

Agency Briefing Package



Yukon Wildland Fire Management

Department of Community Services

Protective Services Division

Yukon Government

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Introduction

Welcome to the Yukon and thank you for assisting us. This document constitutes the first of two briefings that will orient you to the Yukon's geography, branch organization and current fire situation. You will be briefed further once you arrive at your fire assignment or district office.

The purpose of this package is to:

- Familiarize you with Yukon Wildland Fire Management (WFM)
- Introduce you to fire management in the Yukon
- Hasten your integration into our fire management team
- Provide information on safety issues and mitigation

Safety is the top priority of our branch. If you feel unsafe in a task or operation, do not hesitate to back off and seek assistance from your supervisor.

Yukon Population and Geography

The Yukon is no longer the frontier society of gold rush legend, but neither is it exactly like southern Canada. The Yukon Territory is approximately 483,000 square kilometers in size, much of which is undeveloped, uninhabited and inaccessible without aircraft. It is bounded to the south by BC, to the west by Alaska, to the north by the Arctic Ocean and to the east by NWT.

The topography is mountainous with broad treed valleys. Although many envision a barren wasteland, valleys and slopes south of the Arctic Circle are generally covered with spruce, pine and deciduous trees and shrubs, making for continuous swaths of fuel. There are numerous lakes and rivers throughout the Yukon, but due to the mountainous topography they are often unavailable as pump sources.

The population of the Yukon is approximately 43,964, of which 23% are First Nations. Nearly 70% of Yukon residents live in the capital city of Whitehorse along the Yukon River. The remainder reside in smaller communities, most of which are south of 64 degrees latitude. These include Old Crow, Dawson City, Mayo, Carmacks, Faro, Ross River, Beaver Creek, Burwash, Destruction Bay, Haines Junction, Teslin and Watson Lake. Figure 1 illustrates the location of these communities.

Major roads in the Yukon are all paved, including a large section of the Alaska Highway running from Watson Lake in the southeast to Beaver Creek at the Alaska Border. Most communities are accessible by paved road, except Old Crow, which is fly-in only.

Weather

The interior of the Yukon is considered semi-arid, with less than 250 mm of precipitation annually. July mean temperatures are around 15 C, but daily highs can reach 35 C. Due to its high latitude day length can exceed 20 hours during summer solstice and the burning period can extend past 10 pm.

Summer precipitation usually arrives as air mass showers while continuous frontal systems are relatively rare. Nights can be cold even during mid-summer and night-time firefighting shifts are rare. Like most agencies, Yukon WFM employs meteorologists who distribute forecasts daily by 10 am, and deliver online briefings daily at 1015 am. Lightning and weather conditions are monitored throughout the day by Regional Duty Officers (RDOs) and meteorologists, and warnings are extended to crews when required.

Branch Organization

The main administration for WFM is located at the Yukon Forest Fire Centre (YFFC) at 91790 Alaska Highway in Whitehorse.

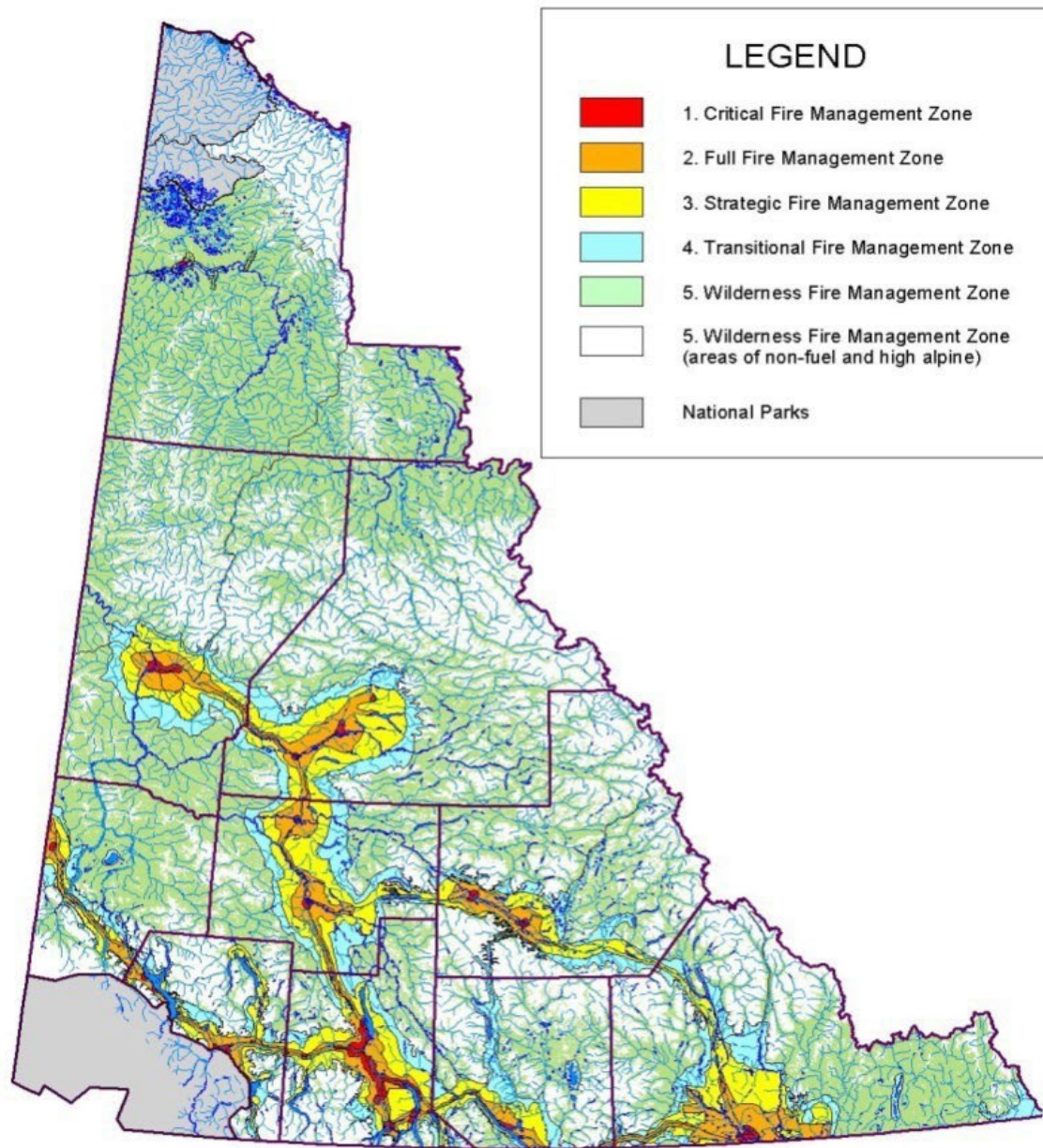
The Yukon Duty Officer (YDO) is delegated authority from the Director to manage equipment, personnel resources and fire response throughout the Territory. The YDO function is based at the Yukon Forest Fire Centre (YFFC) and is rotated weekly. The YDO has authority to pre-position fire resources within the Yukon and to import outside resources when required, pursuant to MARS, Northwest Compact or other interagency agreements to meet current and anticipated operational needs.

Yukon WFM defines its areas of response by Regions, most of which contain smaller districts. Each region and district has an office and Initial Attack base, and some are co-located with air tanker bases. Each fire management region is overseen by a Regional Protection Manager (RPM). Operationally, a Regional Duty Officer (RDO) is delegated responsibility during the fire season (April 1 to Sept 30) for ensuring that sufficient resources are available to meet current and anticipated fire loads, based on forecast fire indices. The RDO reports to and makes requests for additional resources to the YDO. WFM's reporting structure is illustrated in Figure 2.

Fire Zonation

Wildland fire response in the Territory is governed by *Yukon's Fire Management Zonation Directive* (2003) which provides strategic area-based fire management direction across the landscape. This directive provides strategic direction on a priority basis by fire management zone. This means that WFM will move to aggressively suppress wildland fires in some circumstances (e.g. Critical Fire Management Zone), but will manage fire in other situations in order to achieve ecological objectives or reduce cost or hazard (e.g. Wilderness Zone). The response zones (Figure 3), in descending order of priority are:

1. Critical Zone: The area within and immediately around communities. Fires within this zone are immediately and aggressively attacked and are usually worked until full extinguishment.
 2. Full Zone: Areas where protection of people, community and property values takes precedence over ecological values. These zones typically form a larger barrier around communities as well as along roads and power (hydro) transmission lines. Fires in this zone are actioned provided that there are no higher-priority fires requiring resources. Continued suppression is provided according to a Wildland Fire Analysis (WFA) approved by the YDO.
 3. Strategic Zone: Usually, areas with moderate density of human values such as seasonal cabins, hunting camps etc. Response is subject to risk management analysis, accounting for time of year, current and forecast fire behavior and values at risk. Depending on the conditions, this zone may revert to Wilderness Zone on July 15.
 4. Transitional Zone: Areas of low density human values and low to moderate resource values. Response is subject to risk analysis, similar to fires in the Strategic Zone. This zone will usually revert to Wilderness Zone on July 15.
- Wilderness Zone: Areas of few to no human or resource values, and where ecological values dominate. Fires in this zone are usually monitored and allowed to burn naturally but, in some cases, may be actioned after a WFA is completed and approved by the YDO. The most common response to fires in the Wilderness Zone is monitoring, and structural protection on nearby values, as necessary.



Yukon Fire Management Zonation 2003

Figure 3. Yukon Fire Management Zonation (est 2003)

Initial and Sustained Attack

WFM is a relatively small agency with fewer than 100 seasonal staff members, and 40 First Nation contract firefighters. Fires are detected throughout lookouts, public reporting, general aviation reports, aircraft patrols and satellite detections.

Yukon initial attack (IA) crews consist of a crew leader and 2 crew members. Crews are positioned at district fire management headquarters or bases and are trained to respond via rotary-wing or vehicle. District bases are equipped with bush trucks which include pumps, water, foam and the ability to draw water from structural fire apparatus.

Yukon does not have an emergency fire fighter (EFF) program or designated sustained action (SA) crews, though some crews may be designated as SA if no certified crew leader is available. Sustained attack is performed by IA crews when required. WFM also has access to a contract Type II 20 pack.

Alerts

Like many fire agencies, WFM uses several alert levels for crews and air tankers (Table 1). Alerts are established daily by the YDO in consultation with the RDOs. Alerts are established late afternoon on the previous day and may be amended based on changes in expected weather and fire behavior. During periods of low danger alerts may be set on Friday for the entire weekend.

Table 1. Yukon WFM wildland fire crew alerts.

Red Alert	Crews must be en route to a fire within 15 minutes of dispatch
Yellow Alert	Crews must be en route to a fire within 30 minutes of dispatch
Blue Alert	Crews must be en route to a fire within 60 minutes of dispatch
Green Alert	Crews are not expected to be available, and may be employed on other projects or on time off.

Air Tanker, Bird Dog and Air Tanker Base (ATB) alerts are also established each afternoon by the YDO. These typically mirror alerts for fire crews. Aircraft are subject to an 8-hour flight day within a 14-hour duty day. Extensions must be requested and approved by the YDO for any extraordinary circumstances. Flight and duty days may become a concern on larger project fires during the summer as the burning period can easily exceed the flight day and sometimes the duty day.

Yukon has no contract aircraft aside from its bird dog and air tanker groups. Other aircraft are hired as required and pre-positioned either at IA bases or on incidents.

Initial Attack Methods

Suppression techniques in the Yukon are often dictated based on the availability of water. Since most fires are not easily accessed from the ground, retardant drops from air tankers are often the first action. Yukon WFM has one Electra (L188) and one ground-based unit of 3 Air Tractors (AT802F) available. Tanker drops are followed up by IA crews, often supported by rotary wing equipped with buckets. Pump and hose are used if possible, and porta-tanks filled with bucket drops are frequently used when the fire is a great distance from a water source.

Heavy equipment constructed fire line (e.g. dozer line/cat guard) is generally used only as a last resort in Yukon, and generally only on incidents which pose imminent threat to human values such as houses and communities. Permafrost, steep topography, and remote fire locations do not make heavy equipment a practical option in suppression activities. When heavy equipment is used, rehabilitation of the disturbed areas is usually required.

Incident Management Teams

WFM uses the Canadian Incident Command System (ICS) with all operational employees trained to at least the ICS 100 level. Due to its small size, WFM does not roster Type I or Type II teams, but we have many staff that can fill such roles.

Administration

Your assignment to Yukon WFM is covered by MARS, Northwest Compact or other inter-agency agreements. In most cases accommodation will be supplied by WFM and pre-arranged by the YDO via the RDO. Accommodation can vary from hotels to tents in fire camps, depending on the fire situation. Hotel rooms are usually limited in availability in all communities.

If not supplied by WFM, your home agency is responsible for meals, hotels, vehicle rentals, wages, overtime, and travel costs. If you are not equipped to cover these costs, you should notify your Liaison Officer so that your needs may be accommodated. Your Agency will be compensated by WFM per the applicable agreement.

WFM will not accept charges for commissary but will work with you and your Liaison Officer to try and fulfill any special needs and items that may not be available at your assigned work site. Alcohol and personal calls will not be reimbursed on any receipts.

You will be working under your own union agreement while in the Yukon. WFM honours these conditions of work, but please notify your Liaison Officer if any conditions or requirements are not being met. Your Agency's safety policies also apply here, and you will not be expected to perform any work that violates these policies.

Your Liaison Officer is your primary contact to ensure that you function within your Agency's and Union's conditions.

Mapping System

WFM uses latitude/longitude throughout the Territory. Map coordinates are passed in **degrees, decimal minutes**.

GPS setup:

- Set position/location format to **hddd° mm.mmm'**
- Set map datum to **WGS84**

If reporting coordinates from an aircraft, report to a maximum to two decimal places. If reporting from the ground, use a minimum of three decimal places.

Paper maps are available in district offices:

- NAV 1:500,000 – 8 miles/inch. Used by Bird Dog and other A/C
- NTS 1:250,000 – 4 miles/inch. Each square is 10 km/side and 10,000 ha
- NTS 1:50,000 – 1.25 miles/inch. Each square is 1 km/side and 100 ha
- Quad 1:30,000 – 2,500 ft/inch. Each square is 1 km/side and 60 ha

Other maps may be provided by district offices and the RDO, including fire maps, locations of fuel caches, patrol routes etc.

Fire Reports and Numbering

As with other agencies, Yukon WFM employs a number of forms to record and transmit fire information:

- Initial Fire Report (IFR): Used by fire crew leaders or Air Attack Officers (AAO) to record information on a new fire.
- Fire Diary: Daily entries regarding tactics, resources, fire behavior and results
- Wildfire Analysis (WFA): Required for fires beyond IA and/or beyond 1-day control. These are completed by either the IMT or the RDO and approved by the YDO.
- Wildfire Report: Summarizes all suppression activities, costs, losses and general comments. For small IA fires this will usually be completed by the crew leader/IC, while for larger fires it will be completed by a senior staff member.

Fires are numbered sequentially within each fire district following the format **District – fire # - Year**. For example, DA-11-15 would be the 11th fire in Dawson district in 2015. Fire numbers will be assigned by the RDO.

Communications and Procedures

WFM has a number of communications procedures designed to ensure clarity of instructions and provide for the safety of all workers. In some cases, these may differ from what you are used to. You will receive further instruction once you arrive at your fire assignment or district fire headquarters.

WFM fleet vehicles have all WFM frequencies programmed in most radio units, as well as NorthwesTel (local TelComm) radio-telephone channels, Fire Mutual Aid and Interagency channels. Portable radios carried by RPMs and some fire officers also contain Mobile Radio System (MRS) frequencies.

Other emergency organizations such as RCMP, Ambulance, and Emergency Measures Organization (EMO) have access to MRS and may also use private networks for internal use. The following tables summarize channels used by WFM:

Cell and Satellite Phones

All communities have cell phone service, however coverage is limited to the immediate vicinity of communities, and you should not expect to get cell phone reception on most highways.

Some unincorporated areas do not have cell phone coverage at all or have not yet upgraded to services required by smart phones. In addition, cell phones from outside the Territory may not work at all, depending on the local service provider. Check with the RDO if you have questions regarding cell phone coverage.

Satellite phones are effective throughout most of the Yukon. WFM has several satellite phones available from YFFC or the district offices.

Flight Following

All aircraft hired by WFM must maintain radio contact over the appropriate VHF channel (Table 3). Flight following is done using satellite tracking (e.g. SkyTrax, Spidertrax) with aircraft routes and positions displayed in YFFC and regional offices.

An aircraft manifest and load calculation must be completed pre-flight and filed with the district office. Once airborne the aircraft will provide the district fire headquarters with:

- Call sign and channel (“C-GHYX on White repeat”)
- Destination and ETA (“fire MA-04, ETA 32 minutes”)
- Number of souls or crew on board (“Charlie crew 1x3”, or “3 on board per manifest”)
- Fuel on board (“1.5 hours fuel on board”)
- Check whether the aircraft is tracking properly

Aircraft will report down upon landing or arrival at destination, and while in the air will report in to the district fire headquarters at 30-minute intervals. When passing between districts, aircraft should call ahead to the receiving district, then notify the departing district that you have established contact. Further detail will be provided once you receive your regional briefing.

Safety

All WFM IA crew members are trained to at least the Standard First Aid level, with many trained to the Emergency Medical Responder level. Comprehensive Level 3 first aid kits are available at regional fire headquarters. On large incidents a designated first aid attendant will be available on-site. Hospitals are located in Whitehorse, Dawson City and Watson Lake while most other communities have nursing headquarters. Serious injuries will often be evacuated to Whitehorse or to hospitals in Alberta or British Columbia.

Wildlife

Problematic wildlife encounters are relatively rare in the Yukon but do occur. You may encounter bears (black and grizzly), moose, elk, caribou or bison. All are potentially dangerous and should be treated with caution and respect. You may reduce the chances of a bear encounter by keeping your camp clean, and by not stashing garbage from meals on the fireline. Bear spray is available upon request at regional fire headquarters. Do not hesitate to call for assistance or leave the work site if you feel threatened by wildlife.

Giardia

Like many regions, Giardia, or “Beaver Fever”, may be found in Yukon waterways. It is a best practice to treat any drinking water by boiling or filtering before consumption. Bottled water is available at district fire headquarters.

