

Wildland Fire in the Northwest Territories

Media Guide 2011

Introduction

The wildland fire season in the Northwest Territories runs from May 1 to September 30. This is the time of the year when fires are likely to start, spread and cause damage to values-at-risk, resulting in the need for organized fire suppression.

The Department of Environment and Natural Resources (ENR), through its Forest Management Division, provides wildland fire management services, including fire prevention, detection, monitoring, situation assessment and fire suppression action.

Current wildfire information and maps are available daily at www.nwtfire.com. This includes the current wildfire situation report, daily lightning and fire danger maps.

This guide has been developed as a quick reference to media covering wildland fires in the NWT. It is designed to assist the media with definitions, statistics and safety guidelines. The guide does not contain all fire or fire-related definitions, statistics or guidelines. If you have any comments or suggestions regarding this edition of the media reference guide, please contact:

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Wildfire Safety Guidelines

The following safety guidelines must be followed when you are invited to visit or tour the site of a wildland fire.

Aircraft in the Wildfire Area

The air space over all wildland fires is restricted by federal legislation. The Canadian Air Regulations state that the air space within a five-mile radius and 3,000 feet above a fire is restricted to only those aircraft operating for, and with the approval of, the Fire Control Agency.

If additional air space is required, the local ENR office can ask Transport Canada to establish a Notice to Airmen or NOTAM. This notice officially extends the air space restriction both horizontally around and vertically above the fire area. The NOTAM can also include flight corridors for aircraft flying to the fire area from airports or skimming lakes.

Any aircraft entering the restricted air space around a wildland fire receive authorization from the local ENR office or the Air Operations section of the wildfire incident.

Helicopters – Passenger Safety

Please keep these points in mind when travelling by helicopter at a wildland fire. Most wildland fires in the NWT are only accessible by air, so the majority of media tours are conducted by helicopter.

- Always get a safety briefing from the pilot in command before entering any helicopter for the first time.
- Move around a helicopter in a crouched position to avoid the blades.

- Leave or enter on the downslope side – **never uphill**.
- When you are around a helicopter, **NEVER** leave the pilot's field of vision.
- Never carry anything over your shoulder – hold material in front of you.
- Hold your hat.
- Always wear your seat belt during flight. Seat belts must not be undone until the pilot indicates it is safe to do so.
- Never stand directly beneath a hovering helicopter or under a sling load.
- Never throw objects around a helicopter.

Air Support Safety

Air support in the form of air tankers is a valuable tool for firefighters, but it can be dangerous to those on the ground. The drop in volume of fire retardant or suppressants, including water, can vary from 660 to 2,500 gallons depending on the aircraft. Air tankers make drops only with instructions from a smaller aircraft called the Birddog. The Birddog warns all firefighters of an impending drop. The person assigned to your crew will advise you if a drop is to occur. A warbler (yelping sound) means an impending drop. Clear the area and take cover 90 degrees to the intended drop run. Never take cover behind a tree. A wail siren means all clear and workers can return to normal activities.

Wildland Fire Safety

- Stay with the ENR representative and follow all instructions.
- Watch where you are walking – don't walk through hot ashes or embers.
- Watch for rolling objects on steep slopes.
- Never walk downhill from a burning tree.
- Never walk downhill from a bulldozer or fire crew.
- If you see something dangerous, shout a warning.
- Pay attention.

Personal Protective Clothing

Always wear protective clothing when visiting the site of a wildland fire. The appropriate clothing and footwear will protect you from injury. Your personal safety is our first priority during any media tour or visit to a wildland fire site. Protective clothing includes:

- A long-sleeved cotton shirt (flannelette is acceptable)
- Cotton pants, not shorts (jeans are acceptable)
- If coveralls are supplied, wear them.
- Always wear the supplied hard hat.
- Wear a good pair of leather boots with a grip tread.
- **NEVER** wear sandals, high-heeled shoes, shorts or synthetic material such as nylon or Dacron.

Important Phone Numbers

Forest Management Division, ENR

867-872-7700

<http://forestmanagement.enr.gov.nt.ca>

To Report a Wildfire (emergency line only)

1-877-NWTFIRE

(1-877-698-3473)

Territorial Duty Officer

867-872-7710

North Slave Region Duty Officer

867-920-6115

South Slave Region Duty Officer

867-872-6422

Deh Cho Region Duty Officer

867-695-7485

Sahtu Region Duty Officer

867-587-3512

Inuvik Region Duty Officer

867-678-0590

Territorial Fire Information Officer

867-873-7379

Size/Area Comparisons

ENR measures all wildland fire areas in hectares.

One hectare is equal to:

- Approximately two football fields (side by side)
- 100 metres x 100 metres
- 2.47 acres
- 0.01 square kilometre
- 10,000 square metres

One football field is equal to 92m X 54m.

The following chart shows the area in hectares of some cities, lakes and other commonly known areas throughout North America. These areas can be helpful in comparing wildland fire areas.

Place	Hectares
Canada	1,000,000,000
Northwest Territories	134,416,235
Alberta	64,231,700
Yellowknife	11,882
Edmonton	69,900
Toronto	62,991
Ottawa	277,864
Great Slave Lake	2,791,600
Great Bear Lake	3,060,250
Lake Superior	8,210,000
Lake Ontario	1,896,000

NWT Wildfire Statistics

2010 Season

Number of of wildland fires - **224**

Breakdown of fires in regions:

- Inuvik - 12
- Sahtu - 14
- Deh Cho - 7
- North Slave - 69
- South Slave - 122

2009 Season

Number of wildland fires – **41**

Breakdown of fires in regions:

- Inuvik – 3
- Sahtu – 4
- Deh Cho – 12
- North Slave – 5
- South Slave – 17

2008 Season

Number of wildland fires – **241**

Breakdown of fires in regions:

- Inuvik – 19
- Sahtu – 16
- Deh Cho – 30
- North Slave – 52
- South Slave – 124

2007 Season

Number of wildland fires – **184**

Breakdown of fires in regions:

- Inuvik – 19
- Sahtu – 30
- Deh Cho – 33
- North Slave – 24
- South Slave – 78

2006 Season

Number of wildland fires – **166**

Breakdown of fires in regions:

- Inuvik – 6
- Sahtu – 41
- Deh Cho – 21
- North Slave – 34
- South Slave – 64

The 10-year average (2001 to 2010) is 179 wildland fires.

Hectares Burned

- 333,434 hectares (compared to 2,057 ha in 2009; 441,574.77 ha in 2007; 27,089 ha in 2002; 1,459,360 ha in 1998; and 858,577 ha in 1993)

The 10-year average (2001-2010) is 213,831 hectares.

NWT Wildland History 2001 to 2010

Year	Number of Fires	Hectares Burned
2001	127	111,261
2002	85	27,089
2003	160	127,821
2004	297	515,621
2005	261	218,132
2006	166	53,397
2007	184	440,713
2008	241	308,788
2009	41	2,057
2010	224	333,434
Average	179	213,831



Fire Weather Indices

These indices are indicators of the dryness of the forest fuels and provide a relative measure of the burning conditions that can be expected for a “standard” fuel type. Low numbers mean wet conditions. High numbers mean dry conditions. The individual fields are:

Fine Fuel Moisture Code (FFMC)

- **Range: 0 – 100**
- Dryness of the smallest forest fuels (surface litter, leaves, needles, small twigs, etc.)
- Derived from previous day’s FFMC and the local noon temperature, relative humidity, wind speed and 24-hour precipitation.

Duff Moisture Code (DMC)

- **Range – Unlimited**
- Dryness of medium sized surface fuels and upland duff layers (approximately 2 to 10 cm in depth).
- Derived from previous day’s DMC and the local noon temperature and 24-hour precipitation.

Drought Code (DC)

- **Range 0 – Unlimited**
- Dryness of the largest surface fuels and deep duff layers (approximately 10+ cm in depth).
- Derived from previous day’s DC and the local noon temperature and 24-hours precipitation.

Initial Spread Index (ISI)

- **Range 0 – Unlimited**
- Relative measure of how quickly a wildland fire can be expected to spread.
- Derived from the FFMC and wind speed.

Build Up Index (BUI)

- **Range 0 – Unlimited**
- Relative measure of the amount of fuel available for combustion.
- Derived from the DC and DM.

Fire Weather Indices Chart

Hazard Rating	FFMC	DMC	DC	ISI	BUI
Low	0 – 73	<22	0 – 79	0 – 1	0 – 24
Moderate	74 – 84	22 – 27	80 – 189	2 – 4	25 – 40
High	85 – 88	28 – 40	190 – 299	5 – 8	41 – 60
Very High	89 – 91	41 – 61	300 – 424	9 – 15	61 – 89
Extreme	92+	61+	425+	16+	90+

Burning Permits

The *Forest Protection Act* requires anyone burning grass, brush, debris or lighting an open fire for any purposed other than warming yourself or cooking during the “closed season”. The “closed season” for fires in the Northwest Territories is May 1 to September 30.

Burning permits are issued for a specific period of time. They identify the resources needed on site and under what conditions a burn can happen.

Permits are free from your local ENR office. If ENR is not responsible for issuing the permit, you will be directed to the appropriate persons or authority. Some municipalities have enacted by-laws regarding burning within municipal boundaries.

Permit holders must comply with all conditions on the permit and conduct a safe burn. The fire must be extinguished before leaving the area. Failure to do so can result in the permit holder being held liable for any fire suppression costs and damages.

Tips for Safe Burn

- Plan the burn for a safe time of the year – the fall or just after green-up in the spring.
- Discuss land clearing and debris, range and meadow burning with your local ENR office for sound, practical advice.
- Burn only during safe conditions (no wind, after a rain).
- Make sure your burning permit is valid and complies with all the conditions.
- Make sure people, equipment and water is on hand to keep the fire from spreading.
- Keep fires small and controllable with the resources you have on site. Stay with the fire until it is completely out.

Aircraft Information

ENR has six air tankers, four birddog aircraft and five rotary wing aircraft on contract to provide air operation and air tanker support for wildland fire suppression efforts. All these aircraft have primary bases, but they can, and often, relocate when the fire situation warrants it. There are six air tanker bases in the NWT. They are in Fort Smith, Hay River, Fort Simpson, Yellowknife, Norman Wells and Inuvik.

The Territorial Duty Officer, in consultation with the Regional Duty Officers, makes strategic decisions regarding airtanker alerts and positioning.

The NWT has reciprocal border agreements with Alberta, Yukon, Saskatchewan and British Columbia to provide additional air tankers, if needed.



Campfire Safety

The careless construction and use of campfires can lead to wildland fire starts. The number of person-caused fires in the NWT is increasing.

Please protect the land from unwanted fire by following these simple steps when building a campfire:

- **Don't** build campfires that are too large to extinguish or to control. Smaller, lower intensity campfires are best for cooking and can be safely managed.
- **Use** a fire pit for all open fires. You can make your own fire pit when camping or travelling on the land. Before lighting a campfire, make sure you dig your fire pit down to mineral soil. **Don't** put any organic or burnable material (e.g. wood, moss, twigs or paper) in the pit. The best fire pits have sand or gravel bottoms.
- **Clear** the area around the pit of all woody or organic surface debris. A safe, clear area is at least 10 feet in diameter. If possible, use a ring of rocks as a guard against escaping sparks, coals and other fire hazards.
- **Build** your campfire away from flammable structures such as tents, trees and buildings.
- **Keep** a pail of water or a shovel nearby to put out any escaping sparks, coals or other fire hazards.
- **Before** leaving your campfire, make sure it is completely **OUT**. Start by pouring water onto the fire until no smoke or flames are visible. Stir the pile with a stick or a shovel and continue adding water. **Repeat these steps until the fire is completely out.**

Enjoy your campfires this summer, but please do your part to prevent wildland fires.

Contact your local or regional ENR office or visit www.nwtfire.com for current information on wildfire conditions and danger in your area.

Protecting Forest Homes and Cabins from Wildland Fire

Wildland urban interface is a term used to describe an area where structures such as homes, cabins or lodges meet or can be found within the forested area.

Any forested area in the NWT is a potential fuel source for wildland fires and can pose a serious risk to human life and property.

People living or running businesses in the wildland urban interface can increase their awareness, their level of preparation and reduce their risk to wildland fire by making themselves and their property "FireSmart".

Be Prepared

- Maintain a fuel-free area around your home by removing flammable plants from beside your house or cabin and clearing nearby ground vegetation, stumps, logs, branches, brush and other flammable materials.
- Remove overhanging tree limbs, moss and needles from roofs and gutters.
- Keep storage areas clean and tidy. Don't allow rags or newspapers to accumulate and store flammable liquids in unbreakable containers.
- Screen-in porches and balconies and enclose crawl spaces.
- Clean chimneys and stove pipes and check their screens.
- Stack firewood, lumber and deck furniture well away from the house.
- Have an adequately placed water supply. Connect garden hose(s) with nozzle ready to go.
- Make sure you have a ladder long enough to access the roof and a round point shovel and pickaxe.
- Develop an emergency evacuation plan with your neighbours.

Wildland Fire in the Boreal Forest – A Force of Nature

Wildland Fire Evacuation

These simple steps will reduce your chance of loss if you must evacuate the area:

- Attach garden hose to your taps and place a connected sprinkler(s) to reach flammable surfaces of your house or cabin (i.e. wood shake roof, wood or vinyl siding, decks, yard vegetation).
- Place plywood shutters on any windows facing the forest.
- If you have an outdoor hot tub, fill it and make it accessible to firefighters.
- Fill garbage cans and buckets with water and leave them where firefighters can find them.
- Block downspouts and fill rain gutters with water.
- Turn off or remove any outside propane tanks.
- Close all windows and doors in your house or cabin. If you have metal blinds, close them.
- Move combustibles (i.e. curtains, furniture, house plants, etc.) away from windows and sliding glass doors.

Reporting Wildfires

Anyone who sees smoke or fire in the forest is asked to call 1-877-NWT-FIRE (698-3473) and provide the following information:

- Name and contact number.
- Location of the fire. Relate the location of landmarks (roads, lakes, creeks, highway km markers, cabins, etc.).
- Description of the fire, including size, smoke colour and volume.
- People or property in immediate danger.
- Number of people fighting the fire at time of the report.

Much of the Northwest Territories is covered by the boreal forest. It's one of our most valuable natural resources. For thousands of years, the animals and plants of the boreal forest sustained the lives of Aboriginal people. We are beginning to discover the full economic potential contained in the boreal forest.

Fire, most of it caused by lightning, has been a natural part of life in the boreal forest for thousands of years. Wildland fires are a natural part of the northern environment. Over the centuries, plants and animals in the boreal forest have adapted to periodic fires. Some have even become dependent upon fires.

Wildland fires are an essential part of maintaining this valuable ecosystem. Decay is slow in the cool, temperate areas of the boreal forest. Logs, leaves and needles accumulate on the forest floor. Wildland fires reduce this material to a mineral-rich ash... releasing and recycling the nutrients.

Wildland fires shape and change the land. A fire often follows a winding course. It may totally burn some areas while barely touching others. Over time, a mosaic of these burned and unburned areas result in a forest of different ages and types, resulting in a rich variety of habitats. Those habitats support a variety of species of insects, mammals and birds. This biodiversity indicates a healthy ecosystem, which is likely to survive into the future.

Fire has the effect of naturally cleansing a forest and replacing older growth with younger and more vigorous plants. Fire also reduces many of the insects and diseases found in the forest. If left unchecked, insects and disease can kill large areas of forest and leave standing dead trees, which may contribute to larger and more intense forest fires.

Wildland Fire in the Northwest Territories – A Force of Renewal

A wildland fire does not destroy habitat forever. The boreal forest is the product of many fires. The forest has evolved with fire and depends upon it for renewal.

Wildland fires help fire-dependent plants reproduce. The cones of jack pine and black spruce trees are sealed with a natural resin. The intense heat from a fire melts the resin and the cones open to release thousands of seeds, which find a new home in the soil.

Some plant species, such as the valuable morel mushroom, can only be found in abundance one to three years after a forest fire.

Wildland fires can also improve the foraging and habitat for wildlife. Trees killed by fires provide habitat and food for many species of birds.

After a fire, bark beetles and other insects move in to feed on the recently burned, dead and dying trees. The woodpecker population increases dramatically as the birds come to feast upon the insects.

Willow, aspen, raspberry and wild rose bushes sprout vigorously after a fire passes through an area. Moose and bison feed on this new shrub growth. Black bears feed on the new berries and nutritious roots.

Small mammals, such as voles and mice, typically seek shelter from fires in burrows underground. Soil is an excellent insulator and, in most cases, the heat of a fire does not penetrate more than an inch or so underground. This same insulation protects the root systems of aspen and poplar and shrubs so they can regenerate soon after a fire has passed.

The new grasses and shrubs found following a fire provide for an overall increase in small mammal populations, including the snowshoe hare. Other animals benefit from this new growth. Fallen trees provide cover for martens, while the new growth makes excellent hunting areas for voles and mice. Lynx use nearby mature spruce and pine forests for cover and hunt in the recently burned areas that support large populations of snowshoe hares.

Moose prefer habitats that have been recently disturbed. After a wildland fire, there's plenty of new growth to browse in a recently burned area, which is also relatively bug free. Moose populations begin to peak about five years after a fire. They will stay around the burned area for about 20 years. After that, they move on because the forest gets too dense and too old for their browsing habits.

Wildfires renew, rejuvenate and recycle the whole forest, including plants and animals. It's a continual cycle of change.



Glossary of Wildfire Terms

Air Attack: The use of fixed-wing or rotary aircraft on a wildfire to drop retardant or suppressants, to shuttle crews and supplies or to perform aerial reconnaissance of the overall fire situation.

Air Attack Officer: An airborne traffic controller. Also referred to as the Birddog Officer.

Air Drop: The discharge of fire retardant or suppressants.

Air Tanker: A fixed-wing aircraft fitted with tanks and equipment for dropped retardants or suppressants on wildfires.

Birddog Aircraft: An aircraft carrying the person (Air Attack Officer) directing fire bombing on a wildfire. Also referred to as the Birddog.

Burning Off: A wildfire suppression operation where fire is set to consume islands of unburned fuel inside the wildfire perimeter during mop-up operations.

Burning Out: A wildfire suppression operation where fire is set along the inside edge of a control line or natural barrier (i.e. road, river, etc.) to consume unburned fuel between the line and the perimeter of the fire and merge the two fires. This operation reinforces the existing control line and speeds up the control effort.

Campaign Fire: A wildfire of such size, complexity and/or priority that its extinguishment requires a large organization, high resource commitment, significant expenditure and prolonged suppression activity.

Contain a Fire: Take fire suppression action as needed, which can reasonably be expected to keep the fire with established boundaries under prevailing conditions.

Control a Fire: Complete a control line around a wildfire, any spot fire or interior unburned island. The line can be expected to hold under foreseeable conditions. Implies a more thorough suppression than 'contain a fire'.

Control Line: A comprehensive term for all constructed or natural fire barriers and treated fire perimeters used to control a wildfire. (See Fireguard and Fireline.)

Convection Column: Thermally produced ascending column of gases, smoke, fly ash, particulate and other debris produced by a fire. The column has a strong vertical component indicating that buoyant forces override the ambient surface wind. More than one convection column may be present on multiple-headed fires.

Crown Fire: A fire that advances from the top to top of trees or shrubs more or less independently of the surface or ground fire. Sometimes crown fires are classified as either running or dependent, to distinguish the degree of independence from the surface fire.

Detection Aircraft: An aircraft used to discover, locate and report wildfires.

Fine Fuels: Fuels that ignite readily and are consumed rapidly by fire (cured grass, fallen leaves, needles, small twigs). Dead fine fuels also dry very quickly. (Synonym – Flash fuels. Also see Medium Fuels and Heavy Fuels.)

Fire Ban: An order issued by a community, municipal or territorial government to restrict the use of fire in areas of high hazard. The order describes what types of fires are allowed or may entirely prohibit the use of any fire.

Fire Behaviour: The manner in which fuel ignites, flame develops and fires spreads and exhibits other phenomena as determined by the interaction of fuels, weather and topography. Some common terms used to describe fire behaviour include:

- **Smouldering** – A wildfire burning with no flame and barely.
- **Creeping** – A wildfire spreading slowly over the ground, generally with a low flame.
- **Running** – A wildfire rapidly spreading with a well-defined head.
- **Torch or Torching** – A single tree or a small clump of trees is said to ‘torch’ when the foliage ignites and flares up, usually from bottom to top. (Synonym – candle or candling)
- **Spotting** – A wildfire producing firebrands carried by the surface wind, a fire whirl and/or convection column that fall beyond the main wildfire perimeter and result in spot fires.
- **Crowning** – A wildfire that advances from top to top of trees or shrubs more or less independently of the surface or ground fire.

Fire Danger: A general term used to express an assessment of both fixed and variable factors of the wildfire environment that determine the ease of ignition, rate or spread, difficulty of control and fire impact.

Fireguard: A strategically planned barrier, either manually or mechanically constructed, intended to stop or retard the spread of a wildfire, and from which suppression action is carried out to control a wildfire.

Fire Hand Tools: The principal hand tools used in wildfire suppression are:

- **Pulaski** – A combination chopping and trenching tool that combines a single-bitted axe-blade with a narrow adze-like trenching blade fitted to a straight handle. Useful for grubbing or trenching in duff or matted roots. Well-balanced for chopping.

- **Shovel** – A type of shovel specifically designed for use in constructing a fireline. It has a tapered blade with both edges sharpened. Used for digging, scrapping, grubbing and cutting.
- **Backpack Pump** – A small pump and hose. Useful for mopping up and extinguishing small hot spots.

Fire Retardant: Any substance that, by chemical or physical action, reduces flammability of fuels or slows their rate of combustion.

Fire Status:

- **Out-of-Control (OC)** – A fire where the perimeter spread is not being contained for a number of reasons, including the fire is not responding to or is only responding on a limited basis to suppression action. (Synonym – Not Under Control)
- **Being Held (BH)** – Indicates that the fire is not likely to spread beyond existing or predetermined boundaries under prevailing and forecasted conditions. (Synonym – Partial Control or Contained)
- **Under Control (UC)** – Indicates that no further spread of the fires is anticipated.
- **Being Patrolled** – Fire area is being walked over and checked for hot spots (Synonym – Mop Up)
- **Declared Out** – Fire has been extinguished. (Synonym – Extinguished or Out)

Fire Suppression: All activities concerned with controlling or extinguishing a fire following its detection. Methods of suppression include:

- **Direct Attack** – Wildfire is attacked immediately adjacent to the burning fuel.
- **Parallel Attack** – A fireguard is constructed as close to the fire as heat and flame permit, and burning out the fuel between the fire and the fireguard.
- **Indirect Attack** – A control line is strategically located to take advantage of favourable terrain and natural breaks in advance of the fire perimeter and the intervening strip is usually burned out.

- **Hot Spotting** – A method to check the spread and intensity of a fire at those points that exhibit the most rapid spread or that otherwise pose some special threat to control of the situation. This is in contrast to systematically working all parts of the fire at the same time, or progressively, in a step-by-step manner.
- **Cold Trailing** – A method of determining whether or not a fire is still burning. Involves careful inspection and feeling with the hand, or by use of a hand-held infrared scanner, to detect any heat source.
- **Mop-up** – Act of extinguishing a fire after it has been brought under control.

Head of Fire: Most rapidly spreading portion a wildfire's perimeter.

Hot Spot: A particularly active part of a wildfire or small area of smouldering or glowing combustion that may be exhibiting smoke, located on or within the wildfire perimeter.

Incident: An occurrence, either human caused or by natural phenomena, that requires action by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources.

Incident Command System (ICS): A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries.

Incident Command Team: The Incident Commander and appropriate command and general staff assigned to an incident.

- **Incident Commander** – The individual responsible for the management of all incident operations at the incident site.
- **Information Officer** – A member of the command staff responsible for dealing with public, media and other agencies requests for information directly from the incident. There is only one Information Officer per incident.

Infrared Scanner: An optical-electronic system for identifying or obtaining imagery of thermal infrared radiation to detect non-smoking wildfires or wildfire perimeters through smoke. May also be used for wildfire mapping. System may be operated from an aircraft or hand-held unit on the ground.

Initial Attack: Action taken to halt the spread or potential spread of a wildfire by the first firefighting force to arrive at the fire.

Initial Attack Crew: Personnel trained, equipped and deployed to conduct suppression action to halt the spread or potential spread of a wildfire within the first burning period (before 10:00 hours the next day).

Lightning Detection System: A network of electronic field sensors linked to a central computer to detect, triangulate, plot the location and record cloud-to-ground and lightning flashes in real time over a large predetermined area.

Prescribed Burning: The knowledgeable application of fire to a specific land area to accomplish predetermined forest management, wildlife management or other land use objectives.

Prescribed Fire: Any fire deliberately used for prescribed burning, usually set by qualified fire management personnel according to a predetermined burning prescription. In some cases, a wildfire that may produce beneficial results in terms of the

attainment of forest management and other land use objectives may be allowed to burn under certain burning conditions according to a defined burning prescription, with limited or no suppression action, and as such, may be considered a form of prescribed fire.

Property: Land or real estate, including both private and public land and real property.

Rate of Spread (ROS): The speed at which a wildfire extends its horizontal dimensions. Expressed in terms of distance per unit of time. Generally considered in terms of the forward movement of a wildfire or head fire rate of spread.

Relative Value: Estimated economic value of a specific or collective set of natural resources and improvements/developments that may be destroyed or otherwise altered by forest fire in any given forest area relative to the cumulative cost of continuing fire suppression efforts after the first attack period. The relative value in immediately adjacent threatened areas may also be considered in wildfire response decision-making.

Slash: Debris left as a result of forest and other vegetation being altered by land use activities (road construction, forestry and seismic line clearing). Includes material such as logs, splinters or chips, tree branches and tops, uprooted stumps and broken or uprooted trees and shrubs.

Slurry: A suspension of insoluble matter in water. In wildfire suppression, it is a general term applied to any long-term or short-term retardant after the mixing process has been completed.

Snag: A standing dead tree or part of a dead tree where at least the smaller branches have fallen.

Sustained Attack: All action taken to stop the spread or potential spread of a wildfire following initial attack.

Values-at-Risk: Human life and the specific or collective set of natural, cultural or human-made resources and improvements/developments that have measurable or intrinsic worth and that could or may be destroyed or otherwise altered by wildfire in any given area.

Wildfire: Any fire burning in forested areas, grass or alpine/tundra vegetation. The main types of wildfire are:

- **Ground Fire** – A fire burning in the ground fuel layer.
- **Surface Fire** – A fire burning in the surface fuel layer, excluding the crowns of trees, as either a head fire, flank fire or backfire.
- **Crown Fire** – A fire that advances through the crown fuel layer, usually in conjunction with a surface fire.

The anatomical parts of a wildfire are:

- **Bay(s)** – A marked indentation in the wildfire perimeter, usually located between two fingers. (Synonym: Pocket[s])
- **Finger(s)** – An elongated burned area(s) projecting from the main body of the wildfire, resulting in an irregular wildfire perimeter.
- **Flanks** – Portions of the wildfire perimeter that are between the head and the back of the fire and are roughly parallel to the main direction of the spread. (Synonym: Sides)
- **Head** – Portion of the wildfire perimeter with the greatest rate of spread and frontal fire intensity, generally on the downwind and/or upslope part of the fire.
- **Back** – Portion of the wildfire perimeter opposite the head. The slowest spreading part of the fire. (Synonym: Base, Heel, Rear)
- **Island(s)** – Area(s) of unburned fuels located within the wildfire perimeter.
- **Point of Origin** – The location(s) within the wildfire perimeter where ignition first occurred.