

Fuel Treatment Efficacy Roadmap

2025-2027

Last updated: June 2026



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Aerial photo of C50222 (05/02/2025). Missed opportunity to observe any changes to fire behavior during the interaction - the fuel treatment was not identified by the RWCC prior to fire's spread into the treatment.

Purpose

The Fuel Treatment Efficacy Roadmap provides guidance for upcoming work involving multiple collaborating programs and individuals in a complex area of practice: fuel management. The Roadmap outlines action items and accountabilities intended to improve the application of fuel treatments in British Columbia and fully incorporate the use of fuel treatments into wildfire response.

Action items have been identified by staff with considerable field experience who saw the need for increased coordination and collaboration concerning fuel management in BC. This Roadmap is designed to be dynamic, responsive to program needs, and will be updated as tasks are prioritised and completed. Action item results will inform next steps and additional work required to meet the identified Roadmap objectives.



Monitoring ignition operations on V11337 (08/28/2023). Well-planned fuel treatments on this incident reduced fire behavior, enabling direct and indirect response with increased responder safety and effectiveness.

Introduction

Continued work on fuel treatment efficacy within British Columbia is a critical operational and strategic priority for the BC Wildfire Service (BCWS). Fuel treatments represent a foundational component of wildfire risk reduction efforts. For continued improvement, their effectiveness must be consistently evaluated by subject matter experts and front-line workers.

Our core objective of improving fuel treatment efficacy is driven by the strategies of evaluating wildfire-fuel treatment interactions across the land base, implementation of adaptive management principles, and ongoing collaboration and monitoring with forest professionals, first responders and academia.

This Fuel Treatment Efficacy Roadmap outlines a coordinated framework to strengthen how fuel treatments are designed, completed and assessed. The key missions of this Roadmap are to systematically integrate fuel management assessment into BCWS operations and to provide pathways for findings to be shared broadly amongst a diverse group of end users. The Roadmap identifies three primary themes aimed at improving fuel management outcomes and increasing knowledge and competency surrounding fuel treatment design and implementation. The general timeline for completing most aspects of this Roadmap is 2026, with some elements being completed in 2027. Completing the Roadmap objectives is a high priority for BCWS.

Priority Themes

1. **Education and engagement:** Develop curriculum and engagement strategies to support internal and external professional practitioners working in fuel management.
2. **Guidance and programs:** Build upon existing programs related to the understanding and application of fuel treatments across BC's varied ecosystems. Update and create guidance documents and products as needed.
3. **Technology and Tools:** Develop an integrated digital infrastructure to support transparency, data access, and operational efficiency around fuel management practices.

Timelines

Items identified in the Roadmap are assigned a stage, fuel management lead, and estimated completion date. Stages are defined as follows:

- **Early scoping:** Initiation - item is defined on a broad level.
- **Advanced scoping:** Initiation - item is being researched and assessed for risk and feasibility.
- **Building:** Planning - item is being developed and prepared for deployment.
- **Implementing:** Execution - item is being deployed, tracked, and monitored for progress and improvement.
- **Closing:** Completion - item is evaluated for successes and failures.

Education and Engagement

Objective 1.1: Courses/workshops

Strategy: Develop comprehensive fuels management curriculum targeted at forest and wildfire professionals, including consultants and government staff.

| Item | Stage | Fuel management lead | Estimated completion date |
|---|---------------|--|---------------------------|
| Co-development of the Field Observer (FOBS)/ Fire Effects Monitor (FEMO) S-244 course content | Implementing | Fuel Management (FM) WPO, Cultural and Prescribed Fire (CRx) Program | 2026 |
| Co-development of fuel treatment unit design training. <ul style="list-style-type: none"> FPBC Webinar | Closing | FM WPO, CRx Program | January 2026 |
| Assessment and co-development of fuel management field workshops with BCTS and FPBC. <ul style="list-style-type: none"> Linked to Wildland Fire Joint Panel and FPBC | Early Scoping | FM WPO, CRx Program, other prevention programs, Superintendent of FM | 2026 |
| Delivery of two presentations for BCTS COP <ul style="list-style-type: none"> FHAA Fuel Management | Early Scoping | FHAA and FM WPOs | 2025 - 2026 |
| Provide continued internal professional development opportunities through the Fire and Fuel Management COP | Implementing | FHAA and FM WPOs, FM Prevention Technician | Ongoing |
| Update the Fuel Management Professional Development Guide to reflect new training and development opportunities | Building | FHAA and FM WPOs, FM Prevention Technician | 2026, Ongoing |

Key Linkages: Forest Professionals BC and BC Wildfire Service: Wildland Fire Joint Panel.

Work being completed by the Panel directly relates to the outcomes and work associated with the education and engagement priority theme.

1.1 Outcomes:

- An increased number of fire and forestry professionals are trained in fuel management design and efficacy standards across multiple forestry sectors in British Columbia.
- Fuel treatment best practice standards are applied consistently across the province.
- Wildfire and forestry professionals in British Columbia demonstrate increased competency and expanded scopes of practice in fuel treatment application.



Photo taken by Field Observer monitoring a fuel treatment interaction on K70910. Photo shows fire behavior before fire entered treatment areas (07/20/2024).



Fire behavior during an upslope spread event on K70910 (07/21/2024). Fire burned into several treatment areas, driven by extreme weather. Treatments did not reduce observed fire behaviour due to wind and slope alignment but did improve worker safety and response efficiency.

Guidance and Programs

Objective 2.1: Interaction Program

Strategy: Integrate the Wildfire-Fuel Treatment Interaction Program (Interaction Program) into BCWS operations.

| Item | Stage | Fuels management lead | Estimated completion date |
|---|------------------|--|---------------------------|
| Develop deployment plans for field observers for wildfire-fuel treatment interactions <ul style="list-style-type: none"> • FBAN FOB roster | Closing | FM WPO | 2025 |
| Develop procedures and policy for identifying fuel treatments, completing operational action plans, and recording interactions through both the RWCC and PWCC <ul style="list-style-type: none"> • 2024 FOB deployment flow chart Develop separate criteria for: <ol style="list-style-type: none"> 1. Standard interaction observations and short form summaries (2-pagers) 2. Complex case studies | Advanced Scoping | FM WPO, Superintendent of FM | 2026 |
| Develop Interaction Program in-field assessments forms and an associated guidance document | Complete | FM WPO, FM Co-op student | 2025 |
| Communicate interaction successes/lessons learned through 2-page summary reports <ul style="list-style-type: none"> • Complete 2-pagers for past interactions • Create a guidance document for future 2-pagers | Implementing | FM WPO | 2025, Ongoing |
| Create an end of fire season report template to summarize yearly Interactions Program findings | Implementing | FM WPO, FM Co-op student | 2025 |
| Write a cost estimate and procurement proposal for an in-stand camera to be included in the Interactions Program deployment kit <ul style="list-style-type: none"> • Provide training/guidance for use | Closing | WPO Fuel Management/ Prevention Technician Fuel Management | 2026 |

2.1 Outcomes:

- Recording, observing, and communicating wildfire-fuel treatment interactions is built into wildfire operations, with processes in place to ensure all interactions are consistently captured by trained staff to produce high quality information.
- Reports and case studies generated through the Interaction Program build a body of data that supports analysis to identify trends and opportunities to advance our understanding of fuel treatment effectiveness in British Columbia
- Fuel treatments are part of completing operational action plans and contingency plans when responding to any type of wildfire incident

Objective 2.2: Treatment Standards

Strategy: Ensure fuel treatment prescriptions align with best practices, and update those practices based on the latest evidence and understanding of fuel treatment effectiveness.

| Item | Stage | Fuels management lead | Estimated completion date |
|---|----------|---|---------------------------|
| Complete fuel treatment efficacy audits and associated contracts for FESBC, CBT, Farmland advantage, FNESS, CRI funding, etc. | Complete | FM WPO | 2026 |
| Update the Fuel Management Practices Guide and BMPs by FWZs | Building | FM & CRx Program Prevention Technicians | 2026 |

2.2 Outcomes:

- Fuel treatment prescriptions across British Columbia consistently reflect current best practices, supported by updated standards informed by effectiveness evaluations (Interaction Program), case studies, and published research.



Photos of a fuel treatment interaction on N12478 (09/09/2024). The fuel treatment facilitated rapid containment. Retardant application required lighter coverage, direct attack was expedited, and fire behavior and intensities reduced in treated areas (right photo).

Technology and Tools

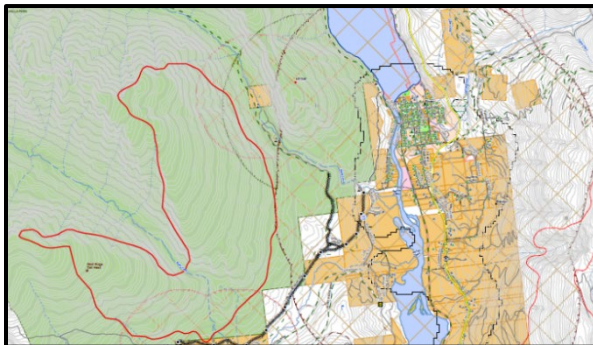
Objective 3.1: Internal dashboard

Strategy: Develop an internal integrated digital infrastructure to support operational efficiency and planning needs.

| Item | Stage | Fuels management lead | Estimated completion date |
|---|---------------------------|---|---------------------------|
| Generate automated email notifications when wildfires are approaching fuel treatment units | Advanced scoping | FM WPO, Predictive Services Unit Sprint Team | 2026 |
| Integrate the Fuel Treatment Interactions Program into Wildfire One: ReMi Planner (Resiliency and Mitigation Planner) | Building | FM WPO, CRI, Communications, Strategic Initiatives and Innovation | 2027 |
| Develop an internal ArcGIS interim treatment-wildfire interactions dashboard. <ul style="list-style-type: none"> review feedback from the current user group testing the dashboard | Advanced Scoping/building | FM WPO, GIS Analyst | 2026 |

3.1 Outcomes:

- Identification of potential wildfire-fuel treatment interactions to enable real-time interaction assessments, ensuring data collection that supports fuel treatment effectiveness analysis occurs.
- Utilization of fuel treatments during operational wildfire response for direct and indirect tactics, as well as contingency planning



Maps from N51117 (07/2024). Left: operational map before ignitions on 07/31/2024, fuel treatments not identified. Right: fuel treatment spatial data in Google Earth. Currently, treatment spatial data is not easily accessible for operational planning due to incomplete or disparate information sources and therefore not included on fire management plan maps.

Objective 3.2: External tools

Strategy: Develop a digital infrastructure that support transparency, information access, and operational efficiency for staff and stakeholders.

| Item | Stage | Fuels management lead | Estimated completion date |
|--|---------------|---|---------------------------|
| Modernize the Fuel Management Prescription Template and Guidance Document <ul style="list-style-type: none"> Consult with advisory group Create webinars and live presentations (FPBC conference) | Complete | FM WPO, FM Prevention Tech | 2025 |
| Update the Tools for Fuel Management webpage to include a Wildfire-Fuel Treatment Interaction Program section <ul style="list-style-type: none"> Include links to summaries, case studies, and dashboard | Building | FM WPO, Communications | 2025 |
| Develop or improve a public facing dashboard to show wildfire and fuel treatment interaction locations, summaries, and photos. <ul style="list-style-type: none"> Example: CalFire Dashboard | Early Scoping | FM WPO, Superintendent of FM, Strategic Initiatives and Innovation, GIS Analyst | 2026 |
| Create guidance for targeted grazing treatments and standardize a photo/ocular grass fuel loading tool | Early scoping | FM WPO | 2025 |
| Develop a fuel management prescription data compilation tool that processes field plot data and compiles it into a stand and stock table. <ul style="list-style-type: none"> Assess the use of AI to develop prescriptions to reduce costs, in line with government AI guidance | Early Scoping | FM WPO, FM Prevention Tech | 2026 |

3.2 Outcomes

- Wildfire-fuel treatment interactions are communicated publicly in an accessible online format to support the broad community of fuel management practitioners and researchers
- Diverse fuel management work is supported with technical recommendations and tools to increase the efficiency of planning and the efficacy of treatments



Backing fire as observed during a fuel treatment interaction on V11337 in Siska Flats, 08/24/2023. Before entering the treatment, fire behavior was a moderate surface fire with regular candling of trees and shrubs. After entering the treatment, the fire behavior was reduced to an intensity <2000 kw/m with flame lengths <0.5 m. Ignition operations were successfully used to bring the fire down to control lines with fire behaviour remaining mild, with no spotting and only isolated torching of trees—despite taking place during peak burning hours due to the reduced fuels in the treated area.