

Fireline

Yukon Wildland Fire Management's
2020 fire season in review

Building wildfire-resilient
Yukon communities

Mental wellness training
that's helping crews
support each other

Notable wildfires —
and historic rainfall!

Fighting fires during
a global pandemic

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who fight fire

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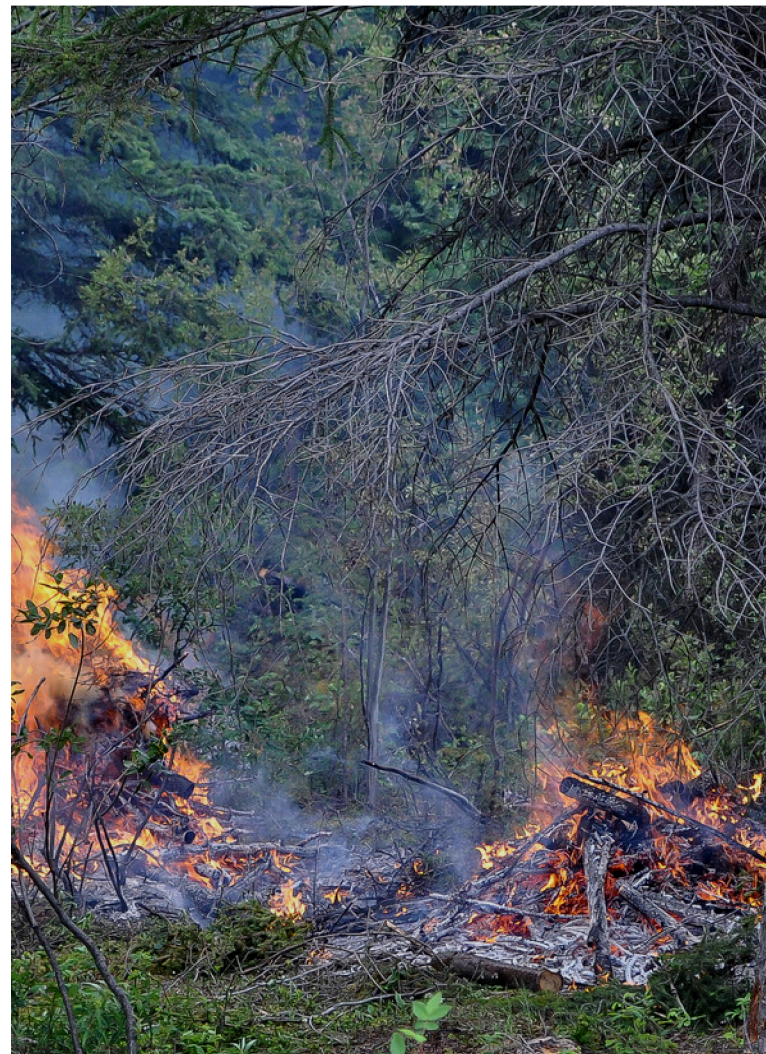
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Cover: a burn-off operation removes fuels between the Eagle Plains Lodge and a wildfire.





Fireline

Fireline is the Government of Yukon's Wildland Fire Management Branch year-in-review magazine.

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[Yukon.ca/Wildfires](https://www.yukon.ca/Wildfires)

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From the Director's Desk

I write this letter in appreciation of all the hard work that each and every one of us at Wildland Fire Management branch has put in this season. While the 2020 wildfire season was generally tame both in Yukon and across Canada, the challenges of maintaining business continuity during the global COVID-19 pandemic were many. I was impressed, but not surprised, at the ability of our branch to step up and be ready despite the challenges we faced. I am also thankful to all of those who have stepped in to support the Government of Yukon pandemic response. Well done everyone, and thank you.

As we move into the fall and winter, we must look to the future of this amazing and dedicated branch. The way fires are managed is evolving. Yukon communities and infrastructure must become more resilient and must become better prepared against wildfires. As we adapt to the consequences of climate change, the fire season will become longer and more intense.

Through the development of Community Wildfire Protection Plans, renewed initiatives and increased funding for FireSmart and forest fuel management work, we are expanding our work from wildfire suppression to community safety. This new strategic vision is on full display as the Whitehorse South Hazard Reduction project, which will help protect the territorial capital from potentially catastrophic wildfires once it is complete, began to take shape this summer.

As we look ahead to 2021, we know that we must remain focused on initial attack excellence, and continue to build our suppression capabilities. We also look forward to the development of a 5-year strategic plan to help us chart the course and vision of the future.

Thank you once again to the hard working staff of this branch. Your contribution to the Government of Yukon and to wildfire resilient Yukon communities is appreciated.



Damien Burns
Director, Wildland Fire Management

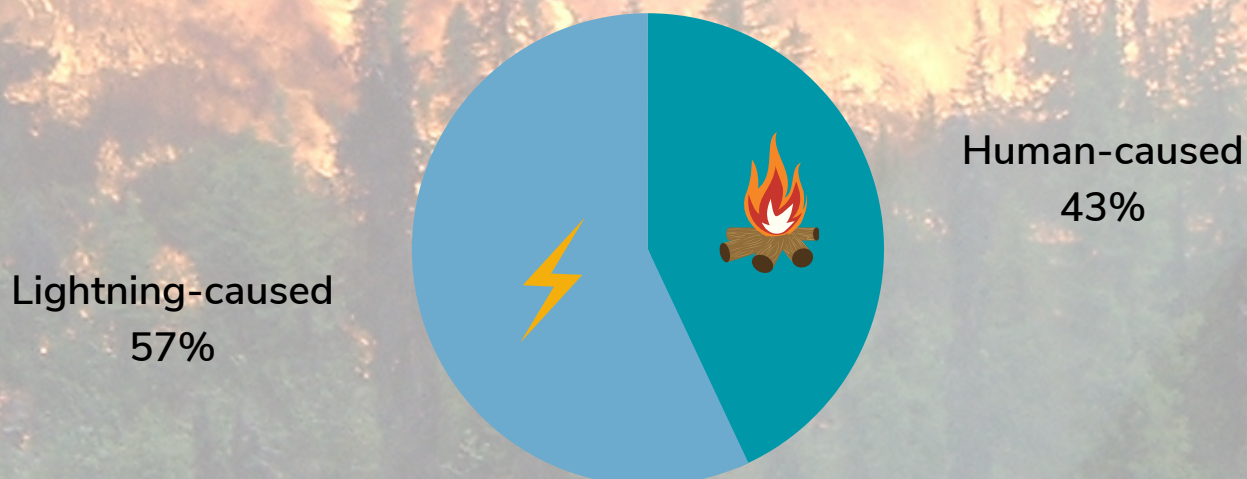
The 2020 fire season in review

To help determine whether a fire requires suppression, or will be monitored as it plays its natural role in the forest, Yukon is divided into five fire management zones. The table below provides an overview of the area burned in each zone by this year's 23 wildfires.

In addition to tracking what zone fires occur in, it is helpful to understand what percentage of fires are human-caused versus lightning-caused. This year in Yukon, there were a higher percentage of lightning-caused fires than our ten-year average.

Response zone	Area burned (hectares)	Percent of total area burned
1 - Critical	.54	0.003
2 - Full	.18	0.001
3- Strategic	17.30	.11
4 - Transitional	0	0
5 - Wilderness	15,472.93	99.89
Total	15,493	100

How the fires started



Notable 2020 wildfires

The 2020 wildfire season was notable for decreased wildfire activity, both in Yukon and across Canada. Within the territory, a number of factors such as fewer lightning strikes and greater precipitation – both as snow during the preceding winter and as sustained rainfall during the summer – had a hand in reducing wildfire risk. As a result, Yukon had 23 wildfires this year, burning a total of 15,493 hectares.

Eagle Plains fire (Old Crow fire #1)

A fire located seven kilometres southwest of Eagle Plains was reported on Saturday, June 12th. By the next day, it had grown to 161 hectares in size.

Wildfire crews from Dawson City and Old Crow installed structure protection equipment at the Eagle Plains lodge and a plan to burn off fuels between the Dempster Highway and the fire was developed. The successful burn took place on Monday, June 15th, leaving behind a medium-term fireguard that will reduce future wildfire risk to the Eagle Plains lodge.

The fire was declared under control on Wednesday, June 17th at 6,268 hectares in size. Later that week, the fire received about 90 millimetres of rainfall over a three-day period, which further decreased wildfire activity inside its perimeter.

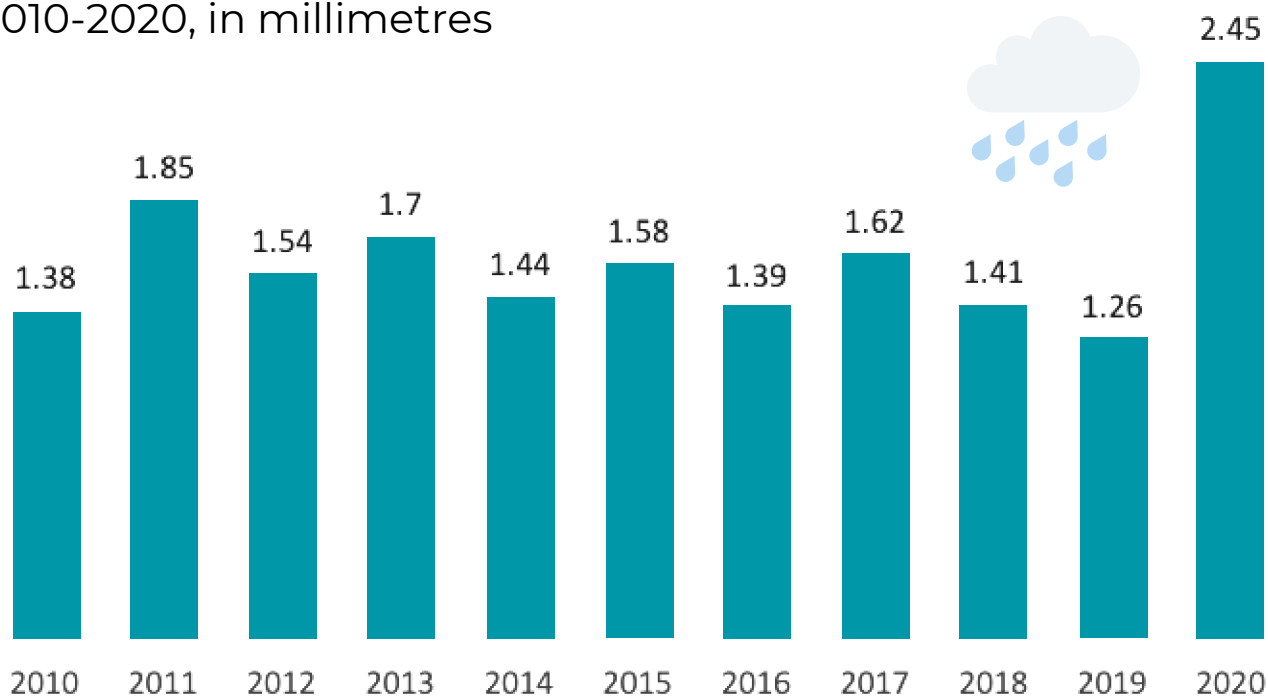


Record rainfall keeps wildfires at bay

This summer, data from our weather stations measured record amounts of precipitation. Our average 2020 station reading was 2.4 millimetres per day. This is the most rain we have measured since 1953. The second highest rainfall since the was in 1974!

In contrast, the territory received almost 50% less rainfall, in 2019.

Average daily precipitation per weather station from 2010-2020, in millimetres



Wildland Fire Management staff work a hot spot at a wildfire near Moose Lake.

Hummingbird Network partners with Wildland Fire Management

The Government of Yukon partners with the Hummingbird Network to monitor a network of cameras across Yukon that support a network of dedicated lookout tower observers and heat detection satellites. These cameras, located on Horse Camp mountain, Paint Mountain, Crow Mountain and Ptarmigan Mountain, will soon be joined by another in the Kusawa area.

The Hummingbird Network offers a modern solution to wildfire detection. Hummingbirds remote detection system helps Wildland Fire Management spot wildfires early.

Cameras are set up on the landscape and take images for volunteers to inspect for any signs of smoke or fire. A confirmed smoke report is flagged with Wildland Fire Management within in minutes, helping wildfire officers respond to incidents as quickly as possible.

In 2019, over 180 volunteers analyzed almost 16,000 images for smoke in Yukon. Thanks to those volunteers, last year's wildfire near Bear Creek was spotted from Paint Mountain. As soon as public calls started, we also had network notifications of smoke and a visual of the fire.

Anyone can volunteer their time to detect wildfires by signing up at Volunteer.HummingbirdNetwork.com, and Wildland Fire Management is excited to continue building on this innovative partnership to increase our wildfire response capacity.

Tailgate news

Historic fire tower receives a modern-day upgrade

In 1983, the federal government built the Kusawa lookout fire cabin. From its perch 5,120 feet in the sky, the tower has a prime view over the Kusawa Valley and the nearby Alaska Highway.

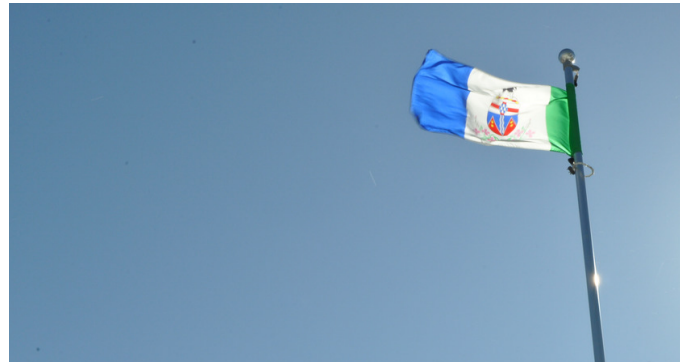
Designed by Christian Klein, the tower was last used in 2005 and served as a valuable lookout before the advent of tools like heat-detecting satellite networks. Now, it's a publicly-accessible site for adventurous hikers.

Wildland Fire Management is installing cameras at the Kusawa Tower to better monitor the area for potential wildfires. The sooner fires are spotted, the faster firefighters can be deployed.



The Kusawa Tower under construction in 1983.

Headquarters entrance gets an overhaul



On June 10th, Dan Baikie raised the territorial flag at the Yukon Forest Fire Centre as the final step in our team's front-of-building renewal project. Dan is Wildland Fire Management's Manager of Logistics and Capital Assets. On a typical day, he works on safety and training, telecommunications, logistics and takes care of Wildland Fire Management's capital assets.

Dan and the team decided to spruce up the front of the office after the long winter months left the front area looking a bit rough. This team included warehouse staff Shawn Kinsella, Tristan Sparks, Griffin Stinson-Schroff, and Avery Bridges.

Telecommunications Officer Vern Marshall helped with a well-placed rock anchor. The team's hard work included cutting the grass, fixing the plant area and installing a vintage water tender.

We are proud of how this project boosted office morale and gave our staff some team-building challenges, Displaying the type of culture that Wildland Fire Management is all about: determination and persistence.

How it happened: fighting fires during a global pandemic

The COVID-19 pandemic has had a huge impact on almost every aspect of life. Faced with an initial wave of infections months before the start of fire season, wildfire agencies across Canada had to think quickly to create safe working conditions for wildfire crews while staying prepared to fight fires.

Wildland Fire Management, along with its partner provincial and territorial wildfire agencies across Canada, regularly coordinate best practices and operations as members of the Canadian Inter-agency Forest Fire Centre (CIFFC).

Luckily, due to a generally slow wildfire season, firefighter travel to help other jurisdictions was limited until historic wildfire activity on the American West Coast triggered some Canadian crew travel through the Northwest Compact resource-sharing agreement.

Early on in the pandemic, some agencies took unprecedented steps to both reduce the potential for human-caused fires and protect firefighters during wildfire operations.

Substantial burning bans were put in place for most of the summer in British Columbia, Alberta and Quebec.



Wildland firefighters from the Southern Lakes Fire Centre wearing face masks at the air tanker base. Special personal protective equipment rules were created to keep people safe from COVID-19.

Similar to Yukon, Ontario's Ministry of Natural Resources and Forestry recalibrated their wildfire suppression strategy. By fighting fires more aggressively, they hoped to reduce the odds that a wilderness fire could grow into a fire of note. This plan made aircraft a key component of wildfire response, both through increased air attack and initial-attack crew delivery. More fire detection flights were also dispatched to find new fires as soon as possible.

Wildland firefighters know that once on the fireline, practising physical distancing is easy - it is actually important to stay at least three metres apart when building fire guards because people are swinging hand tools around! Things get more complicated when it comes to transporting crews and living in fire camps. Many CIFFC agencies introduced measures to deal with these challenges, including mandatory mask use in vehicles and installing dividers in aircraft. Crews in

camp received mandatory daily temperature checks and stuck to their crew 'bubbles' to reduce the potential for infectious outbreak.

In Yukon, Wildland Fire Management's COVID-19 response drew on conversations with both CIFFC partners and the territorial Chief Medical Officer of Health. Operating procedures were developed to ensure that both operational preparedness, worker safety and community protection were balanced.

Here are some highlights of Wildland Fire Management's COVID-19 response:

- Fire centres across Yukon increased the frequency they were cleaned and more sanitization products were made available. Access to these buildings was closed to the public.
- Spring firefighter training, normally held over a week in Whitehorse, was adapted so that large portions of material were taught online, then confirmed through in-person performance assessments.
- Firefighters were organized into 'bubbles' so that potential COVID-19 exposure could be more easily identified and limited.
- Initial-attack crews were deployed with 24 hours of provisions so they could be self-sufficient until camp could be set up.
- Helicopters had polymer dividers installed between the pilot and passengers, and masks were worn during all vehicle travel. Both helicopters and vehicles were

sanitized between uses.

- Non-essential travel was cancelled to better protect Yukon communities from infection.

Looking ahead to 2021, Wildland Fire Management plans to continue learning from the work done by partner CIFFC agencies and refine these best practices as the COVID-19 pandemic evolves.



Plexiglass dividers were installed in helicopters to reduce contamination during flights.

The Game of Fire challenges online amateur (and professional) fire behaviour experts

A new drive to teach Yukoners about wildfire behaviour took shape this summer as Wildland Fire Management expands its focus to increase wildfire resiliency in Yukon communities.

Which part of a slope will be under the greatest threat of a fire's spread? (Uphill of the fire; the flames pre-heat upslope fuels more easily.)

Do coniferous trees or deciduous trees burn more easily? (Coniferous trees contain less moisture, so they are more flammable.)



Over the course of three weeks, Wildland Fire Management leveraged its sizeable Facebook audience to share seven pieces of basic fire behaviour knowledge and quiz people with scenarios. Participants sent in their answers as direct messages or post comments.

Fire Information Officer Kat Hallett, who developed the campaign, says "we were so excited to launch The Game of Fire. It was especially gratifying to see so many Yukoners interested in learning about fire ecology and behaviour.

By the end of the contest over 180 people, including participants from Yukon, Canada and around the world weighed in with answers to the campaign. Due to unexpected

participation by many of Canada's top fire behaviour experts, a more complex bonus question was posted mid-campaign.

Engaging community outreach projects like this one are an important part of how Wildland Fire Management plans to continue ensuring that Yukoners have knowledge to understand the fire landscape, when faced with information about a fire and when making plans year-round about keeping their properties safe.

Initial attack crews gear up for deployment

Initial-attack firefighters use lots of specialized gear to fight wildfires.

This photo shows Golf Crew with a typical helicopter load, which is everything they need to quickly get water to a fire, build basic guard and survive without extra support while more help arrives.

How many pieces of gear do you recognize?



Golf Crew is employed by Yukon First Nations Wildfire in partnership with Carcross/Tagish First Nation. They are trained, certified, and deployed as initial-attack firefighters by the Government of Yukon's Wildland Fire Management branch, who manage Yukon's wildfire response program.

Fire Behaviour Specialist Kris Johnson reports from his export to Australia

After Canada's 2019 wildfire season tapered off, conditions were shaping up for a historic year in Australia. Wildland Fire Management's Kris Johnson and Linda Brandvold were exported to Australia through Yukon's agreement with the Australian government and the Canadian Inter-agency Forest Fire Centre (CIFFC).

While in Australia, Kris provided a handful of updates. This one paints a picture of the extreme fire behaviour he witnessed overseas:

My team has been repositioned to Orbost to garner experience working with Greg MacArthur, an Australian fire behaviour analyst with 50 years of service.

While at today's operational field briefing, ember showers were reported in Greg's hometown so we went to confirm. They

were not viable embers, so we traveled east along the coast to source them; they turned out to be from a burn from the previous night.

We watched the fire skunk around for a bit before doing some experiments with a green island along the road. We did weather fuel moisture, and Greg showed us how different vegetation types burned. At this point, I think I may have been the first Canadian impacted by the fauna. I thought I was stung in the bush (I am allergic). Lots of jumping jack ants in the area; it was likely one of them.



Fire behaviour specialist Kris Johnson in the field in Australia.

We continued east, stopping in with different crews and meeting locals. They do a stunningly good job of communication here. By mid-afternoon the fires became convective. We made more fire behaviour, weather and fuel moisture observations and also spent some time with the army assessing the viability of a highway as a fuel break.

Afterwards, we went and assisted with a burn through fuel moisture analysis and documentation. The crews were so efficient. Stripping the roads at night, running heavy equipment to push over danger tress... we learned a lot. The rhythm was smooth, the drip torch wands are crazy long (making it easier to burn) and the ember transport was stunning.

The first pyrocumulus cloud went into a community called Tamboon. It was sobering listening to the radio: "it is too late to evacuate – shelter in place" was the last we heard as we got in late last evening.

Heading back into the office to run projections, then back out to assess the effectiveness of last evening's burns. Heading back to Traralgon this afternoon so we are in place for our day off. No plans other than laundry.

P.S. It sounds like Tamboon is still standing.

Unique donation salutes wildland fire helicopter pilots

Late last fire season, the Mayo Fire Centre was gifted a helicopter blade with a distinctive past. Dave Trudeau, who manages the fire centre, says it holds a special place in the hearts of pilots and coworkers of the late David Wood – a longtime helicopter pilot who flew many wildfire missions. David passed away in

2016 following complications from a helicopter incident.

David was "an exceptional pilot that worked in and around the territory for many years. We could always rely on Dave for anything when it came to fire behaviour predictions or air attack expertise," said Trudeau.

David will always be known for being an exceptional pilot and a friend to the wildfire community. The helicopter blade, now on display in the Mayo Fire Centre, is from a Bell 204 helicopter that David flew on wildfire missions.

The blade is an important reminder to Wildland Fire staff that our helicopter partners are an essential part of wildfire responses.



The helicopter blade took two crews to install in the Mayo Fire Centre warehouse.

Yukon First Nations Wildfire



This summer, the Government of Yukon further developed its partnership with Yukon First Nations Wildfire Limited (YFNW).

Building on our annual support for YFNW's Beat The Heat experience program, this year Wildland Fire Management provided YFNW with financial and instructor support.

For the second year in a row, Wildland Fire Management has certified Beat the

Heat graduates with type-2 firefighter recognition – the only certification of its kind in Canada.

Over the course of the summer, the government looked for ways to partner with Yukon First Nations Wildfire in light of decreased wildfire activity. We hired YFNW's crews to help build the Mary Lake Shaded Fuel Break. We also activated our new type-2 Unit Crew Agreement to perform 14 days of additional fuel management.

The Government of Yukon's 2020 partnership with Yukon First Nations Wildfire includes the following financial support:

- \$50,000 and instructor resources for Beat the Heat
- \$93,000 to treat 6.2 hectares of the Mary Lake Shaded Fuel Break
- \$340,722 to call-up 2 20-person unit crews for additional fuel management work
- \$75,000 to support capacity development and youth mentorship programming

Meet the women who fight fire

Celine Theriault was a Parks Canada employee when she learned about wildland firefighting. Now, in her fifth year fighting fire as a crew leader at the Klondike Fire Centre in Dawson, Celine is inspiring new firefighters herself in a traditionally male-dominated environment.

"My first year was challenging through the recruitment process," she said. The most notorious part of this process is the WFX-Fit assessment – a rigorous, nationally-mandated fitness test that involves repeatedly hauling a 55-pound pack over a ramp while wearing a weighted belt, among other strenuous tasks. Now a seasoned veteran, Celine says that fighting fire "just gets easier".

Wildland Fire Management trains and deploys a tightly-knit community of about 75 wildland firefighters each summer. WFM believes a diverse leadership team gives these firefighters the best possible workplace. By encouraging and mentoring a diversity of leaders that better reflect the community, the organization benefits from broader decision-making perspectives. A more gender balanced leadership team can also provide alternative perspectives, leading to safer outcomes during sensitive situations.

This leadership is found off the fireline, too. You would be hard-pressed to find someone who has done business with the WFM Duty Room who has not gleaned some form of institutional knowledge from Marlene Crawford and Catherine Spence,



Tombstone crew's Celine Theriault (right) and Angeline Sullivan are part of a new generation of female wildland firefighters.

two operations team personnel who collectively bring decades of wildfire management experience to the organization. Marlene joined WFM just after wildfire management was devolved to the Government of Yukon in 2004. From her post in the duty room, Marlene explains that her work has been good to her because the collaborative working environment has let her learn about the universe of programs in the fire world. As an operations veteran, Marlene was exported to Alberta in 2011 to work the Slave Lake fire as a radio dispatcher.

But it isn't always a job focused on fighting fires. Marlene notes that "while this season has been comparatively slow to past years,

we've been able to fill our summer with chances to grow outside of emergency responses" and expand our community wildfire resiliency programs.

Back on base, Angeline Sullivan is one of Celine's crewmembers in Dawson. Her motivation to work in wildfire management comes from a place that's closer to home.

"For me it was my family members in Ontario who are firefighters that inspired me to become one," Angeline said, who had five Ontario fire seasons under her belt before relocating to Yukon. "It's super cool working at the base in Dawson. It's been a really awesome experience, everyone is really welcoming, and it is just an overall good work environment."

At the end of the day, most firefighters are just excited to have a good day on the fireline. Angeline and Celine's crew were deployed to the Eagle Plains fire this summer, where they were able to see the impact of fire in the far north up close.

"Fighting fire in the permafrost was very different for me, which made for a highlight of the 2020 fire season," said Angeline.



Wildland Fire Management on social media

Wildland Fire Management shares the Yukon Protective Services' social media accounts. Here are some of the ways that WFM was able to use its Facebook account to spread the word about wildfire operations and fire ecology over the summer.



8,733 followers

The Yukon Protective Services Facebook page is one of the largest in the governments digital ecosystem, right behind the main Government of Yukon page's 9,219 followers.

1,579 shares this year

Every time somebody shares one of our posts, we automatically reach a broader audience. This helps us educate more people. It's also a great sign that our audience likes what they see!



29,011 engagements

As of September 11, 2020, this many people had engaged with our content by liking, sharing, or commenting on wildfire-related posts. In general, posts related to wildfire activity generated the highest engagement.

5,466 average impressions

An impression is when content is displayed on someone's feed. This year we had an average of 5,466 impressions per post.



Our top post of 2020

Our most popular post this summer was this dramatic image showing a burn-off operation at the Eagle Plains fire. Striking visuals help us tell the story of our work and clearly have an impact on the public's ability to understand what we do.

- 2,746 reactions
- Shared 457 times
- 10,686 post clicks
- 86,578 individuals reached

In pictures: training to move around



While most of this summer's firefighter training took place online, certain performance-based tasks had to be checked through in-person training. Learning how to safely drive off-road vehicles, as well as how to safely enter and exit a helicopter while it hovers off the ground ensures that firefighters can safely travel to and from the fireline. Later in the season, crews challenged the WFX-Fit test to ensure that they met the national wildland firefighter fitness standard.

A stronger focus on community wildfire protection helps communities become more wildfire resilient

After decades of fighting all wildfires, many Yukon communities are now circled by dense forest. Wildland Fire Management is meeting this challenge by more actively managing the forests near communities. This approach increases communities' wildfire resiliency, while also providing merchantable fuels for Yukon's budding biomass industry.



Pile burning at the Mary Lake Shaded Fuel Break.

This summer, the Government of Yukon began work on a 400-hectare fire risk reduction project south of the City of Whitehorse. The Whitehorse South Hazard Reduction project represents the launch of Wildland Fire Management's new strategic vision to increase wildfire resiliency in Yukon communities. Together with the City of Whitehorse and in collaboration with Ta'an

Kwäch'än Council and Kwanlin Dün First Nation, this project underwent an assessment under the Yukon and Socio-economic Assessment Act.

This landscape-level project is supported by a wider commitment to community safety. This year, Wildland Fire Management is investing \$2.1 million towards building community wildfire resiliency. These investments include \$1.27 million in new annual funding and \$850,000 through the FireSmart Funding Program.

Yukon First Nations Wildfire Limited unit crews were hired to treat a 6.2-hectare portion of the Mary Lake Shaded Fuel Break. This contract ensured that YFNW's crews could continue to perform meaningful work despite a lack of wildfire suppression activity this year.



Yukon Member of Parliament Larry Bagnell, Yukon Minister of Community Services John Streicker and City of Whitehorse Mayor Dan Curtis announce federal funding for the Copper Haul Road Fuel Break with Wildland Fire Management crew leaders on September 3, 2020.

This spring, over 40 Local FireSmart Representatives from communities across the territory were trained to assess neighbourhoods for fire danger.

This funding also includes support for the creation of Community Wildfire Protection Plans. By 2026, every Yukon community will develop an action plan with support from WFM's Prevention and Mitigation unit that identifies priority treatment areas and local FireSmart outreach tactics. This year, work on Community Wildfire Protection Plans started in Haines Junction, Teslin, Watson Lake, Carmacks, Mayo, Dawson, and Old Crow.

Through this new strategic approach, Wildland Fire Management is using fuel management as a tool to reduce the risk of extreme fire behaviour while allowing forest fires to fulfill their natural and ecological role.



Wildland Fire Management Director Damien Burns speaks at a Community Wildfire Protection Plan meeting in Teslin.

Mental wellness training helps firefighters recognize stress, reduce stigma



Safety and Training Manager Hyder Bos-Jabbar presents a Working Mind workshop in Mayo

As first responders, Yukon's wildland firefighters are likely to encounter stressful situations that could have a long-term impact on their wellbeing. From working in the wildland-urban interface to helping another agency save lives, Wildland Fire staff show up for work knowing that their mental resiliency could be put to the test.

For many years, talking about critical incident stress and emotional trauma were poorly understood by many emergency services as a sign of weakness – but nothing is braver than knowing when it's time to ask for help. In January, several Wildland Fire Management staff certified as The Working Mind: First Responders instructors. This program is designed to be accessible – it's a half-day course for workers and a full-day for supervisors – and supports reduced barriers to getting help at work. This year, we offered the course to all WFM staff from every region.

WFM's Safety and Training Manager Hyder Bos-Jabbar is one of the branch's instructors. According to Hyder, "the course addresses the very real issue of mental health in the first responder community and provides a way for people to assess themselves and their colleagues of degrading mental health due to work and personal life stressors."

The Working Mind First Responders' course teaches students about mental health and shared language. With this common frame of reference, workers can effectively check-in with each other and feel safe knowing how to ask for help.

Mental Health Continuum Model

HEALTHY	REACTING	INJURED	ILL
Signs and Indicators			
Normal mood fluctuations	Nervousness, irritability	Anxiety, anger, pervasive sadness, hopelessness	Excessive anxiety, panic attacks, easily enraged, aggressive
Calm/confident	Sadness, overwhelmed	Negative attitude	Depressed mood, numb
Good sense of humour	Displaced sarcasm	Recurrent intrusive thoughts/images	Non compliant
Takes things in stride	Distracted, loses focus	Difficulty concentrating	Cannot concentrate, loss of cognitive ability
Can concentrate/focus	Intrusive thoughts	Restless, disturbed sleep	Suicidal thoughts/intent
Consistent performance	Trouble sleeping, low energy	Increased fatigue, aches and pain	Cannot fall asleep/stay asleep
Normal sleep patterns	Changes in eating patterns, some weight gain/loss	Fluctuations in weight	Constant fatigue, illness
Energetic, physically well, stable weight	Decreased social activity	Avoidance, tardiness, decreased performance	Extreme weight fluctuations
Physically and socially active	Procrastination	Frequent alcohol consumption, binge drinking	Withdrawal, absenteeism
Performing well	Regular to frequent alcohol consumption, limited binge drinking	Struggles to control addictive behaviours	Can't perform duties
Limited alcohol consumption, no binge drinking	Some to regular addictive behaviours	Increased trouble/impact due to substance use	Regular to frequent binge drinking
Limited/no addictive behaviours	Limited to some trouble/impact due to substance use		Addiction
No trouble/impact due to substance use			Significant trouble/impact due to substance use
Actions to Take at Each Phase of the Continuum			
Focus on task at hand	Recognize limits, take breaks	Talk to someone, ask for help	Follow care recommendations
Break problems into manageable tasks	Get enough rest, food, exercise	Tune into own signs of distress	Seek consultation as needed
Controlled, deep breathing	Reduce barriers to seeking help	Make self-care a priority	Respect confidentiality
Nurture a support system	Identify and resolve problems early	Get help sooner, not later	Know resources and how to access them
Example of personal accountability			



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The Big 4

GOAL SETTING <ul style="list-style-type: none"> Specific: your behaviour Measurable: see progress Attainable: challenging and realistic Relevant: want it or need it Time-bound: set finish time 	SELF TALK <ul style="list-style-type: none"> Become aware of self-talk Stop the negative messages Replace with positive Practice thought stopping: "I can do this." "I am trained and ready." "I will focus on what I can do."
VISUALIZATION <ul style="list-style-type: none"> Be calm and relaxed Use all senses See positive mental images Keep it simple Use movement 	TACTICAL BREATHING <ul style="list-style-type: none"> Rule of 4: Inhale to count of 4 Exhale for count of 4 Practice for 4 minutes Breathe into the diaphragm

AIR: Ad-Hoc Incident Review

ACKNOWLEDGE that something has happened, and listen.
INFORM: Check in and apply the Mental Health Continuum Model.
RESPOND: Observe and follow up.

If you are concerned about signs of poor or declining mental health in yourself or a buddy, get it checked out. Resources include:

- Buddies
- Mental Health Team
- Chaplains
- Leaders/Supervisors
- Crisis or Help Lines
- Community Mental Health Services
- Family Doctor

This poster was created through a collaboration between the Department of National Defence, Calgary Police Service and the Mental Health Commission of Canada. The Mental Health Continuum Model and program, on which AIR is based, were originally created by the Department of National Defence. For more info about TWM/IR, email theworkingmind@mentalhealthcommission.ca
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The Working Mind program uses a handful of simple core elements that are easy to apply at work.

One Wildland Fire Management employee used their training to ask a co-worker for help during the challenging first phase of the COVID-19 pandemic. The worker says that thanks to The Working Mind,

"I had the confidence and trust to talk to a colleague about the hurdles I was facing as a result of the pandemic. Thanks to my Working Mind training, I went into the conversation with the basic tools to express my stress to a peer, and the knowledge that they were able to listen and help me talk about my coping strategies."

The course's techniques have strong backing. Originally designed for armed forces members, it was adapted for first-response use by the Mental Health Commission of Canada. The science and techniques anchoring the program have been thoroughly researched by sports scientists and neurologists.

For Hyder, speaking the same language will pay dividends. "The Working Mind gives everyone the same lexicon, making speaking about mental health easier and more understandable. It's a huge asset to our organization."

Yukon's topography and climate



The historic Kusawa lookout tower.

Fire is a type of natural disturbance through much of Canada. It fills a necessary role in maintaining the health and vitality in our northern forests. Most of Yukon is located in the Boreal Cordillera and Taiga Cordillera ecozones, both of which regularly experience forest fires. With the acceleration of climate change, we will likely see more fires burning larger areas.

Climate

The interior of Yukon is considered semi-arid, with less than 250 millimetre of precipitation annually. Average July temperatures are around 15°C, but daily highs can reach 35°C. Due to its high latitude, day length can exceed 20 hours during mid-summer and the burning period can extend past 10 p.m. Summer precipitation usually arrives as air mass showers; continuous frontal systems are relatively rare. As a result, we often do not receive precipitation in the steady, consistent manner that we need to

have an impact on our fire danger. Nights can be cold, even during mid-summer, and nighttime firefighting shifts are rare. Like most agencies, Wildland Fire Management employs meteorologists who distribute daily forecasts. Its regional duty officers use this information to deploy our resources in a safe and cost-effective way. A changing climate is increasing Yukon's wildfire risk. The Canadian Council of Forest Ministers recognizes this; after the challenging 2018 wildland fire season, they agreed to accelerate the implementation of the Canadian Wildland First Strategy and Priority Actions for Increasing Wildland Fire Resiliency in Canada. In Yukon, these changes became clear as the fire season started with an early snow melt and an increase in potential for large fires.

How fire weather and fire danger are measured

Wildfire agencies, including Wildland Fire Management, use the Fire Weather Index

Yukon's topography and climate

(FWI) to assess fire danger and predict the chance of new starts. The index uses information collected at 36 weather stations across Yukon to create a snapshot of fire danger. It is both detailed enough to inform wildfire operations and public burn permitting, but simple enough to be used as a plain-language roadside fire danger rating for motorists. The Fire Weather Index also allows wildfire agencies to use the Canadian Forest Fire Behaviour Prediction (CFBP) system, which draws on FWI and other data to provide guidelines for methodically predicting a specific fires potential behaviour. Since the Fire Weather Index measures organic fuel moisture of different sizes and at different surface depths, it accounts for the differing effect of rainfall on an area. For instance, small twigs, leaves and grasses (represented by the Fine Fuel Moisture



An aspen shoot in Mary Lake.

Code) can be influenced by 0.5 millimetre of rain over a 24-hour period. 1.5 millimetre of rain is needed to register change to larger sticks and topsoil (represented by the Duff Moisture Code), and 2.8 millimetre of precipitation is needed to make any impact on the fire danger of larger logs and deep organic soil (represented by the Drought Code). These organic fuels also lose or retain moisture over increasing periods of time as they increase in size: FFMC fuels need 16 hours, DMC fuels need 12 days, and DC fuels need 52 days of sustained rainfall to saturate, or the same amount of time without rain to dry out.

In the event that there is not enough overwinter precipitation to remoisten deep organic layers, the spring drought code must be adjusted accordingly, and it continues to rise unless there is a high amount of rainfall.



Wildfire zonation balances community protection with forest health

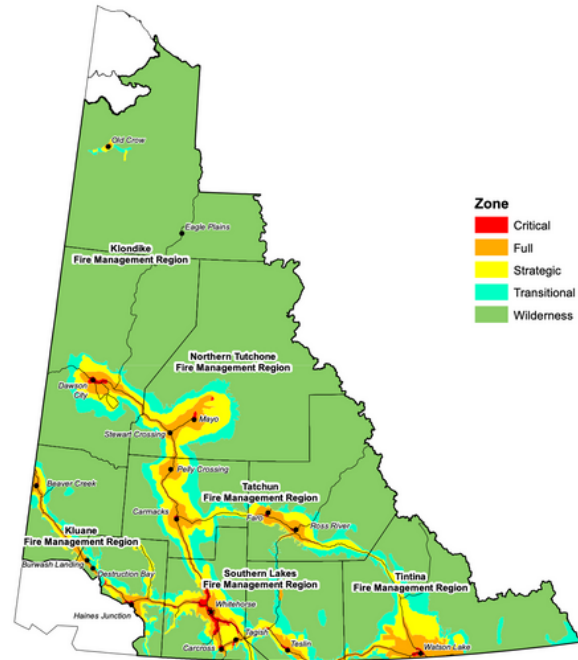
Yukon's Fire Management Zonation Directive (2003) provides strategic area-based fire management direction on a priority basis and governs Yukon's wildfire responses. The system divides the territory into five fire management zones:

1. Critical zone: The area within and immediately around communities. Fires within this zone are immediately and aggressively attacked and are usually worked on until fully extinguished.

2. Full Zone: The area that typically forms a larger barrier around communities, as well as along roads and power (hydro) lines. In this zone, the protection of people, community and property takes precedence over ecological values. Fires in this zone are actioned provided there are no other higher-priority fires requiring resources.

3. Strategic Zone: This area has a moderate density of structural values such as seasonal cabins and hunting camps. WFM's response is subject to a management analysis, accounting for time of year, current and forecast fire behaviour and values at risk. Subject to a risk management analysis showing a consistent decrease in fire danger, this zone may convert to Wilderness Zone status as of July 15th,

4. Transitional Zone: Areas of low-density human values and low-to-moderate



resource values. The response is subject to risk analysis each year, similar to fires in the Strategic Zone. Subject to a risk management analysis showing a consistent decrease in fire danger, this zone may convert to Wilderness Zone status as of July 15th.

5. Wilderness Zone: This area has few-to-no structural or response values and where ecological values dominate the landscape. Fires in this zone are usually monitored and allowed to burn naturally, but in some cases, may be actioned following a wildland fire analysis. The most common response to a Wilderness Zone fire is to monitor its progress and provide structural protection on nearby values.

2020-2021 FireSmart funding summary

Yukon continues to have Canada's longest-running FireSmart funding program. This local distribution of financial support is an important way that we help build wildfire resilient Yukon communities.



The FireSmart Funding Program supports forest fuel reduction projects led by local government and non-profit groups. Launched in 1998, the program has supported Yukon organizations with almost \$21 million.

FireSmart project funding is based on whether a project is shown to effectively reduce wildfire hazards in the community through variables like its locations and type of treatment, the clear identification of values at risk, which projects have the greatest benefits to the greatest amount of community members, the geographical distribution of funds throughout the territory and the past performance of the project's proponent.

As projects are completed, the Government of Yukon re-allocates unused funds to ensure the most effective and efficient use of available financial supports.

The following organizations have received program funding for 2020-2021:

- Porter Creek Secondary School (\$15,000)
- Elijah Smith School (\$15,000)
- Hidden Valley School (\$15,000)
- Friends of Mt Sima (\$20,000)
- Mary Lake Community Association (\$20,000)
- Copper Ridge Neighbourhood Association (\$20,000)
- Wolf Creek Community Association (\$20,000)
- Pine Ridge Neighbourhood Association (\$20,000)
- McLean Lake Residents' Association (\$15,000)
- Ta'an Kwäch'an Council (\$25,000)
- Lorne Mountain Community Association (\$20,000)
- Kwanlin Dün First Nation (\$25,000)
- Spruce Hill Community Association (\$20,000)
- Ibex Valley Volunteer Firefighters Society (\$15,000)
- Porter Creek Community Association (\$20,000)
- Riverdale Community Association (\$20,000)
- South McClintock Citizens' Association (\$20,000)
- Marsh Lake Emergency Services Society (\$15,000)
- Carcross/Tagish First Nation (\$20,000)
- Tagish Volunteer Fire Department Society (\$20,000)
- Teslin Tlingit Council (\$25,000)
- Village of Teslin (\$25,000)
- Village of Haines Junction (\$25,000)
- Junction Arts and Music Society (\$20,000)
- Kluane First Nation (\$25,000)
- Champagne & Aishihik First Nations (\$25,000)
- White River First Nation (\$20,000)
- Village of Carmacks (\$25,000)
- Little Salmon Carmacks First Nation (\$20,000)
- Selkirk First Nation (\$20,000)
- Town of Faro (\$20,000)
- Ross River Dena Council (\$20,000)
- Dawson City Fire Department (\$20,000)
- Klondike Valley Firefighters Association (\$20,000)
- Tr'ondëk Hwëch'in (\$25,000)
- Vuntut Gwitchin Government (\$35,000)
- First Nation of Na-Cho Nyak Dun (\$25,000)
- Keno Community Club (\$20,000)
- Liard First Nation (\$35,000)
- Watson Lake Volunteer Fire Fighters Association (\$20,000)

How much it all cost



The Wildland Fire Management budget was overhauled this year to better reflect how the branch devises its annual budget.

In the past, the budget was broken down into suppression, pre-suppression and FireSmart program costs:

- Suppression costs are what is spent actually fighting a fire, including incident preparedness costs
- Pre-suppression costs are those associated with day-to-day operations such as regular worker pay and vehicle use outside of the fire season
- The FireSmart program funds the branches fuel reduction program.

The chart below shows spending on pre-suppression, suppression and FireSmart programs over the last six years.

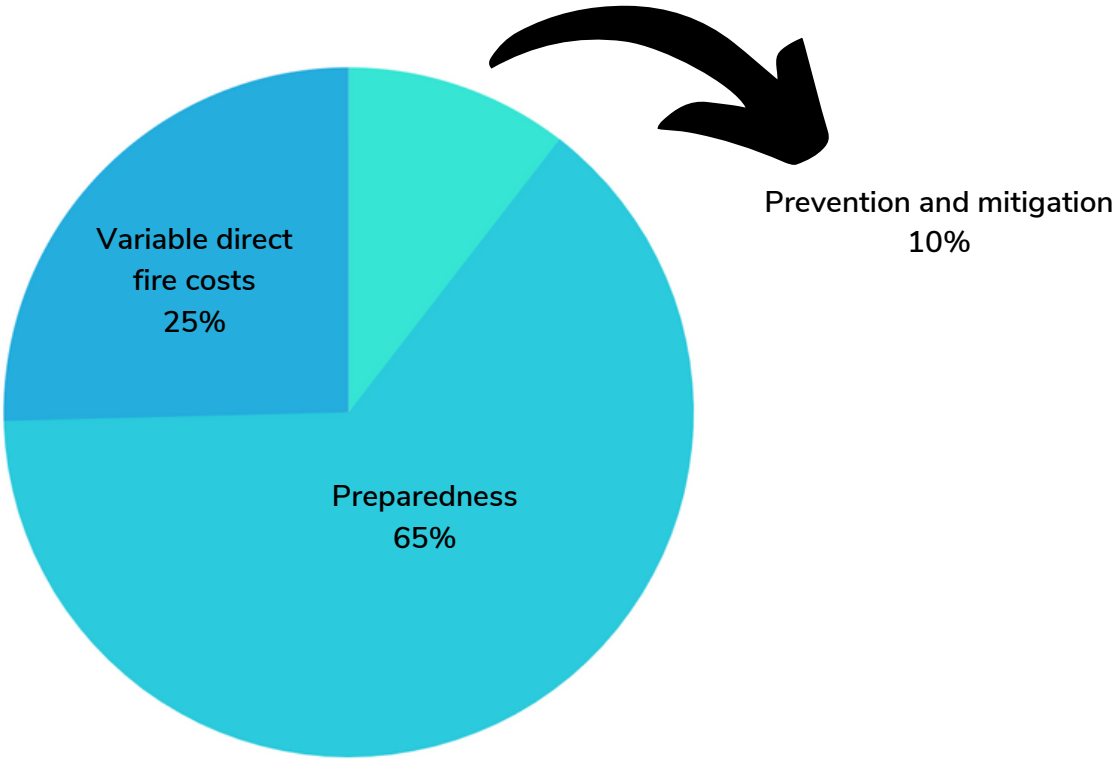
<i>Year</i>	<i>FireSmart</i>	<i>Pre-suppression</i>	<i>Suppression</i>	<i>Annual Total</i>
<i>2020/21 (Forecasted)</i>	2,367,220	\$9,710,204	\$9,731,950	\$21,809,374
<i>2019/20</i>	\$975,240	\$8,788,967	\$30,679,039	\$40,443,246
<i>2018/19</i>	\$942,653	\$8,164,890	\$16,009,189	\$25,116,732
<i>2017/18</i>	\$938,350	\$8,458,388	\$11,799,996	\$21,196,734
<i>2016/17</i>	\$990,771	\$7,875,917	\$6,689,955	\$15,556,643
<i>2015/16</i>	\$949,965	\$7,725,339	\$16,376,043	\$25,051,347
<i>6-year Average</i>	\$959,395.80	\$8,202,700.20	\$16,310,844.40	\$25,472,940.40

Wildland Fire Management's new budget structure will be introduced in the upcoming fiscal year. The budget's three new categories will clearly split between fixed and variable cost activities:

- Prevention and mitigation: costs associated with reducing community wildfire hazard, including FireSmart programs, Yukon government led large scale projects and implementing Community Wildfire Protection Plans.
- Preparedness costs: day-to-day operations, including salaries and readiness costs.
- Variable direct fire costs: what is spent actually fighting fires.

In the upcoming year, we anticipate the following estimates for Wildland Fire Management's annual budget. These costs are based on the 5-year direct fire costs' rolling average. It is likely that there will be fewer actual preparedness costs due to limited wildfire activity this summer.

- Prevention and mitigation: \$2,681,886
- Preparedness: \$16,434,131
- Variable Direct Fire Costs: \$6,506,119



Meet our 2020 wildfire crews



Alpha crew (top left): Allan Lee, Ted MacDonald, Riley Pettitt

Bravo crew (top right): Mac Prawdzik, Shawn Perry, Rob Westberg

Ta'an Kwäch'än Council Charlie crew (bottom left): Delaney Paul, Mackenzie Cameron, Jack Blisner, Andrew Pike

Delta crew (bottom right): Roan Evans-Ehrich, Andrew Skingle, Cole Dewhurst



Teslin Tlingit Council Echo crew (top left): Tommy Dewhurst, Trenton Dupont, Kevin Whelin
Carcross/Tagish First Nation Golf crew (top right): Howard Johnston, Ethan Lavallee,
Malachi Lavallee, Eddie Porter-Jim
Kwanlin Dün First Nation Hotel crew (bottom left): Adam Robinson, Joey Mewett,
Daniel Cletheroe
Champagne and Aishihik First Nations crew (bottom right): Anthony Primozic, Will Klassen,
Bo Williams

Crew gallery



Firestone crew (top left): Adam Leary, Jake Urquhart, Josh Austin

Na-Cho Nyäk Dun First Nation Grey Hunter crew (top right): Tyrell Genier, Eaton Ricketts, Caleb Marsh

Little Salmon Carmacks First Nation crew (bottom left): Travis Mortimer, Brandon Smith, Sacho Billy Jack

Selkirk First Nation Pelly crew (bottom right): Duran Simon, Samuel Christopherson, Gavin Albert Joe, Miles Blattmann



Berdoe crew (top left): Clint Wheeler, Julius Skookum, Joseph Powell
Hyland crew (top right): Keith Hobbis, Tyson Cole, Carter Hobbis
Taiga crew (bottom left): Guy Couture, Benoit Cote, Alexander Klubi
Tr'ondëk Hwëch'in Eagle crew (bottom right): Elijah Stevens, Brandon Callison,
Lulu Bartholomeus, Joaquin McWatters



Tombstone crew (top left): Carl Gaumont, Angeline Sullivan, Celine Theriault

Ross River Dena Council Dragon crew (top right): Jordan Vallevand, Anthony Caesar, Morgan Blattmann

Liard First Nation crew (bottom left): Ronan Hopkins, Vanessa Chaput, Aaron Chaput

Missing crews: Haines Junction Alpha and Bravo, Kluane First Nation crew, Vuntut Gwitchin First Nation Raven crew



Wildland Fire Management Staff

Damien Burns, Director
Cheryl Noble, Office Manager
Mike Sparks, Senior Operations Advisor

Business Services

Melanie Magnuson, Business & Air Operations Supervisor
Nicole Charbonneau, Finance & Administration Clerk
Coleen O'Hagen, Finance & Administration Clerk

Program Delivery

Mark Hill, A/ Manager of Operations, Program Delivery

Incident Management

Caleb Tomlinson, A/ Manager of Operations, Incident Management
Alex Soloviev, Meteorology Analyst
Kris Johnson, Fire Behaviour Risk Specialist
Chris Boland, Air Operations Supervisor
Walter Nehring, Air Attack Officer
Joe Sapiano, Air Tanker Base Supervisor
Emily Dorosz, Aviation Operations Contract Officer
Ashley Harris, Aviation Assistant

Yukon Duty Office

Catherine Spence, Wildfire Operations Centre Supervisor
Marlene Crawford, Wildfire Operations Centre Assistant
Kira Beukeboom, Wildfire Operations Centre Assistant

Logistics and Capital Assets

Dan Baikie, Manager, Logistics & Capital Assets
David Johnson, Logistics Coordinator
Shawn Kinsella, Warehouse Supervisor
Doug Burnett, Storesperson
Avery Bridges, Storesperson
Tristan Sparks, Storesperson
Griffin Stinson-Schroff, Storesperson
Chris Locke, Power Equipment Technician
Vern Marshall, Telecommunications Officer
Jeff Lister, Telecommunications Technician
Hyder Bos-Jabbar, Safety and Training Program Manager
Lexie Braden, Safety and Training STEP

Prevention and Mitigation

Colin Urquhart, A/ Manager, Prevention & Mitigation
Luc Bibeau, FireSmart Coordinator
John Wright, Spatial Database Coordinator
Leigh Relkoff, GIS STEP
Mike Fancie, Community Engagement Officer
Kathryn Hallett, Communications Officer
Emma MacDonald, Communications Assistant
Catherine Welsh, Fuels Management Forester

Southern Lakes Region

Keith Fickling, Regional Protection Manager
Doug Cote, Emergency Response Officer
Jim Kathrein, Regional Protection Officer
Dan Adamson, Regional Protection Officer
Linda Brandvold, Regional Finance & Administrative Assistant
Stephen Trudeau, Warehouse
Robert Stitt, Tagish Lookout

Teslin Initial-Attack base

Conner Lee, A/Regional Protection Officer

Tintina Region

Peter Wright, Regional Protection Manager
Dave Leegstra, Regional Protection Officer
Louyse Mongeon, Regional Finance & Administrative Assistant
Kai Widdecke, Tanker Base
Bruno Grunder, Warehouse
Simon Grunder, Tom Creek Lookout

Kluane Region

Brian Hoover, A/Regional Protection Manager
Lorne Burnett, A/Emergency Response Officer
Shane Oakley, A/Regional Protection Officer
Laura MacKinnon, Regional Finance & Administrative Assistant
Nick Van Vliet / Marlo Hodge, Warehouse

WFM staff

Tatchun Region

Gerry Trudeau, Regional Protection Manager
Brian Murrell, Regional Protection Officer
Christine Spencer, Regional Finance & Administration Assistant
Ken Dovich, Warehouse
Bobby Gage, Carmacks Lookout
Milada Pardovicova, Tanker Base

Ross River Initial-Attack base

Jeffrey Melnychuk, Regional Protection Officer

Klondike Region

Brian Douglas, A/Regional Protection Manager
Sadie Jabbar, Regional Protection Officer
Kyle MacDougall, A/Regional Protection Officer
Cal Read, A/Regional Protection Officer
Caylyn DeWindt, Regional Finance & Administrative Assistant
Markus Lenzin, Dawson Lookout
Robert Farr, Warehouse
Marcel Michon, Tanker Base

Northern Tutchone Region

David Trudeau, Regional Protection Manager
Mark Staub, A/Regional Protection Officer
Kissel Reid, Regional Finance & Administrative Assistant
Brian McDonald, Ferry Hill Lookout
Shyenne Sparvier-Kinney, Tanker Base
Brad Hoogland, Warehouse



Southern Lakes Fire Centre overhead staff



Southern Lakes crews



Yukon Forest Fire Centre staff