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Parks Canada's

National Fire Management Program

Annual Report 2023



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Parks Canada's National Fire Management Program

Parks Canada's National Fire Management Program is a team of professional, highly trained wildland fire management specialists committed to public safety and the stewardship of Parks Canada administered places.

With 88 highly trained, professional Type 1 wildland firefighters who are able to respond to high complexity wildfires; approximately 100 qualified Type 2 firefighters who can respond to low- to moderate-complexity fires; 100 incident management specialists who coordinate the response to wildfires and other types of emergencies; as well as mutual aid resource-sharing agreements with other jurisdictions, Parks Canada has capacity respond to wildfires across the country.



Message from Darlene Upton

Vice President, Protected Areas Establishment and Conservation



Canada faced its most unprecedented fire season on record in 2023, challenging wildland fire management agencies from across the country.

Parks Canada's National Fire Management Program was significantly impacted this year with over 1 million hectares of Parks Canada administered lands burned in wildfires.

Parks Canada National Incident Management Teams and fire crews spent much of the spring, summer and fall working on wildfires in Wood Buffalo National Park. Communities located in and near the park faced a summer of uncertainty and many employees were impacted by evacuations of their homes while working on the fireline.

I would like to thank all Parks Canada fire management personnel, the Parks Canada teams that support them, the Canadian Interagency Forest Fire Centre, local Indigenous fire crews, and firefighters from across Canada and around the world for their work this year. I would also like to express my gratitude to the family, friends, and communities of the Parks Canada teams – without these support systems at home, our employees would not be able to do their work.

Throughout the year, Parks Canada's Fire Management Program worked on several wildfire risk reduction projects – doing the work to prepare for future wildfire seasons. Several prescribed fire projects were completed in 2023, not only helping to reduce the risk of wildfire to communities and infrastructure, but also helping to restore ecological integrity and biodiversity to Parks Canada administered places. Major fire guards were completed or started near communities in fire prone areas.

The Parks Canada National Fire Management Program 2023 Annual Report gives a brief snapshot of the important work of the program and the people who are behind it.

2023 Fire Season by the Numbers

1M+ Hectares, 109 Wildfires, 20 National Parks

2023 was a record-breaking year with 1,014,207 hectares burned in 109 fires at 20 Parks Canada administered places. The previous record was in 1981 when 597,670 hectares burned in national parks.

19.1% of Wood Buffalo National Park Impacted

Wood Buffalo National Park was the park most significantly impacted by wildfires in 2023. The area burned in Wood Buffalo National Park represents 19.1%.

20 Wildfire Deployments, 303 Employees, 8620 Days

The 2023 fire season was exceptionally challenging for wildland firefighters across the country. Over the 2023 fire season, Parks Canada fire management personnel deployed to 20 wildfires. 303 Parks Canada staff from 32 Parks Canada administered places and national office were deployed to assist wildfire management efforts throughout Canada, for a total of 8620 days of work.

8 Prescribed Fires, 6 National Parks, 532 Hectares

In 2023, Parks Canada conducted 8 prescribed fires in 6 national parks. A total of 532 hectares were burned for restoration and risk reduction projects.

29 Risk Reduction Projects, 17 National Parks

In 2023, Parks Canada conducted 29 wildfire risk reduction projects in 17 national parks. These projects included the creation of fire guards around communities in fire prone areas and prescribed fires.

\$50 Million

Parks Canada estimates that the cost of wildfire suppression and response is approximately \$50M for the 2023 season.

Wood Buffalo National Park



With lower-than-average snowfall over the winter, higher than normal spring temperatures, and rapid spring melt, the 2023 fire season risk throughout western Canada was predicted to be very high to extreme.

On May 26, a large lightning storm rolled through northern Alberta and across Wood Buffalo National Park. The following day, multiple wildfires were detected via satellite monitoring and smoke patrols. This lightning storm kicked off what became an exceptionally challenging season in and around the national park. The first Incident Management Team (IMT) arrived a week later, with the last IMT leaving in mid-October.

In normal years, the national park can manage fire on the landscape with a small team of four fire crews, five fire specialists, two storespersons, a radio operator and two helicopters, sometimes calling in help from one or two Parks Canada Fire Management Program Incident Management Teams. This year, at the height of the season, over 400 personnel from across Canada and around the world and 25 helicopters were supporting firefighting efforts in and around the park.

Many factors complicated the season's efforts, including the proximity of the fires to communities, a record drought, several large extreme weather days and limited and strained Canada-wide resources due to the unprecedented wildfire season. This year, 31 fires burned a total of approximately 929,521 hectares in the park, which is the most area burned on record and represents around 19% of Wood Buffalo National Park.

Indigenous Engagement

Throughout an extraordinary and difficult season, the national park engaged local Indigenous nations often and at both ends of the park.

Early in the season, back-to-back Parks Canada National Incident Command Teams on deployment to support Alberta Wildfire with the Paskwa Fire, laid the foundation for good relations with the Little Red River Cree Nation (LRRC). Collaboration with Chief and Council, including on-the-ground work with LRRC fire crews led by Chief Conroy to achieve common goals in Fox Lake, and community outreach and work with the LRRC Nation Emergency Management Team to keep all three LRRC communities and evacuees engaged and informed, built positive relationships



between Parks Canada and the LRRC Nation. This relationship allowed for accurate and timely information sharing to take place between the IMT and community members.

Chiefs and representatives in the Fort Smith area with affected traditional territory were engaged about potential ignition plans and containment strategies. Several in-person meetings were held in Garden River between fire specialists and Little Red River First Nation community members to address community concerns and get input on ways to contain and access the Davidson Lake fires.

In Fort Smith, regular meetings began in mid-June with Smith's Landing First Nation. Later, meetings were held jointly with Alberta Wildfire and included representatives from Smith's Landing, Fort Smith Métis and Salt River First Nation. A Liaison Officer with the IMT, who works as the Wood Buffalo National Park Indigenous Engagement Manager, worked closely with nations and facilitated Indigenous engagement throughout the summer.

It was through building stronger relationships early on that fire personnel were able to participate in ceremonies and smudging services throughout the summer, including a large drum dance. This helped crews rejuvenate and ground themselves. These ceremonies and blessings also helped form a connection to the land and the work being done.

The inclusion and importance of Indigenous perspectives in fire operations was appreciated by Parks Canada fire crews. Relationships between Wood Buffalo National Park and some



Indigenous nations were greatly strengthened by the inclusion and efforts made during fire season 2023.

A Collaborative Effort

People from around the world came to help manage wildfires in Wood Buffalo National Park this summer. Parks Canada worked collaboratively with Alberta Wildfire and NWT Fire under Unified Command to manage two different complexes with perimeters within park boundaries - the Davidson-Paskwa Complex (with Alberta Wildfire) and the Wood Buffalo Complex (with Alberta Wildfire and NWT Fire).

Firefighters, contractors, pilots, and fire specialists from across Canada and the world came to support firefighting efforts in the national park including New Brunswick, Nova Scotia, Quebec, Ontario, Idaho, New Zealand, South Africa, and more.

Parks Canada's National Fire Management Program was truly national this summer with over 30 other national parks and historic sites across the Parks Canada system sending team members, fire specialists and other resources up north to help. A total of 281 Parks Canada personnel travelled to Wood Buffalo this summer, many of them three, four or even five times for a total of 524 deployments.





Parks Canada Type 2 Fire Crews

Making an Impression on the Fireline

With the large fires in Wood Buffalo National Park in 2023, a record number of Parks Canada Type 2 firefighters were deployed to work on the fireline. Parks Canada Type 2 fire crews are employees from across the Parks Canada system who have jobs outside of the National Fire Management Program but are trained to support prescribed fire projects and wildland firefighting efforts.

At various times throughout the summer and early fall of 2023, 75 Type 2 firefighters travelled from 20 national parks across the country and from Parks Canada's national office to support the firefighting efforts in Wood Buffalo, with some crew members even doing multiple deployments.

Type 2 Crews came from Banff, Bruce Peninsula, Cape Breton Highlands, Elk Island, Grasslands, Gulf Islands, Jasper, Kejimikujik, Kluane, La Mauricie, Lake Louise, Yoho, Kootenay, Mealy Mountains, Point Pelee, Prince Albert, Prince Edward Island, Riding Mountain, Terra Nova, Thousand Islands, Waterton Lakes, Western Arctic, and Parks Canada National Office



These employees stepped away from their regular jobs working on conservation projects, maintaining Parks Canada facilities, and supporting visitors (just to name a few), at the busiest part of the year for most Parks Canada employees.

Crew Leaders for the Type 2 crews were experienced firefighters and provided key leadership to the teams on the deployments. Type 2 crews provided essential support on the fireline, helping to secure kilometres of fireline and extinguishing hot spots with heavy equipment, hand tools, pumps, and hoses.

The work was challenging, but Type 2 crews played an important role in fighting fires in Wood Buffalo National Park in 2023. Through this experience, Parks Canada Type 2 crews now have a broader depth of experience and will be able to support prescribed fire projects and efforts to put out wildfires in the future.

Reclamation Work After a Fire

The Clean-up Crew



During a wildfire, heavy equipment such as bulldozers and excavators are used to construct fire guards – clearing vegetation and removing organic matter, leaving a linear barrier to fire spread. Fire guards are important tools used by Parks Canada’s fire management personnel to help contain an advancing wildfire. Heavy equipment is also used to clear landing areas for helicopters to transport crews and supplies in and out of remote areas of the fire.

During the 2023 fire season, many fire guards were constructed across the large landscape of Wood Buffalo National Park.

Planning for “reclaiming” these areas started early in the fire season, even as fires continued to grow in the park. Knowing that reclaiming fire guards is an important part of post-fire recovery, Restoration Specialists joined Parks Canada Incident Management Teams to start planning reclamation work even as fire guards were still being constructed. Reclamation planning includes prescribing remedial actions for specific fire guards and outlining longer-term plans for monitoring progress and success.

Reclamation, in the context of heavy equipment use on wildfires, seeks to re-vegetate areas disturbed by the construction of a fire guard. The work, such as breaking up compacted soil, spreading organic matter, reseeding, and implementing erosion control, supports the regrowth of native species, prevents invasive plants from establishing, and helps to prevent soil loss.

Reclamation projects are under way in six areas of Wood Buffalo National Park. While the reclamation of the fire guards can take time, perhaps several years, this work is important in helping to support ecosystem health and recovery after a wildfire.

Focus on Mental Health

Increased Support on the Fireline

The National Fire Management Program has been working closely with the Parks Canada Health and Wellness Team to establish and maintain an effective mental health support program that meets the needs of First Responders. One key component of this is a service agreement with Health Canada for services that can be provided by the Psychosocial Response and Extended Counselling team composed of mental health professionals experienced in emergency response.

A prolonged fire season, especially at the scale and intensity as the one seen in 2023, can have a significant impact on the mental health of both residents and responders. Throughout the summer, thick smoke blanketed much of the Fort Smith area in Wood Buffalo National Park, routinely blocking the sun and preventing people from spending time outdoors due to poor air quality indexes. This is taxing enough, and for those responding to the incident, it was an added stressor to an already demanding and intense work environment.



To help ensure Parks Canada team members were supported, including both fire personnel and employees based in Fort Smith, mental health experts from Health Canada were brought in multiple times throughout the duration of the fire season. This allowed the opportunity for individuals to speak to counsellors about their experience and receive support. This also led to more open dialogue about the impacts of the season on mental health and allowed the opportunity for peers to support one another.

Parks Canada offers year-round mental health support services to employees. Starting early in 2024, the Health Canada team will proactively connect with fire personnel to perform wellness check-ins and to check on recovery from the 2023 season; mental preparedness for the 2024 season ahead; and any further support that might be required.

Efforts will continue towards developing a formal peer support network made up of personnel that have the verified knowledge, values, experience, and competencies that allow for the safe and effective delivery of peer support. As part of this effort a cadre of in-house peer instructors across Canada will continue to deliver the wildland fire version of the 8-hour Resilient Minds™ course from the Canadian Mental Health Association.

Prescribed Fire Monitoring

The Science of Fire

Parks Canada's National Fire Management Program uses prescribed fires to maintain and improve the ecological health of fire adapted ecosystems. Before each prescribed fire, the team will establish specific objectives they wish to achieve and determine how to assess whether they are achieving these objectives. Parks Canada uses monitoring and research studies to measure ecological health before, during and after a prescribed fire.

The types of ecological monitoring vary from place to place and can even be different between prescribed fires in the same area. Most often, several ecological measurements are done before and after a prescribed fire is done to detect changes that are due to the fire.

For example, in La Mauricie National Park, prescribed fires are done to improve the health of the tree species of Eastern White Pine, Red Pine, and Red Oak. The park measures the survival of mature trees, and the density of regeneration of tree seedlings of these species after a prescribed fire. The results show that most prescribed fires have been successful in increasing the number of pine tree seedlings, which over time will improve the health of these forests.

In the mountain national parks, it's common for teams to measure how wildlife respond to prescribed fire. They also measure the establishment of wildlife habitat such as grizzly bear foods and travel routes. Results are showing that habitats for bison and grizzly bears are improved, and these species prefer areas that are recently burned in prescribed fires.

Other aspects of fire are also monitored during prescribed fires, including weather, fuels (vegetation), smoke and air quality, and fire behaviour, for the purpose of improving planning and the management of prescribed fires. These monitoring results are often used to help refine the selection of weather conditions that are conducive to the fire behaviour and smoke conditions that is desired during a prescribed fire.

Through this monitoring work, Parks Canada's National Fire Management Program looks to continuously improve how we do this important ecosystem restoration work.



Collaboration in Action

Wildfire Risk Reduction Projects in Lake Louise, Yoho, and Kootenay

Parks Canada's National Fire Management Program supports the Agency's mandate by restoring and maintaining ecological integrity and cultural landscapes, minimizing wildfire risk, and providing unique visitor experiences and educational opportunities.

This program is coordinated by the Resource Conservation function at national and site levels. In order to be successful and sustainable, its delivery will be integrated across agency functions and geographically across national offices, parks and sites.

Excerpt from the Parks Canada
Wildland Fire Management Directive (2017)

Parks Canada's National Fire Management Program provides leadership in preparing for the possibility of wildfires across Parks Canada's administered places, but the work is done in an integrated, cross-functional manner by many teams.

In 2023, the team at Banff, Yoho and Kootenay National Parks completed the Protection Mountain Fire Guard and did significant work on the Ross Lake Fire Guard. When both projects are completed, they will help to reduce the risk of wildfire to the communities of Lake Louise, Alberta, Field, British Columbia and the surrounding areas. When planning major wildfire risk reduction projects, it takes a lot of people with a wide range of specialty skills and expertise to ensure success.

For each project, early in planning, Species at Risk reviews were done and Resource Conservation coordinated owl and amphibian surveys. Archaeologists came to the sites to assess for the possibility of cultural sites and Land Use Planners took photos and developed maps to guide the planning process including identifying important viewpoints.



Multiple teams were involved with consulting stakeholders and keeping residents and visitors up to date on the projects. These teams included Indigenous Relations, External Relations, and Visitor Experience. Their work ensured audiences were aware of the fire guard work and brought any concerns back to the team.

Assets provided detailed maps of the work areas, which is vitally important for safety reasons when there is a possibility of underground utilities. The team also coordinated the posting of safety signage in work areas.

The Highways group provided advice on signage and traffic management during the work to make sure travelling public and contractors were kept safe.

And working to support all these teams, Finance and Contracting made sure everything behind the scenes was running smoothly.

In addition to the fire guard work a unique opportunity arose where residents were able to support this work through a Christmas Tree and firewood program. Residents could apply to remove trees from select areas of the park. The Realty and Townsites group worked with the Fire and Vegetation team to bring some Christmas cheer but also to help the community.

Working together, these teams are helping to keep communities safe from the potential risk of wildfire.

Climate Change Research

The Science of Fire

Science tells us climate change is leading to longer, hotter, and drier fire seasons in many places. As our climate changes, fire seasons are predicted to become longer. Wildfires may become larger and burn more severely. This is partly due to expected drought that will create dry, flammable conditions across much of the country. Wildfires have significant impact on the forest carbon balance.

Parks Canada's wildland fire management strategies aim to manage greenhouse gas emissions from wildfires over the long-term, in addition to supporting adaptation and increasing resilience for both communities and fire-dependent ecosystems. Several of the strategies Parks Canada uses, including prescribed fire, managed wildfires, and fuel management, release greenhouse gases in the short term. However, these are intended to reduce emissions in the longer-term.

Parks Canada is one of the partners of a project called "Wildfire and Carbon", which is being led by the Pacific Institute of Climate Change Solutions and has brought together forestry scientists and experts from the University of British Columbia, the University of Washington, the US Forest Service, Natural Resources Canada, the BC Wildfire Service, and Parks Canada.

With the number of devastating wildfires in recent years, the project is looking at ways to manage wildfires while boosting carbon uptake and reducing greenhouse gas emissions.

Parks Canada aims to better understand how the strategies we use are impacting carbon and greenhouse gas emissions, and the information gathered from this project will be used to create guidelines for Parks Canada's fire management planning.



Stories from the Fireline

Lending a Hand to Our Furry Friends



Parks Canada's Incident Management Teams supported the furriest members of communities impacted by wildfires in 2023.

When the community of Fox Lake, Alberta, was evacuated on very short notice, most people couldn't bring their pets with them. Parks Canada crews who were working in the area, coordinated with local rescue groups to get food and veterinary assistance to the community. The team documented the health and location of over 600 dogs and cats in the community and worked with Chief and Council to have a rescue group temporarily relocate the dogs that needed some special care. The team's goal was to make sure everyone came home to healthy and safe pets.

Meeting Royalty

Jabee Wu, Fire Crew Leader, Wood Buffalo National Park, along with colleagues from four other Canadian wildland fire agencies and the Canadian Interagency Forest Fire Centre had the opportunity to speak with the Prince of Wales in November. The discussion covered a range of topics from the challenging 2023 fire season, climate change, and mental health resources for first responders. Jabee shared her unique perspective with Prince William of working on the Wood Buffalo fires, but also being from an evacuated community.



Kensington Palace

Elk Island National Park Logistics Support

Getting equipment and supplies to the fireline can be daunting at the best of times, but when Parks Canada crews are working in remote locations, there are even more challenges. Add in a community evacuation, and logistics are even more complex. That's when teamwork comes into play.

Once the community of Fort Smith, Northwest Territories, was evacuated, Parks Canada teams working on the fires in Wood Buffalo National Park had limited options to get supplies. With the highway being closed and regular flights in and out of the community cancelled for the foreseeable future, there weren't many options.

Employees working in Elk Island National Park stepped up and collected the necessary supplies and equipment and delivered everything to a cargo hangar to be flown north. Equipment included a printer, plotter paper, and food. A load of pizzas paid for by the Town of Fort Smith for the local first responders and plasma for the hospital were also shipped.

Thanks to the colleagues who made this happen!

Paying Tribute

Four employees of Parks Canada's National Fire Management Program were part of the honour guard at the 20th Canadian Firefighters Memorial Ceremony held in Ottawa in September. The annual ceremony is hosted by the Canadian Fallen Firefighters Foundation. For the 2023 ceremony, the Canadian Interagency Forest Fire Centre, as Honorary Hosts, highlighted the important work of wildland firefighters. Parks Canada was proud to participate in the ceremony which honours firefighters who have fallen in the line of duty while protecting our communities.



CIFFC



Fireline Morale – Competition and Creativity

Keeping spirits up on the fireline for over four months is no easy task. Early on, Information Officers started a daily photo contest, encouraging a friendly competition between fire personnel raising spirits and increasing camaraderie.

Wood Buffalo National Park's radio operator used break times to create beautiful, miniature watercolour paintings featuring a main theme, location or event from the day. These paintings became daily prizes for the crew with the most enthusiastic check-in at the end of the day.

Connecting with their creativity helped crews connect and make the best of a stressful and lengthy season.

In Memoriam

Matthew Johnson

The family of Parks Canada's Fire Management Program lost a valued and respected member over the winter. Matthew Johnson, a Fire Management Officer, based out of Terra Nova National Park, was known for his smile, his jokes, and his calming presence in chaotic situations. He loved helping others. Matt will be greatly missed by his many friends and colleagues at Parks Canada.

