

## ON THE LINE OF FIRE

### The men and women who battle America's wildland blazes

#### *Defending America's Great Outdoors*

Nearly each month of every year, somewhere in the United States soldiers dressed in uniforms of green and yellow form lines of battle to combat wildfires on forests and rangelands from Portland, Oregon to Portland, Maine. These dedicated men and women endure exhausting work, harsh living conditions, and long separations from friends and family to protect our nation's natural resources from the ravages of unwanted wildfires. Dirt, smoke, and sweat are constant companions. The work of wildland firefighters benefits us all, yet most of us know very little about them - who they are and what they do. This brochure is designed to introduce you to some of America's heroes.

#### *The Right Stuff*

Wildland firefighters reflect the rich diversity of America's population. Men and women from all parts of the country, all cultures, and all walks of life choose to work as firefighters for the various state and federal government agencies charged with wildland fire suppression responsibilities. Although wildland firefighters come from many different backgrounds, most have two things in common - a love of the outdoors and an ability to endure challenging working and living conditions.

The vast majority of firefighters are temporary employees hired just for "fire season," the period of the year when most blazes burn. Many of these men and women return year after year to fight fire across the country - from the fragile deserts of the West to the majestic forests of the Michigan peninsula to the lush everglades of Florida.

America's wildland firefighters have earned a reputation for being among the best in the world. Their mission varies with time and place but their main goal is to protect precious natural resources such as rangeland, wildlife habitat, fisheries, timber, recreation areas, historic sites and archaeological artifacts. Thanks to these courageous men and women, loss of life and damage to property and natural resources due to wildfires has remained low.



#### *Making The Tough Calls*

When a wildfire starts, either by lightning or human actions, fire managers analyze the situation carefully to determine the best course of action. For more than half a century, virtually all wildfires were aggressively suppressed. However, in recent years, natural resource managers have come to understand the critical role that fire plays in maintaining healthy ecosystems. Under proper conditions, fire improves wildlife habitat, prevents heavy fuel accumulation that leads to large, destructive wildfires, and helps forests and rangelands regenerate. In fact, many species of trees and shrubs need fire to reproduce and survive. For instance, some evergreens require heat for their cones to burst and spread seeds.

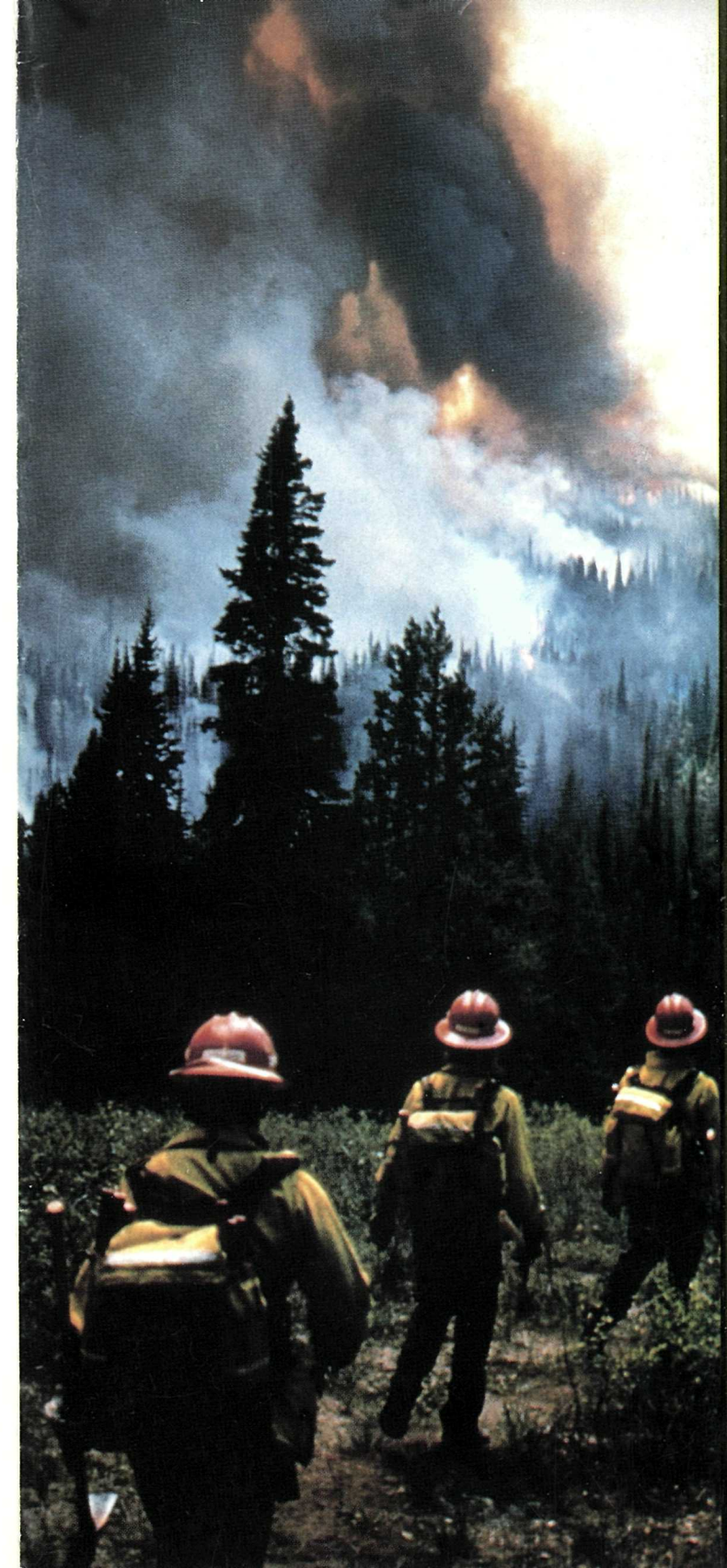
Because fire is sometimes necessary to ensure the health of the environment, fire managers tailor suppression strategies to individual situations. Fire suppression strategies range from monitoring a wildfire started by lightning in a remote wilderness area under an approved plan to launching a full scale attack on a human caused blaze threatening a community. When determining the best way to fight a wildfire, fire managers consider a number of factors, including:

- Cause - Although unwanted human caused fires are usually aggressively suppressed, other strategies may be used on lightning caused blazes to allow fire to play its natural role in the environment.
- Resources threatened - Fires that could harm important fish or wildlife habitat, recreational facilities, and commercial timber, mines or rangeland are normally put out as soon as possible.
- Social factors - Fire managers take aggressive action on fires that jeopardize people or communities.

Once fire managers have weighed these elements and developed a suppression strategy, they decide what kind of firefighters they need to implement it. There are many different types of wildland firefighters and the kind that are used on any given fire will depend on the geographic location, suppression strategy, the terrain, availability, and other factors.

**Handcrews** - These crews, which usually consist of about 20 men and women, serve as the infantry of wildland fire forces. The main job of these firefighters is to construct "fireline" around wildfires to control them. A fireline, which looks a lot like a trail or small road, is a strip of land cleared of flammable materials like plants and shrubs. Handcrews build fireline by clearing vegetation with tools such as shovels, "Pulaskis," and chainsaws. Firefighters usually start building fireline at the place where the fire originated and work along the sides of the blaze toward the burning front. They may build fireline right next to the burned area or they may construct it away from the "black" and remove the fuel between the line and the advancing blaze by igniting a fire. This practice is known as "burning out." There are approximately 500 handcrews in the United States. About 435 consist of well trained firefighters that construct fireline on the sides of wildfires and "mop-up," or ensure that blazes are completely out. The other approximately 65 handcrews in America are known as "Hotshots."

**Hotshot crews** - These approximately 20 person crews consist of highly skilled firefighters specially trained in suppression tactics and the use of chainsaws and backpack water pumps. They are equipped to work in remote areas for extended periods of time with very little logistical support. These national crews are available all fire season long for rapid deployment to blazes anywhere in the country. They are usually used to attack wildfires when they first start and to suppress big fires in the most critical and high risk areas.





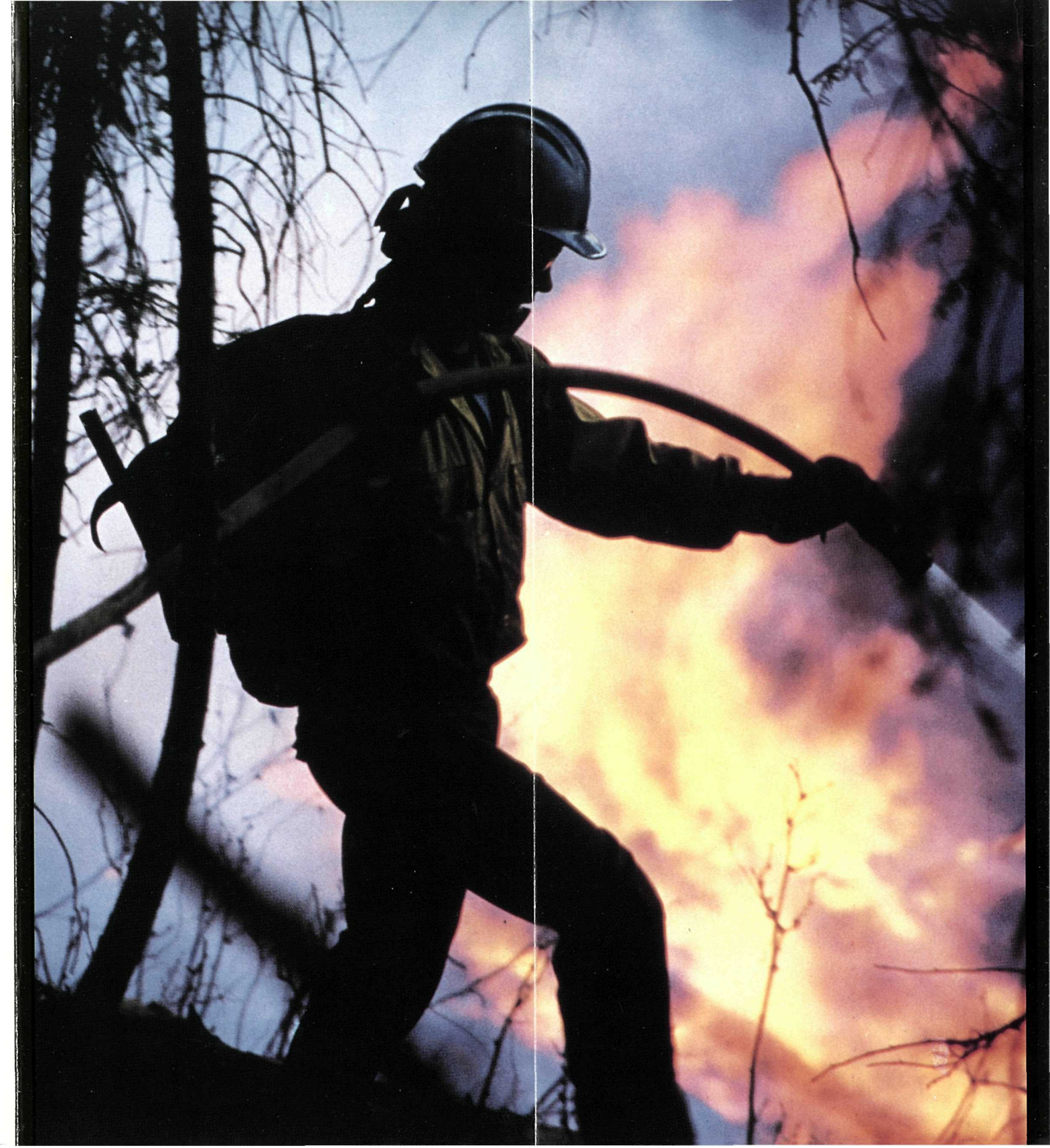


#### *Firefighters Need Your Help*

You can help protect the nation's wildlands, and ensure that the time and energy of America's wildland firefighters is well spent, by doing your part to prevent wildfires when you visit the outdoors:

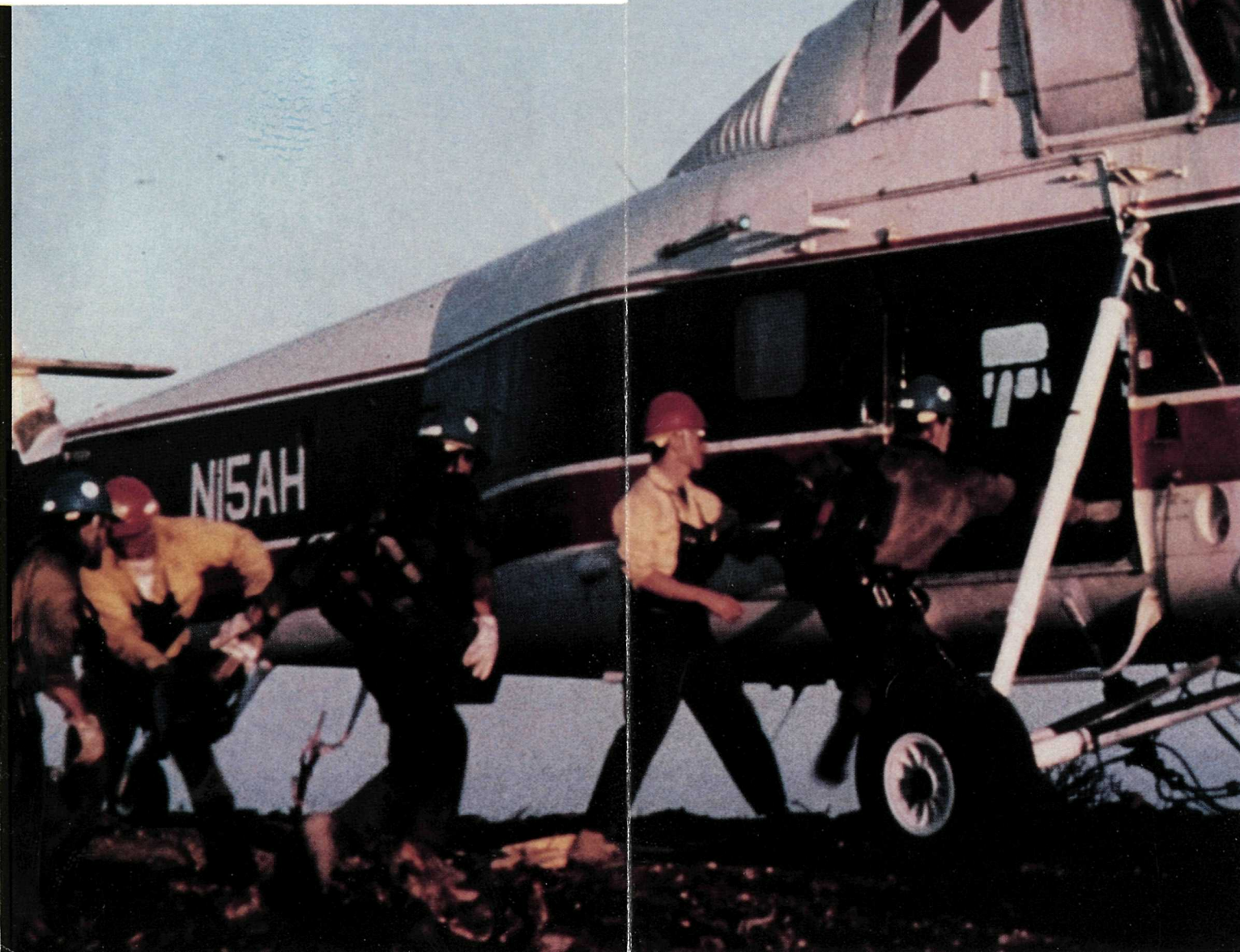
- Find out about fire conditions before you visit an area and strictly observe any restrictions that may be in effect.
- Clear all vegetation and debris within ten feet of your campfire before you light it.
- Keep a shovel or bucket on hand in case your campfire starts to get out of control.
- Make a mud puddle out of your campfire when you put it out by stirring water and dirt into coals with a shovel or stick. Make sure the fire is "dead out" before you leave - the ashes should be cold enough to touch with your hands.
- Don't park your car, truck, or recreational vehicle on dry grass or brush even for a minute. The exhaust system on a vehicle can reach a temperature of more than 1,000 degrees. It only takes 500 degrees to start a wildfire in fire season.
- Put out cigarettes, cigars, or pipes only in cleared areas free of vegetation or debris.
- Use approved spark arresters on chain saws, off-road vehicles, and other internal combustion powered equipment. This screen, that fits between the exhaust port of the piston and the muffler, helps ensure that sparks generated by vehicles and equipment don't start wildfires.
- Never use fireworks in wildland areas.

For more information about how to prevent wildfires, contact your nearest state or federal wildland fire agency.





*Helitack crews* - Helicopter Attack, or "Helitack," crews are specially trained in the tactical and logistical use of helicopters in fire suppression. They typically consist of between 3 and 10 firefighters, depending on the local situation and the type of helicopter. Because helitack crews can be rapidly deployed, they are often the first to respond to a wildfire. After sizing up the situation and reporting to the home unit from the air, the helicopter usually lands and the crew attacks the fire. If the helicopter cannot land due to rough terrain or the presence of trees and other obstacles, firefighters may rappel, or descend on specialized equipment, to start fighting the blaze.



*Smokejumpers* - These airborne firefighters parachute from planes to attack wildfires in remote and inaccessible areas when they first start. The nearly 400 smokejumpers in the United States, based in Alaska, Montana, Idaho, California, and Washington, are highly skilled and mobile. They may be called to fight fires all over the country when assistance is needed. Smokejumpers are often supported by para-cargo drops of personal gear, food, water, and specialized equipment to help them suppress blazes.



*Bulldozers and Tractor Plows* - Tracked vehicles with plows for clearing vegetation and mechanized equipment can build fireline faster and more efficiently than human firefighters. However, because bulldozers, tractors, and plows leave significant impacts on the land, they cannot be used in environmentally sensitive areas. Some vehicles also carry water to douse wildfires and equipment to burn out.



**Engine crews** - Engine crews, which range in size from 3 to 10 firefighters, use the 200 to 750 gallons of water and several hundred feet of fire hose that most engines carry to directly attack the head of wildfires, particularly when they first start. Some engines also carry special equipment to spray foam and chemicals on homes and other structures to help them resist fire. Foam is a bubbly water solution that makes flammable material less likely to ignite. Many wildland fire engines are also equipped with four wheel drive and special equipment for off-road use.

**Incident Management Teams** - These teams consist of fire managers whose primary responsibility is to develop and implement strategies to suppress wildfires and provide the food, equipment, transportation, and other goods and services that wildland firefighters need. There are four types of incident management teams, ranging from small, local teams of three to five fire managers which supervise fire suppression when a blaze first starts to large, national teams of about 35 fire managers that oversee the most difficult, complex wildfires in the country.



**Air Tankers** - These large planes, fitted with tanks, provide direct support to firefighters on the ground by dropping up to several thousand gallons of water or chemical retardant ahead of an advancing wild fire. The retardant, a red liquid that contains phosphate fertilizers, helps slow and cool down the fire, buying time for firefighters to build fireline. Retardant also acts as a fertilizer, helping new vegetation to grow in burned areas. Aerial attack is frequently the first suppression action taken on a new fire.

#### *If You Live In Wildfire Country*

Give wildland firefighters a "fighting chance" by making your home as defensible as possible if you live in an area that is subject to wildfire:

- Remove leaves, brush, and dry grass within 30 feet of your house and other structures. Keep the area cleared throughout fire season.
- Remove all trees within 10 feet of your house and space remaining trees at least 10 feet apart. Cut all branches below six feet from the ground to prevent fires from spreading into tree tops.
- Clean your roof and rain gutters regularly, keeping them free of twigs, leaves, and pine needles. Remove all tree limbs within 10 feet of your chimney or stove pipe.
- Store firewood and other combustible materials like picnic tables at least 30 feet away from your house and other structures and clear a space of at least 10 feet around them.
- Post your address along the road at the driveway entrance as well as on the home. Numbers should be at least four inches tall and mounted on a high contrast, noncombustible background material.
- Apply a fire retardant solution, such as phosphate salt, to wood shingle and shake roofs.

For more information about how to protect your home from wildfire, contact your nearest state or federal wildland fire agency.

#### *If You Want to Join 'Em*

To become a wildland firefighter, you must be between 18 and 35 years old and pass a physical fitness test. For more information, contact your state forestry agency or the nearest office of the U.S. Forest Service, the Bureau of Land Management, the U.S. Fish and Wildlife Service, the National Park Service, or the Bureau of Indian Affairs.



**Helicopters** - Helicopters fitted with fixed tanks or suspended buckets that range in size from 100 to 2,000 gallons also support firefighters on the ground by dropping water, foam, or retardant on flaming trees, brush, and even structures to cool hot spots and prevent a fire from spreading. Helicopters also drop water and/or chemical retardants to construct "wet line," a fireline designed to slow low intensity blazes, and start fires in burn out operations with a mounted aerial torch that dispenses ignited blobs of gelled gasoline. In addition, helicopters are used to map fires with infra-red and satellite technology and to ferry firefighters, equipment, and supplies.

#### *Tools of the Trade*

**Fire Shelter** - Firefighters use this personal protection item as a last resort if a wildfire traps them and they cannot escape. Firefighters can get into the tent-like shelter, made of heat reflective material, in about 25 seconds.

**Pulaski** - Firefighters use this tool, which combines a single-bitted axe blade for chopping with a narrow blade for trenching, to clear vegetation when constructing fireline.

**McLeod** - Firefighters also use this combination hoe, rake and scraping tool and rake to remove plants and shrubs when building fireline.

**Fire Shovel** - These shovels, specifically designed for constructing fireline, feature a tapered blade with both edges sharpened for scraping, digging, grubbing, cutting, and throwing dirt.

**Drip Torch** - Firefighters use these torches, that drip a flaming liquid mixture of diesel fuel and gasoline, to ignite fires in burnout operations.

**Fusee** - Firefighters also use these colored flares to ignite fires in burnout operations.

**Fire Pack** - Firefighters use these to carry tools, equipment, and supplies on their backs.

**Headlamp** - Firefighters who work on the fireline at night wear these flashlights on the front of their helmets.

**Fire Resistant Clothing** - These yellow shirts and green pants are the trademarks of wildland firefighters.

**Boots** - Firefighters wear all leather boots to protect their feet from the heat on the fireline and rugged terrain.