

FIRE SUPPRESSION – TYPES OF FIRE & TERMS USED

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Lions River Fire Protection Association
By Landowners – For Landowners

Types of Fire

Each type of fire creates its own peculiar hazards, which will require constant monitoring to ensure safe work practices are observed and carried out at all times. Fires can generally be described in terms of the fuel in which they are burning – grass, scrub or forest plantation. The following explains some of the characteristics of different types of fire, and defines important parts of a fire's perimeter.

Ground fire: This type of fire burns the organic material in the soil layer, as happens in a peat fire, and often also burns surface litter and small vegetation.

Surface fire: This type of fire travels just above ground surface in vegetation such as grass, low scrub and forest harvest, as well as under canopy. It presents a significant hazard to fire fighters because conditions can change rapidly due to strengthening winds or wind changes, rapidly increasing fire intensity and rate of spread.

Crown fire: This is a fire which burns in the crowns (tops) of trees ahead of, and above, an intense surface fire in the undergrowth and presents a significant hazard to fire fighters. Radiant heat and direct flame contact resulting from the surface fire will ignite tree tops. Strong winds carry the fire along the upper storey vegetation.

Terms used during a fire

Parts of a fire include:

The head of the fire: The head of a fire is where the fire is making its greatest progress (usually downwind or upslope) measured by its forward rate of spread. The head is also called the fire front. Flames are tallest and intensity of the fire is greatest at this point. The head of the fire is influenced by wind direction, fuel factors and topography, and will change accordingly.

Flanks or sides of a fire: Both sides of the fire between the head and the rear are called the flanks. They are roughly parallel to the main direction of spread. The intensity of the fire at the flanks is less than at the head. Often they are described by their geographic location (for example, the eastern or western flank of a fire) or by their orientation as viewed from the point of origin or rear of the fire (for example, the left or right flank of a fire).

Fingers: These are long and narrow slivers of the advancing fire, which may extend beyond the head or flanks, and are caused by varying wind direction or variations in fuel or topography.

Rear or heel: This is the section of the perimeter opposite to, and usually upwind or down slope from, the head of a fire. It is the least intense part of the fire's perimeter, with the lowest flames and slowest rate of spread. It may be described as the back of the fire.

Point of origin: This is the area where the fire started. The likely point of origin should, if possible, be left undisturbed for fire investigation.

WATCHOUT is an acronym used to remind fire fighters of potential dangers to their safety and to give advice on safe work practices.

Understanding the meaning of the acronym will help you perform a more comprehensive risk assessment when determining how to fight a specific type of fire.

Weather dominates fire behaviour, so keep informed.

Actions must be based on current and expected fire behaviour.

Try out at least two safe escape routes.

Communicate with your Fire Boss, Crew Leader, your crew and adjoining crews.

Hazards - beware of variations in fuels and steep slopes.

Observe changes in wind speed and direction, temperature, humidity and cloud.

Understand your instructions, make sure that you are understood.

Think clearly, be alert and act decisively before your situation becomes critical.