt and pants, hard hat with chin strap, safety glasses, earplugs, leather gloves, fire shelter and 8-inch, lace-up, leather boots with a lug sole (steel toe not permitted).

Texas A&M Forest Service will provide Nomex clothing, hard hat, safety glasses, earplugs and fire shelter — ***if it is available***. You must supply your own gloves, boots and cotton undergarments (synthetic fabrics are more combustible and can melt when exposed to high temperatures). You also may be required to carry equipment and supplies — a hand tool and water canteen — if determined necessary by the escort.

Note: Availability of personal protective equipment is sometimes limited. To ensure you have the necessary equipment, you may purchase your own set at www.firecache.com — or any other reputable seller.



AVIATION

Media helicopters often fly over wildfires hoping to gain footage and information that helps them better inform the public.

While agency officials recognize that need and value journalists' role in getting information out, they stress that having both media and firefighting aircraft flying in the same area at the same time could create a potentially dangerous situation.

To ensure everyone's safety we ask that all media helicopters obtain permission before attempting to fly over a fire. To request permission, contact the appropriate public information officer. He or she will put you in touch with Air Operations.

Fly-Over Procedures

Texas A&M Forest Service and other wildfire suppression agencies operate under the concept of "Fire Traffic Area." Guidelines call for approaching aircraft to radio air attack when they are 12 miles out to establish contact.

Air attack is a twin engine or light, fixed-wing aircraft that serves as an aerial supervisor overseeing fire operations. It manages helicopters that may be dropping water, transporting people or conducting reconnaissance missions and heavy, multi-engine, fixed-wing airtankers dropping retardant.

Air attack normally flies at a higher altitude so that it can direct air operations and maintain aircraft separation. It typically will have an aircraft orbit the fire until it can be worked into the mix and perform its mission.

If the aircraft hasn't made contact by the time they're seven miles out, they must conduct a left hand orbit seven miles out until the contact is made.

Once communication is established, air attack will direct their approach, pattern and altitude — if conditions permit. No aircraft — including suppression aircraft — approach the fire area until radio contact is made.

Media aircraft must utilize the same concept in order to approach the fire safely. If a non-authorized aircraft enters the Fire Traffic Area, firefighting aircraft must abandon their missions and leave the area until it's been cleared for their return.

Communication should be made via the air attack frequency, which can be obtained by calling the appropriate public information officer, who will in turn put you in touch with Air Operations.

When a Temporary Flight Restriction is in place, pilots may go to the FAA website, view the NOTAM (Notices to Airmen) and obtain the frequency.

Ride-Alongs

Passengers are not permitted in firefighting aircraft.



WILDFIRE SURVIVAL

On the ground

Deploying your fire shelter should be considered a last resort, but it may be necessary if you become trapped by flames.

- Select a flat surface with as little vegetation as possible. Good deployment sites include natural firebreaks — wet meadows, creek beds, swamps, rock slides, dozers lines, roads or previously burned areas. Steer clear of thick vegetation or areas where logs or rocks could fall on you.
- Get on the ground before the fire arrives. Be sure to dispose of any flammable items before deploying your shelter.
- If you have time, take water with you and sip it. Do not wet your clothes as wet clothing conducts heat.
- Position your feet toward the fire, hold down the shelter and keep your face pressed against the ground. Protect your lungs and airways at all costs.
- Stay calm. Don't panic.
- When in doubt, wait it out. Conditions may seem terrible inside the shelter, but they'll be far worse outside. Stay put until the fire has passed over you.

In a vehicle

Riding out a wildfire in your vehicle should be a last resort used only if you are trapped near a fire with no other alternative.

Though not ideal, a vehicle can offer *some* protection from wildfire. Worries about suffocation from lack of oxygen or a gas tank explosion have caused many people to panic and get out of their car. But that move usually is fatal.

- Drive to an already-burned area or to a clearing with little or no vegetation.
- Roll up the windows and shelter yourself from radiating heat by getting as low as possible. Lie on the floor if you can.
- If you have a fire shelter, open it and use it to protect your body from radiant heat.
- If the vehicle catches fire you can leave it, but remember the temperature and danger is greater outside.
- If you do leave your vehicle, do not run away blindly. If you become exhausted, you're more prone to heat stroke and can easily overlook a safe refuge. Use your fire shelter on nearby ground that has little or no vegetation.



WILDFIRE PREVENTION

One of the agency's most valuable tools when it comes to outreach and education is its wildfire prevention program. Historically, 70 percent of wildfires in Texas are caused each year by human activity (though that number dropped for the first time to 40 percent last year thanks to successful prevention efforts). Roughly 80 percent of wildfires occur within two miles of a community.

Successful prevention programs are a proven way to reduce the impact of wildfires, but our prevention specialists — the folks tasked with educating the communities about the dangers of wildfires — can't do it alone. They're often dependent upon the media to help spread the message to the general public.

Wildfire prevention can be campaign-based or part of an ongoing, proactive education program. Campaigns often are launched during wildfire season or when dangerous fire conditions have been predicted. The aim is to prevent fires in a particular area or region — or even across the entire state.

Long term, proactive, educational programs include Smokey Bear and his popular message to children: "*Only YOU can prevent wildfires.*" Other adult programs include *Firewise Communities* and *Ready, Set, Go!*, both of which are designed to help adults ready their homes for wildfires and know when and how to evacuate should the need arise.

STORY IDEAS

Wildfires and the destruction they cause can make for good news stories, but you can also find sidebars and feature ideas if you dig around a little.

Fire Prevention

Historically, 70 percent of wildfires in Texas are caused each year by people acting carelessly. Getting this message out to the public and encouraging folks to be extra careful — especially during times of high fire danger — is extremely important.

Rehabilitation

Wildfires and the suppression of them can cause soil erosion, which can impact water quality. After a fire, Texas A&M Forest Service foresters are sometimes called to work with communities and help rehabilitate their damaged lands.

Aircraft

It's a common misconception that firefighting aircraft extinguish wildfires. They don't. Water and retardant are dropped to slow the forward progression of a fire and cool down the temperature enough so that ground crews can make their way in. It's firefighters that actually contain and control the fire.

Predictive Services

As their name implies, the Texas A&M Forest Service Predictive Services Department is tasked with predicting when and where wildfires may ignite, which allows the agency to reposition needed resources and warn



residents who may be in harm's way. Fire behavior analysts continually study weather patterns, vegetation growth and historical data so they can make the very best predictions.

Planning & Logistics

Imagine how hard it is to find enough firefighters to battle blazes spanning from border to border in a state as big as Texas. Now imagine how hard it must be to keep track of them all. Fighting the fire is just half the battle.

Wildland Urban Interface

Eighty percent of all wildfires occur within two miles of a community. That's because of the increasing number of Texans moving into the Wildland Urban Interface, an area where human development meets the wilderness. Many residents love living in the 'country' or the 'woods' — but they don't realize that all the trees and brush surrounding their home can lead a fire right up to their doorstep.

Firewise Communities

Your home should be ready long before a wildfire ignites. Firewise Communities offers construction and landscaping techniques designed to help your home withstand a fire.

Community Wildfire Protection Plans

Just like it takes a village to raise a child, it can take a community to prepare for wildfire. A Community Wildfire Protection Plan can reduce the risk wildfires pose to homes, businesses and natural resources in your community. Texas A&M Forest Service can help you craft a plan that meets the specific needs of your community.

Regional Incident Management Teams (RIMTs)

The Regional Incident Management Team program was initiated in 2006 as a way to help build incident management capacity at the local level. Teams of local emergency responders are trained by Texas A&M Forest Service and mobilized as needed for disasters across the state. The program is managed by Texas A&M Forest Service and funded by the Texas Division of Emergency Management.

Texas Intrastate Fire Mutual Aid System (TIFMAS)

TIFMAS is a statewide mutual aid network that allows communities to call upon each other during times of need. First activated in 2009 during Hurricane Ike, it allows the state to pre-position resources when high fire danger is predicted.

Volunteer Fire Department Assistance Programs

In Texas, volunteer fire departments serve as the first line of defense. That's why it's important to continually build their capacity. Texas A&M Forest Service offers a variety of programs to do just that. We help fund equipment, training and insurance for volunteer firefighters across the state.



WHERE THERE'S SMOKE, THERE'S NEWS – NEWSPAPER COLUMN

(The following column and tips were written in the 1990s by Bert Lindler, a reporter in Montana who spent many years covering wildfires out West. Though the column is old, many of his tips still apply.)

By Bert Lindler

The deaths of 17 firefighters in Colorado and New Mexico have made forest fires big news this year (1994).

Although such accidents are infrequent, forest fires are not. And since the West is no longer as empty as it once was, fires there are likely to continue to be national news.

Although firefighting is exciting and dramatic, the most important stories may not be about putting fires out. One of the biggest challenges fire managers face is helping the public understand that some fires should be allowed to burn naturally. Fire managers may need to ignite other fires under carefully controlled conditions.

Periodic fires play an important ecological role. In addition, they may prevent catastrophic fires that are inevitable if dead wood builds up for decades.

Another challenge is explaining the role rural residents play in protecting homes nestled within the forest.

Firefighters call the area where homes abut the forest the Wildland Urban Interface. Shake shingle roofs greatly increase the fire danger in such settings, as does wood stacked by a home or trees overhanging a roof. Narrow, winding roads add a rustic touch in rural communities, but may not provide adequate access for firefighting vehicles. Firefighters who are expected to save homes in such conditions may face an impossible task.

Tips for writing about wildfires

- Firefighters work to “contain” a fire. Then they “control” it. A fire is “contained” when it has been surrounded by firelines, narrow paths where firefighters or bulldozers have cleared away all the fuels. Fires are “controlled” when all fires that might jump the firelines are out. Firefighters who put out the last flames after a fire has been controlled are said to be “mopping up.”
- Airplanes and helicopters help fight fires, but they can’t do the job alone. Airplanes drop brightly colored fire retardant (water mixed with a fertilizer-like compound) that slows the forward progression of a fire. The color helps fire managers determine where the retardant ended up. Helicopters help move crews and equipment in rugged terrain. They also can dip water from lakes and dump it on small areas troubling firefighters.
- Crews using chainsaws and pulaskis build fireline in steep terrain where access is difficult or where environmental impacts need to be minimized. In other areas, bulldozers may be used. Pulaskis have an axe on one side for chopping and a mattock on the other side for digging. Edward Pulaski, the tool’s inventor, saved his crew during Idaho’s catastrophic 1910 fires. When fire threatened to overrun them, Pulaski — then a ranger on the St. Joe National Forest, now part of the Idaho Panhandle National Forests — led the crew into a mine shaft. One man tried to dash outside during the fire’s fury. Pulaski



drew his revolver and said he would shoot the first man to leave. Only two of the 47 men on his crew died.

- Firelines stop fires from burning along the ground, but once fires start burning through the tree tops, they can throw sparks far ahead, starting new fires — a practice otherwise known as spotting. When fires are spotting, they can jump firelines, interstate highways and even rivers. Firefighters generally wait for a change in weather before tackling such fires head-on.
- Under the worst conditions, fires can become like a force of nature and simply can't be stopped. When this happens, firefighters must take a defensive posture and work to get people out of harm's way while waiting for more favorable conditions.
- The number of acres reported for a particular fire may not tell the whole story. Firefighters usually know how many acres are inside the fire's perimeter before they know how many acres actually burned. Sometimes only half of the acres inside the fire's perimeter may have been burned.
- Forests are burned, but rarely destroyed. Save *destroyed* and similar adjectives for buildings and timber. Fire is part of the life of the forest.

Tips for covering wildfires

- Go prepared for rough, dirty work. You will need high-top, leather boots with heavy soles. Tennis shoes or lightweight, fabric hiking boots don't provide enough protection around fire. If you are taken to the fireline, you will be given a hard hat, special fire-retardant clothing and a fire shelter.
- Keep the things you need with you, possibly in a day pack. A water bottle and snacks may come in handy. Expect delays. Your transportation to a fire might be delayed, as might your transportation back.
- The incident commander (known as the fire boss in the old days) is in charge at a wildfire. Fire information officers can help you arrange interviews. Fire camps are run like military operations; safety and putting out the fire are the first priorities. Be assertive and be persistent, but to the degree possible, be patient. That's one way you can increase the likelihood of cooperation.
- The best way to learn about forest fires is to write feature stories during slow (wet) fire years. You will develop contacts who may be able to help you when real news develops.

Bert Lindler chased smoke most summers when covering outdoor recreation and natural resources for the Great Falls (Mont.) Tribune. Now he edits research publications for the Forest Service's Intermountain Research Station in Ogden.



WILDLAND FIREFIGHTING TERMINOLOGY GLOSSARY

A

Aerial Fuels

All live and dead vegetation in the forest canopy or above surface fuel level including tree branches, twigs, cones, snags, moss and high brush.

Airtanker

Fixed-wing aircraft capable of dropping fire retardant.

Anchor Point

Advantageous location from which to start building a fire line.

B

Backfire

Fire set along the inner edge of a fireline to consume fuel in the path of an existing wildfire. Operation is designed to change the direction of or slow down the existing wildfire by removing its fuel.

Blow-up

Sudden increase in fire intensity or rate of spread that is strong enough to prevent direct control or upset control plans.

Brush

Collective term for vegetation dominated by shrubby, woody plants or low growing trees; usually undesirable for livestock or timber management.

Brush Fire

Fire burning in vegetation that is predominantly shrubs, brush and scrub growth.

Burn Ban

Declared ban on outdoor burning, usually because of high-to-extreme fire danger. Texas A&M Forest Service does not have the authority to enact or rescind burn bans. The agency provides information about weather conditions and fire danger to county officials, who make the decision locally on a county-by-county basis.

Burn Out

Setting fire inside a control line to widen it or consume the fuel between the edge of the fire and control line.

Burning Conditions

Combined environmental factors that affect fire behavior in a specific fuel type.

Burning Period

Time of the day when fires spread most rapidly; typically from 10 a.m. to sundown.

C

Candle or Candling

Single tree in a very small clump of trees that is burning from the bottom, up.

Chain

Unit of linear measurement equal to 66 feet; often used to describe the length of a fireline or the forward rate of spread on a fire. Eighty chains equal one mile.

Closure

Legal restriction — but not necessarily elimination — of specific activities such as smoking, camping or access to a designated area.

Complex

Two or more individual fires located in the same general area and assigned to a single incident commander or unified command.

Confine a Fire

Least aggressive wildfire suppression strategy; typically allows the wildfire to burn itself out within established, natural boundaries such as rocky ridges, streams or roads under prevailing conditions.

Contain a Fire

When a fire is contained, it is surrounded by a fuel break. This break can include natural barriers as well as line constructed manually or mechanically. The fire is not extinguished at this point.

Control a Fire

When a fire is *controlled*, it is surrounded by control line, its forward progression has been stopped and it is not expected to escape under foreseeable conditions. It is not completely extinguished, but it no longer poses a direct threat to surrounding homes or property.

Control Line

Inclusive term for all constructed or natural fire barriers — including swaths of fire retardant — used to control a fire.

Creeping Fire

Fire burning on the ground with a low flame and spreading slowly.

Crown Fire (Crowning)

Movement of fire through the tops of trees and shrubs, usually independent of the surface fire.

Curing

Drying and browning of herbaceous vegetation or slash.



D

Dead Fuels

Fuels with no living tissue, which means moisture content is governed almost entirely by atmospheric moisture (relative humidity and precipitation), dry-bulb temperature and solar radiation.

Debris Burning

Fire intentionally set to clear the land or eliminate garbage and other debris.

Defensible Space

Natural or manmade area spanning at least 30 feet around a structure where combustible material has been cleared or removed, providing a barrier between you and an advancing wildfire.

Direct Attack

Any treatment of burning fuel such as wetting, smothering or chemically quenching the fire or by physically separating burned and unburned fuel.

Dozer

Any tracked vehicle with a front-mounted blade used for exposing mineral soil.

Dozer Line

Fireline constructed by the front blade of a dozer.

Drip Torch

Hand-held device used to ignite fires by dripping flaming liquid torch fuel on the materials to be burned. Torch fuel generally is a mix of diesel and gasoline.

Drop Zone

Target area for air tankers, helitankers and cargo dropping.

Drought Index – Number representing the difference between normal and current moisture conditions. Net effect of evaporation, transpiration and precipitation in producing cumulative moisture depletion in deep duff or upper soil layers.

Duff

Layer of decomposing organic materials lying just below the litter layer of freshly fallen twigs, needles and leaves, and just above the bare, mineral soil.

E

Ecosystem

Area of land distinguished by certain physical features, as well as its ability to sustain certain plants and animals.

**Energy Release Component**

Computed total heat released per unit area (British thermal units per square foot) within the fire front at the head of a moving fire. Used by fire managers to assess the potential fire behavior in forest fuels.

Engine

Any ground level machine providing specified levels of pumping, water and hose capacity.

Engine Crew

Firefighters assigned to a type of engine. Minimum crew make up is determined by engine type as outlined in the Fireline Handbook.

Entrapment

Situation in which crews are caught unexpectedly in a life-threatening position with planned escape routes or safety zones compromised, likely because of fire behavior. Entrapment may or may not result in fire shelter deployment or injuries.

Escape Route

Planned route allowing firefighters safe passage to a designated safety zone. When escape routes deviate from a defined, physical path, they should be clearly flagged.

Escaped Fire

Fire that continues to spread despite initial attack fire suppression efforts. Also applies to prescribed fire that exceeds its prescription.

Extended Attack

Suppression activity for a wildfire that has not been contained or controlled by initial attack or contingency forces. Additional firefighting resources generally are needed for extended attack.

F**Faller**

Person who fells (cuts down) trees. Also called a sawyer or cutter.

Fell

Cut or knock down; usually refers to a tree.

Fingers of a Fire

Long, narrow extensions of a fire projecting from the main body.

Fire Behavior

Manner in which a fire reacts to fuel, weather and topography.

Fire Behavior Forecast

Prediction of probable fire behavior, usually by fire behavior analysts.

**Fire Break**

Natural or constructed barrier used to stop or check fires that may occur or to provide a control line from which to work.

Fire Cache

Supply of fire tools and equipment assembled at a strategic point for exclusive use in fire suppression.

Fire Crew

Organized group of firefighters under the supervision of a crew leader or other designated official.

Fire Danger

Probability — based on weather, fuel moisture and other factors — of a fire occurring, and the likelihood of it spreading. Danger is categorized as low, moderate, high or extreme.

Fire-Dependent Species – Plant and animal species that are dependent on fire to survive. Lodgepole pine is an example; heat from the fire opens pine cones, allowing seeds to spread and naturally reforest an area.

Fire Front

Part of a fire within which continuous flaming combustion is taking place. Unless otherwise specified, the fire front is assumed to be the leading edge of the fire perimeter. In ground fires, the fire front may be mainly smoldering combustion.

Fire Intensity

Amount of heat generated by a fire.

Fireline

Linear fire barrier that is scraped or dug down to mineral soil — by hand or mechanically. More generally, the term “on the fireline” is used to describe working a fire.

Fire Perimeter

Entire outer edge or boundary of a fire.

Fire Plow

Heavy duty plowshare or disc usually pulled behind a tractor to construct a fireline.

Fire Season

Period or periods of the year when wildfires are likely to occur, spread and affect resource values sufficient to warrant organized fire management activities. Texas does not have a set fire season, though fire activity historically picks up in late summer and then again after the first freeze, lasting until spring rains bring about vegetative green-up. Consider the driest part of the state, the Trans Pecos region, in particular, generally sees an increase in wildfires in the spring.

A formal Texas fire season is declared when fire activity and requests for help from local departments begin to increase.

**Fire Shelter**

Safety device used as a last resort by wildland firefighters who are trapped by wildfire. The small, aluminized tent provides protection by reflecting radiant heat and offering a small amount of breathable air.

Fire Triangle

Instructional aid in which the sides of a triangle are used to represent the three factors — oxygen, heat and fuel — necessary for combustion and flame production. Removal of any of the three factors ceases flame production.

Fire Weather

Weather conditions that influence fire ignition, behavior and suppression.

Fire Weather Watch

Term used by National Weather Service fire weather forecasters to notify fire managers, usually 24 to 72 hours in advance, that current and developing meteorological conditions may evolve into dangerous fire weather.

Firefighting Resources

All people and major items of equipment that can or potentially could be assigned to fires.

Flame Length

Distance between the flame tip and the midpoint of the flame depth at the base of the flame (generally the ground surface); an indicator of fire intensity.

Flanks of a Fire

Parts of a fire's perimeter that are roughly parallel to the main direction of spread.

Flare-up

Any sudden increase in fire spread or intensity. Unlike a blow-up, a flare-up lasts a relatively short time and does not radically change control plans.

Flash Fuels

Fuels — grass, leaves, draped pine needles, fern, tree moss and some kinds of slash — that ignite readily and are consumed rapidly when dry. Also called fine or light fuels.

Fuel

Combustible material — such as grass, leaves, ground litter, plants, shrubs, trees and other vegetation — that feed a fire.

Fuel Moisture (Fuel Moisture Content)

Quantity of moisture in fuel expressed as a percentage of the weight when thoroughly dried at 212 degrees Fahrenheit.

Fuel Reduction

Removing fuels to reduce the likelihood of a future wildfire, or make it easier to control if one should occur.

**Fuel type**

Refers to the type of vegetation in which a fire is burning. Used in predicting fire behavior and determining what effects a fire may have in a given area.

G**Green-up**

Beginning of a new cycle of plant growth.

Ground Fuel

All combustible materials below the surface litter — including duff, tree or shrub roots, punchy wood, peat and saw dust — that normally support a glowing combustion without flame.

H**Hand Line**

Fireline built with hand tools.

Head of Fire

Side of fire with the fastest rate of spread.

Heavy Fuels

Large diameter fuels — such as snags, logs and large limbs — that ignite and burn slower than flash fuels.

Heavy Helicopter

Large helicopter capable of dropping water via a bucket or tank in its belly; generally capable of carrying 800 to 1,000 gallons of water, though some can carry up to 2,000 gallons.

Helibase

Main location for parking, fueling, maintaining and loading helicopters.

Helispot

Temporary landing spot for helicopters.

Helitack

Helicopter used to transport crews, equipment and fire retardants to the fire during its initial stages.

Helitack Crew

Group of firefighters trained in the technical and logistical use of helicopters for fire suppression.

Helitanker

Helicopter equipped with a fixed tank in its belly and capable of dropping at least 1,100 gallons of water.



Hotshot Crew

Highly-trained fire crew used primarily to build fireline by hand.

Hotspot

Particularly active part of the fire.

I

Incident

Manmade or natural disaster — wildfire, hurricane, flood, explosion, etc. — that requires emergency responders to prevent or reduce casualties and damages.

Incident Command Post (ICP)

Field headquarters for tactical, on-the-ground operations; overseen by incident commander and his staff.

Incident Command System (ICS)

Set of facilities, equipment, personnel and procedures integrated into a common organizational structure. Allows emergency responders to communicate with each other, better manage their resources and effectively accomplish the incident goals.

Incident Commander

Person responsible for all assigned aspects of the emergency response.

Incident Management Team

Incident commander and appropriate general or command staff assigned to manage an incident.

Incident Objectives

Guiding statements that help fire managers determine appropriate strategies and tactics. Based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed.

Initial Attack

Actions taken by the first firefighters to arrive on scene.

K

Keech Byram Drought Index (KBDI)

Drought index based on precipitation and soil moisture and used to determine wildfire potential. Ranges from 0 (no moisture depletion) to 800 (absolutely dry conditions).

Knock Down

Reduce the flame or heat on vigorously-burning parts of a fire edge.



L

LCES

Lookout, Communication, Escape Route, Safety Zone; acronym used to describe the elements of a safety system used by wildland firefighters to routinely assess their current situation.

Ladder Fuels

Fuels that carry fire from the ground to the tree tops, often leading to crowning.

Lead plane

Aircraft that directs tactical deployment of airtankers. Makes initial dry run over a targeted area to check wind and smoke conditions and topography, and then leads airtankers to their targets and supervises their drops.

Litter

Top layer of the forest or grassland floor, composed of loose debris of dead sticks, branches, twigs and recently fallen leaves or needles.

Live Fuels

Living plants — such as trees, grasses and shrubs — in which the seasonal moisture content cycle is controlled largely by internal physiological mechanisms rather than by external weather influences.

M

Mineral Soil

Soil with little combustible material; found in the layers below the predominantly organic horizons.

Mobilization

Process and procedures used by federal, state and local organizations for activating, assembling and transporting resources that have been requested to respond to an incident.

Modular Airborne Firefighting System (MAFFS)

A unit mounted inside a C-130 cargo aircraft for use in dropping retardant on wildfires.

Mop-up

Extinguishing or removing burning material on a fire after it's been controlled. Designed to make the fire safer and reduce residual smoke.

Mutual Aid Agreement

Written agreement between agencies and jurisdictions allowing them to assist one another during times of need.



N

National Wildfire Coordinating Group

Tasked with coordinating the effectiveness of all wildfire activities, providing a forum to discuss and resolve problems and certifying all courses in the National Fire Curriculum.

Formed under the direction of the Secretaries of Agriculture and the Interior and made up of representatives of the U.S. Forest Service, Bureau of Land Management, Bureau of Indian Affairs, National Park Service, U.S. Fish and Wildlife Service and Association of State Foresters.

Nomex

Trade name for a fire resistant, synthetic material used in the manufacturing of flight suits and wildland firefighting pants and shirts.

O

Operational Period

Time period allotted for execution of a given set of tactical actions; usually not more than 24 hours.

Overhead

People assigned to supervisory positions including incident commanders, command and general staff, directors, supervisors and unit leaders.

P

Personnel Protective Equipment (PPE)

Clothing and equipment designed to keep wildland firefighters safe. Includes but isn't limited to 8-inch high leather boots, fire shelter, hard hat, goggles, ear plugs, Nomex pants and shirt and leather gloves.

Prescribed Fire

Fire ignited intentionally under certain, predetermined conditions to meet specific land management objectives related to hazardous fuels reduction or habitat improvement. A written prescribed fire plan must be approved prior to the fire, and National Environmental Policy Act requirements must be met.

Prescribed Fire Plan

Comprehensive plan developed by fire and land managers before a prescribed fire. Outlines predicted weather and fire conditions, as well as predicted fire behavior and the risks associated with the burn. Provides the burn boss with information needed to implement the project.

Prescription

Measurable criteria that define the conditions — fuel moisture, wind, temperature, relative humidity — under which a prescribed fire may be ignited, and guide the selection of appropriate management responses.

**Prevention**

Activities — public education, law enforcement, fuel reduction, etc. — aimed at reducing wildfire occurrence.

Project Fire

Fire that is big enough in size and complexity that it requires a large organization of people to manage it and a prolonged attack to extinguish it.

R**Rate of Spread**

The speed with which a fire grows or spreads; usually measured in miles or chains per hour.

Reburn

Fire burning in a previously burned area. Generally, fire already has swept through, but the area still contains flammable fuels that ignite when conditions are favorable.

Red Card

Wallet-sized card that certifies a person is trained and qualified to perform specific jobs on wildfires and other incidents.

Red Flag Warning

Fire weather forecaster term; alerts the public to an ongoing or imminent critical fire weather pattern.

Rehabilitation

Activities necessary to repair damage caused by wildfires or fire suppression.

Relative Humidity (Rh)

Ratio of the actual amount of moisture in the air compared to the maximum amount of moisture the air would contain if it were saturated. Low relative humidity results in dryer conditions and increased fire danger.

Remote Automatic Weather Station (RAWS)

Automated weather stations located in various places that take and record weather readings hourly. Information is used in the National Fire Danger Rating System.

Resources

People, equipment, supplies and services needed to manage a fire.

Resource Order

Formal request for firefighting or support resources.

Retardant

Chemical agent that reduces the flammability of combustibles.

Run

Rapid advance of the head of a fire; includes a marked change in fireline intensity and rate of spread.



Running

Rapidly spreading surface fire with a well-defined head.

S

Safety Zone

Large area that is cleared of flammable materials, giving firefighters a place to escape to if a wildfire breaks through the control line.

Significant Fires

Generally, fires that are 100 acres or larger in East Texas and 300 acres or larger in West Texas.

Size-up

Evaluation of the fire to determine what suppression efforts will be needed.

Slop Over

Fire that crosses a control line or natural barrier that was intended to contain it.

Smoldering Fire

Fire burning without flame and barely spreading.

Snag

Standing dead tree or part of a dead tree.

Spot Fire

Fire ignited by sparks or embers that are blown outside of the perimeter of the main fire.

Spotting

Fire producing sparks or embers that are carried by the wind and start new fires outside the perimeter of the main fire.

Staging Area

Established locations where resources can be placed while awaiting a tactical assignment.

Strike Team

Team composed of several of the same type of resources.

Suppression

All work related to extinguishing or containing a fire.

Surface Fuels

Loose litter on the soil surface, normally consisting of fallen leaves or needles, twigs, bark, cones and small branches. Can be interspersed with grasses, forbs, low and medium shrubs, tree seedlings, heavier branches, downed logs and stumps.



I

Tactics

Plan to deploy and direct resources on an incident to accomplish objectives designated by strategy.

Task Force

Team composed of different types of resources, but with a single purpose.

Temporary Flight Restrictions (TFR)

Restricts the operation of nonessential aircraft in the airspace around an incident; generally requested by an agency and put into effect by the Federal Aviation Administration.

Texas Intrastate Fire Mutual Aid System (TIFMAS)

A statewide mutual aid agreement that allows communities to call upon each other during times of need.

Torching

Tree or small group of trees that suddenly erupts into flames, usually burning from the bottom, up.

Type

Capability of a firefighting resource. Type 1 usually carries the greatest capability due to power, size and capacity.

U

Uncontrolled Burn

Any fire that threatens to destroy life, property or natural resources.

V

Volunteer Fire Department

Fire department with members who volunteer their time and are not paid.

W

Water Tender

Ground vehicle capable of transporting specified quantities of water.

Wet Line

Line of water or water and retardant sprayed along the ground to serve as a temporary control line to stop a low intensity fire.

Wildfire

Any non-structure fire — other than a prescribed fire — that occurs in the wildland.



Wildland

Area in which development is essentially non-existent except for roads, railroads, power lines and similar transportation or utility structures.

Work Capacity (Pack) Test

Physical fitness test required for wildland firefighters, as well as anyone else who may be working on the fireline. Test generally consists of walking a specified distance with or without a weighted pack in a predetermined amount of time.