

FireSmart BC

Wildland-urban interface case-study research project

Research that may be conducted during active wildfires in the wildland-urban interface during the 2026 fire season in British Columbia. This document is relevant for wildfire management agencies, first responders, communications staff, local governments, and other authorities having jurisdiction.

FireSmart BC: Wildland-urban interface case-study research project

The purpose of this guidance document is to outline FireSmart BC research that may be conducted during active wildfires in the wildland-urban interface during the 2024 fire season in British Columbia. This document is relevant for wildfire management agencies, first responders, communications staff, local governments, First Nations, and other authorities having jurisdiction and Crown land managers.

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FireSmart background

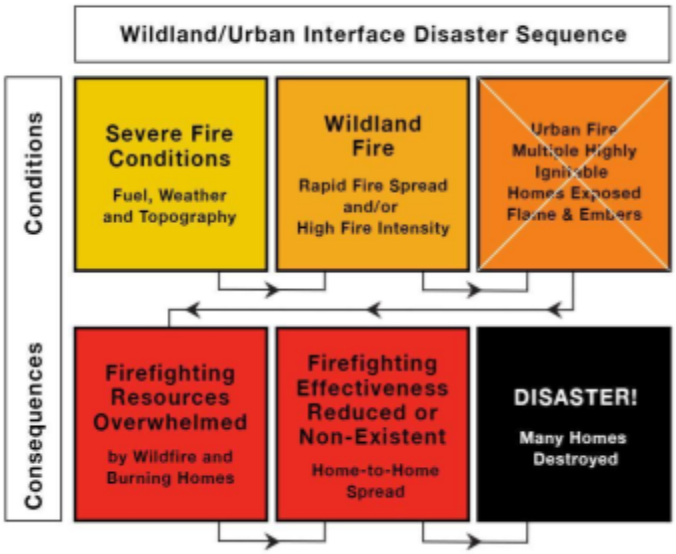
FireSmart is a national program designed to increase the resiliency of homes, neighborhoods and communities to wildfire. Wildfire plays a natural part in the BC ecosystem but as the climate warms, forest conditions change, populations grow and more people move into the wildland-urban interface (WUI), the threat of wildfire to homes and infrastructure continues to increase. FireSmart provides the tools for individuals, neighborhoods, and authorities to greatly reduce the risk of wildfire losses to homes and to communities. For more information on FireSmart in BC and available programs visit www.FireSmartBC.ca.

Purpose and necessity for this research

Fires in the WUI are now one of the leading causes of natural disasters in Canada[6], and the impact that they are having on communities is increasing. Wildfires in the WUI continue to represent a growing concern in BC, as our communities grow the number of homes and neighborhoods that directly interface with natural areas drastically expands. The WUI is area where the wildland and human development mix, where houses are interspersed with wildland vegetation. To become more resilient to wildfire as a province, the BC FireSmart Committee recognizes the need for adjustments to the built environment that are based on sound science. For FireSmart BC to continue to provide solid recommendations on how to increase wildfire resiliency of structures, the scientific basis of FireSmart guidelines must be increased.

Currently there are few studies in Canada that discuss WUI fire disasters and structure damage and there is an urgent need for further research. What is known is that majority of large fires in the WUI follow the WUI fire disaster sequence[2,3]. In this sequence, disasters result due to large numbers of structure ignitions overwhelming the responders. Creating structures/homes that are ignition resistant using scientifically proven FireSmart guidelines, is the most effective way of preventing and/or limiting WUI fire disasters.

Figure 1: Graphic depiction of the Wildland-Urban Disaster Sequence[2]



The purpose of this research project is to assist in the development of tools, resources and assets that will mitigate the losses to structures and their surroundings. Ultimately the goal is to collect data that will help develop new approaches to ensure in the future we as a province are better prepared to prevent catastrophic wildfire events in the interface. Further, this research would be a step towards meeting the recommendations of "Addressing the New Normal"[1] regarding FireSmart, better equip us to improve our prevention programs provincially and guide the BC FireSmart Committee in its creation of a FireSmart BC.

The key deliverables are:

- A better understanding of the factors leading to ignition and loss of homes and other structures,
- An improved foundation for enhanced FireSmart guidelines and FireSmart communications with the public,
- Better informed policy, legislation and development initiatives regarding FireSmart, and
- A stronger foundation for future wildfire resiliency initiatives.

Focus of the research

The research that will be conducted in 2025 across BC will continue FireSmart BC's focus on determining why some homes are more impacted by wildfire than others and, collect data on the susceptibilities for home ignition and analyzing how fire the spreads independently within the community. To reduce the ignitability of structures, adjustments must be made to the structure itself and the 30 meters surrounding it[2,5], the Home Ignition Zone (HIZ). Data collected through this research will aim to improve the survivability of homes in years to come by identifying hazard factors that increase the ignition potential of structures as well as how fires travel between structures.

PLEASE NOTE: this research will **NOT** look to assign blame or responsibility for losses. Data collected during this research will **NOT** affect the insurance of individual homeowners or their liability regarding the wildfire. Researchers will **ALWAYS** respect private property and community sensitivities.

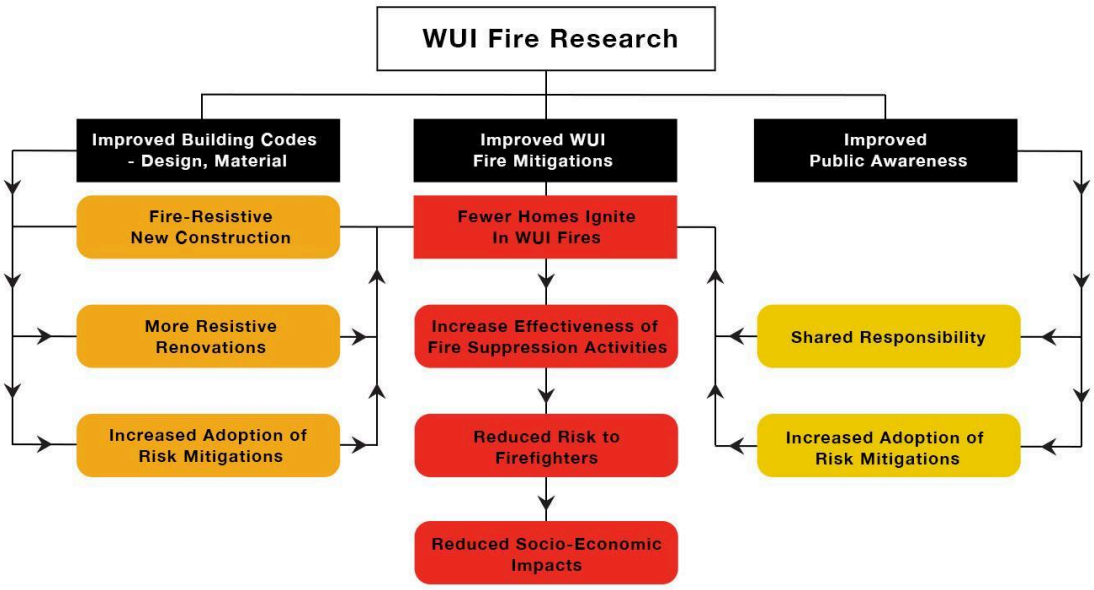
Personal information captured inadvertently like street signs and house numbers (which researchers will avoid gathering) will all subsequently be removed from data and results. If in the communication of the research certain pictures are anticipated to be used, permission will first be requested from homeowners.

Research foundation

Standards Council Canada working with the Institute of Catastrophic Loss Reduction released a report in 2020 that outlined the importance of conducting national case-study research on fires in the WUI. There has only been a handful of case-studies conducted in Canada to analyze the effect of wildfire on the built environment. Due to the complicated nature of studying wildfires and their impact on communities, there have been rare opportunities and most often they are missed[6]. The report asserts that to identify where knowledge is lacking and improve current wildfire mitigation efforts, case-studies need to be conducted in the WUI.

Case-studies like the ones to be conducted through this project are integral to help prevent further structure ignition and loss. "Wildland fires are inevitable but the ecological consequences and the susceptibility of human values (i.e., the built environment) are not inevitable … because management actions, like building or modifying structures for fire-resistance, can be undertaken to change the outcome. "[4] The parties that contributed to the national case-study report maintain that the quality of research conducted in the WUI and how those results are shared with the public can have lasting positive influences on public participation in WUI wildfire mitigation activities. Figure 2 is taken from the Westhaver and Taylor's foundational document and show the anticipated benefits from research projects like the one being undertaken this year in BC.

Figure 2. Adaptation of the Model of anticipated benefits of WUI fire research.[6]



How this research will be used

The results from this research project will ultimately be used to better understand how the impact of wildfire on communities can be reduced. Government policy bodies, industry, the general public, fire departments, public safety organizations, wildfire management agencies, insurance agencies, builders, Crown land managers and several other key stakeholders can all benefit from a better understanding on structural ignition and wildfire risk in the built environment.

Data will first be shared with the authorities having jurisdiction (AHJs) involved in the project to inform their own organizations and to share with their communities. Before any data is shared publicly there will be a formal approval process with the AHJ. Data will also be gathered into a report(s) that will be shared publicly to assist provincial and territorial stakeholders, Indigenous communities as well as national organizations in benefiting from current Canadian research conducted in the WUI. It is hoped that this research fosters more understanding and support for further research in the same field.

Past wildland urban fire research

2023: A wildland-urban post-fire case study: The Grouse Complex , prepared by Greg Baxter, M.Sc., Mike Richards, CCFI-C, IAAI-FIT, and Cordy Tymstra, Ph.D. was commissioned by the BC FireSmart Committee and published by the Institute for Catastrophic Loss Reduction (ICLR). Provides an examination of the factors contributing to structure loss during the McDougall Creek Wildfire in 2023 for the purpose of:

- Understanding the factors contributing to structure loss during WUI fires.
- Communicating the fundamental principles surrounding structure survivability during WUI incidents
- Further highlighting key factors that contributed to structure loss during the McDougall Creek Wildfire within the Grouse Wildfire Complex.

2021: The Lytton Report, authored by Jack D. Cohen, PhD., and Alan Westhaver, M.Sc., was commissioned by the BC FireSmart Committee and published by the Institute of Catastrophic Loss Reduction (ICLR). Provides a comprehensive examination of the Lytton Wildland-Urban fire disaster for the purpose of:

- Understanding the relationship between the wildfire conditions and how homes and businesses ignited and burned to total destruction resulting in the Lytton WU fire disaster on June 30, 2021.
- Communicating understanding and awareness specifically related to the Lytton WU fire disaster examination revealing fundamental principles of all WU fires that can be generally applied by residents, municipal and emergency managers such that all communities can choose to become more wildfire resilient and more likely to avoid future disasters.

Research methods

FP Innovations - Wildfire Community Impact

FPInnovations has partnered with FireSmart BC and the BC Wildfire Service since 2023 to conduct post-fire structure lost research in British Columbia. Through national NRCan Wildfire Resilient Futures Initiative funding FPInnovations is now leading a multiyear national level Wildfire Community Impact Research project (Standardizing How We Study Wildfires. | WCIR) with the goal of standardizing post-fire structure loss research across Canada while building and populating a national level database of post-fire structure loss data.

FPInnovations will be applying a wholistic qualitative approach to data collection. Data will be collected on fuel attributes, structural characteristics and neighborhoods using UAV's (drones), 360-degree cameras and data collection forms. This data will be analyzed post fire and stored securely in an access-controlled data platform developed for the project.

Profile of FP Innovations

FPInnovations is a private not-for-profit forest research organization of which the Fire Operations Group is a small part of. As part of Wildfire Resilient Futures Initiative funding FPInnovations launched their Wildfire Community Impact Research program in 2025 with the aim of conducting and standardizing post-fire structure examinations nationally while developing a national level post-fire structure loss database. FPInnovations possesses all the equipment required for data collection as well as any other supplies that are potentially required.

The research team has experience in; wildfire operations (Incident Command Level 3 certified), fire behaviour, fuels management, firefighter safety, drone work, prescribed fire, data equipment and collection technology, IT specialization, mechanical engineering, experimental fires, Emergency Medical Response and Geographic Information Systems. As a group, they are trained to work in and around wildfires with a range of certifications and experience. FPInnovations has produced several WUI wildfire case studies and conducted 20 years of applied wildfire research in the WUI throughout western Canada.

NRCan - Post wildfire housing, urban design, and development considerations research

Following the 2024 Jasper Wildfire Complex that destroyed over 300 homes in Jasper, NRCan led a team of engineers, housing researchers, and wildfire experts to provide guidance and expertise on the housing

rebuild. The evidence-based recommendations that were developed from the three-day site visit were presented to decision makers in Jasper, which ultimately led to the integration of wildfire resilient housing requirements in the Jasper Land Use and Development Policy along with Parks Canada's Architectural Motif. The approach taken in Jasper was collaborative. The local fire department, housing authorities, and elected officials were supportive partners in this effort, and allowed the research and objectives to be responsive to the needs of the community. NRCan continues to provide technical support to Parks Canada development officers and builders in Jasper as they navigate the new requirements and begin rebuilding efforts. This includes an in-person workshop in the community to provide builders and insurers with more clarity on the new requirements and present cost-effective solutions for meeting them.

The efforts in Jasper were highly successful. New requirements were instituted at a community scale and homes will be constructed using materials and practices that improve the wildfire resilience of the built environment.

How researchers will be integrated with authorities managing the incident

To ensure this research project is successful there will be communication and close collaboration between the research team, the authorities having jurisdiction, and all wildfire management organizations that are involved in the incident. As such, much thought was put into the integration of the research team into the Incident Command Structure (ICS).

Deployment procedures

The following is the deployment procedure that will be utilized to deploy the FireSmart BC Research team for 2027.

When an incident occurs that involves wildfire urban interface and subsequent structure loss it will be determined by BC Wildfire Service Staff if the incident is suitable for post fire structure loss research.

1. FireSmart Research Liaison determines if the incident is suitable for the deployment of FireSmart Research Team and confirms the availability of the researchers
2. FireSmart Research Liaison works with Prevention HQ Management, BCWS Fire Services and PWCC to initiate deployment to incident.
3. FireSmart Research Liaison confirms dispatch of FireSmart Research Team is approved by Incident Commander, agency in control of the incident (i.e. Fire Department, Zone, Fire Centre, PWCC), as well as the authority having jurisdiction (regional district, municipality, etc.).
4. PWCC dispatches the FireSmart Research Team to the incident alongside the initially mobilized SPS.
5. On arrival at the incident the FireSmart Research Team will tie in with senior SPS working in the area of research interest and report through SPS.
6. The FireSmart Research Team does an assessment and determines further research requirements, any requests for further resources is through FireSmart Research Liaison.
7. FireSmart Research Liaison connects with IMT, Zone, or Fire Centre to submit a request for additional resources.

PLEASE NOTE: A qualified staff member from the FireSmart BC business area of the BC Wildfire Service will also be dispatched with the research team to fill the FireSmart Research Team Liaison role. This individual's position will be to coordinate communication between the AHJ, wildfire operations and the research team. If a Liaison has been activated by the Office of the Fire Commissioner, the Research Team Liaison will work closely with this person.

Considerations for this project

Case-studies conducted in the WUI are challenging both operationally and technically, however with coordination and communications and a priority placed on safety, those challenges can be overcome. Due to the unpredictable nature of wildfire and the variation in candidate interface incidents, researchers involved with this project will be well-prepared in advance, be able to respond quickly and will need the support of AHJ as well as wildfire management agencies. As this is a multi-year research project that will hopefully be duplicated across Canada, there is an expectation of learning through doing and continuing to adapt methods and protocols to ensure research needs as well as the needs of the involved stakeholders and communities are met.

Safety of operations

First and foremost, the research team's activities should not affect the ability of the AHJ to conduct prepare for wildfire or manage an active wildfire incident. The research team must not affect the safety of fire responders and wildfire operations staff.

Safety of researchers

Concerns regarding the responsibility for the safety of the research team can be mitigated. The SPS designate and Research Team Liaison will pay particular attention to researcher safety and will ensure that no additional emergency resources are taken from their required duties to assist researchers. The research team will be appropriately checked-in to the incident and will receive a briefing from the Safety Officer or Structure Protection Specialist. Due to the nature of the research, there must also be physical separation between fire suppression and control operations and research activities. For safety, where intensive fire activity begins to develop, researchers must withdraw. Additional health and safety protocols will be adopted to further reduce the potential for safety concerns as this project unfolds.

Additional considerations

There is valid concern regarding the operational necessity of requesting individuals to evacuate an active wildfire area for safety reasons as a research team is subsequently granted access. It is important to note that the research team will only be present in areas where structure protection has been requested and there are other wildfire management staff operating in that area. Researchers will not be in areas where other frontline operators have been restricted from entering due to safety. There is no proper time to study how wildfire impacts structures, but the need is great and imperative if the aim is to prevent damage to property from wildfire in the future. Transparent and coordinated communication should be part of the research project deployment and will assist in alleviating the majority of concerns around optics.

Project communications

Stakeholders within the WUI, host agencies, AHJs and the public (particularly those evacuated) must have timely information regarding the research project if it is to be conducted in their area. This prevents misunderstandings, ensures transparent communication, and facilitates a coordinated approach. Media and public interest in wildfires is heightened when people are evacuated and asked to leave their homes. This is precisely when the research team alongside the Structural Protection staff will be coming to site so curiosity regarding their presence and purpose should be expected.

The communications package that is included with this guideline document will focus on the importance of risk mitigation and preventing damage to communities. Key messages will outline that the more fire agencies and residents of the WUI work together to reduce the vulnerability of homes and property to ignition, well before wildfires occur, the safer and more effective fire fighters and firefighting in general is. This communications package aims to provide information for AHJ to explain why this research project is important for reducing the potential for home ignitions and to start discussions on the participation of WUI residents in the FireSmart program.

Further resources

For more information please contact:

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Thank you to the following contributors to this guidance document

Operations and logistics staff (BCWS)
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Fire Chiefs Association of BC
Emergency Management BC
Communications Specialists (BCWS)
Structural Protection Specialists
TEAMS Information Officers
BC Parks
Parks Canada
Indigenous Services Canada
Union of BC Municipalities
First Nations' Emergency Services Society
Forest Enhancement Society of BC
Emergency Program Coordinators from Regional Districts
BC Office of the Fire Commissioner
Research and Innovation (BCWS)
Risk Management Branch (BCWS)
FPInnovations (primary contractor)
Institute for Catastrophic Loss Reduction
FireSmart Canada

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1. Abbott, G. and Chief M. Chapman. (2018). Addressing the New Normal: 21st Century Disaster Management in British Columbia. Report and Findings of the BC Flood and Wildfire Review: An Independent Review Examining the 2017 Flood and Wildfire Seasons.
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4. Johnston, L., Wang, X., Erni, S., Taylor, S., McFayden, C., Oliver, J., Stockdale, C., Christianson, A., Boulanger, Y., Gauthier, S., Arseneault, D., Wotton, M., Parisien, M-A. and Flannigan, M. (2020). Wildland fire risk research in Canada. Environmental Reviews. 28: 1–23. doi.org/10.1139/er-2019-0046
5. Stocks, B.J., Alexander, M.E. and Lanoville, R.A. (2004). Overview of the International Crown Fire Modelling Experiment (ICFME). Canadian Journal of Forest Research. 34: 1543–1547.
6. Westhaver, A., & Taylor, S. (2020). Developing a method for conducting wildland/urban interface fire case study research (pp. 1-86, Tech. No. ICLR research paper series – number 66). Toronto, ON: Institute for Catastrophic Loss Reduction. doi:https://www.scc.ca/en/system/files/publications/WUI_Fire_Case_Study_Research_-_November_2020.pdf

Appendix 1: Communication Packages

The communications package includes the following:

- One-page project summary document
- Community bulletin template
- Key messages for media and communications personnel that cover:
    - FireSmart
    - Wildfire risk
    - The research project
    - Concerns regarding the research
    - How the research will be conducted and by whom
    - Research link to wildfire response through structural protection
    - Safety
- Information to be shared on partner platforms (logos and brief project description)

This communications package can be accessed through this link as part of the Case Stud Guidance Document:
[WUI case-study research project | FireSmart BC]

Wildland-urban interface case-study research project 2027

What is FireSmart? FireSmart is a national program designed to increase the resiliency of homes, neighbourhoods and communities to wildfire. FireSmart provides the tools for individuals, communities, and authorities to greatly reduce the threat of wildfire to communities.

Why FireSmart research in the WUI matters. Fires in the wildland-urban interface (WUI) are now one of the leading causes of natural disasters in Canada, and the impact that they are having on communities is increasing. To become more resilient to wildfire as a province, the BC FireSmart Committee recognizes the need for adjustments to the built environment that are based on sound science. For FireSmart BC to continue to provide solid recommendations on how to increase wildfire resiliency of homes, the scientific basis of FireSmart guidelines must be increased.

What will the research do? The purpose of this research project is to assist in the development of tools, resources and, assets, that will mitigate the losses to structures and their surroundings. The key deliverables are:

- A better understanding of the factors leading to ignition and loss of homes and other structures,
- An improved foundation for enhanced FireSmart guidelines and FireSmart communications with the public,
- Better informed policy, legislation and development initiatives regarding FireSmart, and
- A stronger foundation for future wildfire resiliency initiatives.

PLEASE NOTE: this research will **NOT** look to assign blame or responsibility for losses. Data collected during this research will **NOT** affect the insurance of individual homeowners or their liability regarding wildfire. Researchers will **ALWAYS** respect private property and community sensitivities.

How will the research be carried out? FireSmart BC has partnered with two different research organizations to conduct post fire structure loss research. **FPInnovations**, a not-for-profit forest research organization, makes up the research team. They have extensive experience in everything from wildfire operations and firefighter safety, to mechanical engineering and data collection technology. Data will be collected on fuel arrangement, structural characteristics and neighborhoods using UAV's (drones), 360-degree cameras and data collection forms. The data will be analyzed post fire and stored securely in an access-controlled data platform developed for this project. **NRCan** research involves a team of engineers, housing researchers, and wildfire experts to provide guidance and expertise on the housing rebuild to produce evidence-based recommendations developed from on the ground research at the site. The aim of this research is to present local decision makers with wildfire resilient housing recommendations for land use and development policies.

How will the researchers be part of wildfire response? The research team will be deployed with a designated Liaison from the BC Wildfire Service. They will be incorporated into the Incident Command Structure and will not prevent, impact, or delay structural protection or the authority having jurisdiction's (AHJ) ability to prepare or manage an active WUI incident.

What can we share about the research project? Stakeholders within the WUI, host agencies, AHJs and the public (particularly those evacuated) must have timely information regarding the research project if it is to be conducted in their area. This prevents misunderstandings, ensures transparent communication, and facilitates a coordinated approach. Please use the communications package on www.FireSmartBC.ca under FireSmart Research to help you communicate regarding this project.

For more information please contact:
Eric McKay
BCWS Prevention Coordinator
FireSmart Researcher
Research@FireSmartBC.ca 250.255.4848

COMMUNITY BULLETIN

Month, Date, Year

FireSmart BC: Wildland-urban interface case-study research project

[Insert information about the current wildfire incident here: area, resources, summary, timeline – can be taken from the BC Wildfire Service website.]

FireSmart, in partnership with FPInnovations are currently conducting research in your area.

A team of qualified and experienced professionals, working closely with the Structural Protection Branch and the Incident Management Team will be collecting data on how the wildfire is affecting the built environment. The purpose of this research is to assist in the development of tools, resources and, assets, that will mitigate the losses to structures and their surroundings. The key deliverables are:

- A better understanding of the factors leading to ignition and loss of homes and other structures,
- An improved foundation for enhanced FireSmart guidelines and FireSmart communications with the public,
- Better informed policy, legislation and development initiatives regarding FireSmart, and
- A stronger foundation for future wildfire resiliency initiatives.

The *[insert name of the wildfire here]* wildfire provides an opportunity to further our understanding of how adjustments to properties in the interface can better protect you from wildfire in the future. Please note that research will not prevent, impact, or delay suppression or protection operations. This research will not look to assign blame or responsibility for losses. Data collected during this research will not affect the insurance of individual homeowners or their liability regarding wildfire. Researchers will always respect private property and community sensitivities.

For further questions regarding:

- This research project please contact:
  Eric McKay, FireSmart Researcher at Research@FireSmartBC.ca or at 250.255.4848
- Wildfire specifics please visit www.bcwildfire.ca
- Steps to increase the wildfire resiliency of your property and community please visit www.FireSmartBC.ca
- Information about Wildfire Community Impact research visit Standardizing How We Study Wildfires. | WCIR

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Key messages

FireSmart

- FireSmart is a national program designed to increase the resiliency of homes, neighborhoods and communities to wildfire.
- FireSmart provides the tools for individuals, communities, and authorities to greatly reduce the risk of wildfire losses to property owners and communities.
- For more information on FireSmart in BC and available programs visit www.FireSmartBC.ca

Wildfire risk

- Globally, and despite enhanced control capabilities, the number, size, and intensity of wildfires have been, and will continue to increase due to climate warming.
- Fires in the wildland-urban interface are now one of the leading causes of natural disaster losses in Canada, and the impact that they are having on communities is increasing.
- Wildfires in the wildland-urban interface continue to represent a growing concern in BC and over the last three fire seasons more than 600 homes in BC were destroyed.
- The wildland-urban interface is area where the wildland and human development mix, where homes are vulnerable to ignition – mostly by burning embers.

The research project

- To become more resilient to wildfire as a province, the BC FireSmart Committee recognizes the need for adjustments to the built environment that are based on sound science.
- For FireSmart BC to continue providing improved recommendations on how to increase wildfire resiliency of homes and communities, the scientific basis of FireSmart guidelines must be increased.
- Creating structures/homes/properties that are ignition resistant using scientifically proven FireSmart methods, is the most realistic way of preventing wildland-urban interface fire disasters.
- The purpose of this research project is to assist in the development of improvements to building design/materials, prevention tools and public awareness that will reduce the risk of losses to structures and their surroundings.
- Data collected through this research will aim to improve the survivability of homes in years to come by identifying hazard factors that increase the ignition potential of structures as well as the knowledge of how fires travel between structures.
- The results from this research project will ultimately be used to better understand how homes ignite and how the impact of wildfire on communities can be reduced.
- Government policy bodies, industry, the public, fire departments, public safety organizations, wildfire management agencies, builders, and several other key stakeholders can all benefit from a better understanding on structural ignition and wildfire risk in the built environment.

Concerns regarding the research

- This research will not look to assign blame or responsibility for losses. Data collected during this research will not affect the insurance of individual homeowners or their liability regarding the wildfire.
- Researchers will always respect private property and community sensitivities.
- Personal information captured inadvertently like street signs and house numbers (which researchers will avoid gathering) will all subsequently be removed from data and results.
- If in the communication of the research certain pictures are anticipated to be used, permission will first be requested from homeowners.

How the research will be conducted and by whom

- Data will be collected on fuel arrangement, structural characteristics and neighborhoods using UAV's (drones), 360-degree cameras and data collection forms.
- All data will be analyzed post fire and stored securely in an access-controlled data platform developed for the project.
- FPInnovations is a private not-for-profit forest research organization that makes up the research team.
- They have extensive experience in everything from wildfire operations and firefighter safety, to mechanical engineering and data collection technology.

Research link to wildfire response

- The research team will be a part of BC Wildfire Service response, coordinating research efforts with Incident Management Teams, authorities having jurisdiction and the BC Wildfire Structure Protection Branch
- Research will not prevent, impact, or delay structural protection and wildfire suppression efforts. Priority, after the safety of firefighters and other personnel, is defending structures from embers and flames of wildland fire.

Safety

- Due to the nature of the research, there will be physical separation between fire suppression and control operations and research activities. Areas that are significant for research will likely not overlap with areas where the wildfire has impinged the community and is not safely extinguished.
- Researchers will not be in areas where other frontline operators have been restricted from entering due to safety.

Logos and brief project description

FireSmart is a project partnership with FPInnovations and their national Wildfire Community Impact research project. The project aims to standardize post-fire structure loss research in Canada with the goal of developing tools, resources and, assets, that will mitigate losses to structures and their surroundings caused by wildfire. By implementing a case-study research model for wildfires in the wildland-urban interface, they hope to gain a better understanding of the factors leading to ignition and loss of homes and other structures. The intent behind this research project is to improve the foundation for enhanced FireSmart guidelines and FireSmart communications with the public, as well as better inform policy, legislation and development initiatives regarding FireSmart, and enhance future wildfire resiliency initiatives.

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FPInnovations

WCIR | RICFF

COMMUNITY BULLETIN

Month, Date, Year

FireSmart BC: Post-wildfire Housing, Urban Design, and Development Considerations Research Project

[Insert information about the current wildfire incident here: area, resources, summary, timeline – can be taken from the BC Wildfire Service website.]

FireSmart BC, in partnership with NRCan for their Post wildfire housing, urban design, and development considerations research are currently conducting research in your area.

A team of qualified and experienced professionals, working closely with the Structural Protection Branch and the Incident Management Team will be collecting data on how the wildfire is affecting the built environment. The purpose of this research is to assist in the development of tools, resources and, assets, that will mitigate the losses to structures and their surroundings. The key deliverables are:

- A better understanding of the factors leading to ignition and loss of homes and other structures,
- An improved foundation for enhanced FireSmart guidelines and FireSmart communications with the public,
- Better informed policy, legislation and development initiatives regarding FireSmart, and
- A stronger foundation for future wildfire resiliency initiatives.

The *[insert name of the wildfire here]* wildfire provides an opportunity to further our understanding of how adjustments to properties in the interface can better protect you from wildfire in the future. Please note that research will not prevent, impact, or delay suppression or protection operations. This research will not look to assign blame or responsibility for losses. Data collected during this research will not affect the insurance of individual homeowners or their liability regarding wildfire. Researchers will always respect private property and community sensitivities.

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- This research project please contact:
  Eric McKay, FireSmart Researcher at Research@FireSmartBC.ca or at 250.255.4848
- Wildfire specifics please visit www.bcwildfire.ca
- Steps to increase the wildfire resiliency of your property and community please visit www.FireSmartBC.ca

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Key messages

FireSmart

- FireSmart is a national program designed to increase the resiliency of homes, neighborhoods and communities to wildfire.
- FireSmart provides the tools for individuals, communities, and authorities to greatly reduce the risk of wildfire losses to property owners and communities.
- For more information on FireSmart in BC and available programs visit www.FireSmartBC.ca

Wildfire risk

- Globally, and despite enhanced control capabilities, the number, size, and intensity of wildfires have been, and will continue to increase due to climate warming.
- Fires in the wildland-urban interface are now one of the leading causes of natural disaster losses in Canada, and the impact that they are having on communities is increasing.
- Wildfires in the wildland-urban interface continue to represent a growing concern in BC and over the last three fire seasons more than 600 homes in BC were destroyed.
- The wildland-urban interface is area where the wildland and human development mix, where homes are vulnerable to ignition – mostly by burning embers.

The research project

- To become more resilient to wildfire as a province, the BC FireSmart Committee recognizes the need for adjustments to the built environment that are based on sound science.
- For FireSmart BC to continue providing improved recommendations on how to increase wildfire resiliency of homes and communities, the scientific basis of FireSmart guidelines must be increased.
- Creating structures/homes/properties that are ignition resistant using scientifically proven FireSmart methods, is the most realistic way of preventing wildland-urban interface fire disasters.
- The purpose of this research project is to assist in the development of improvements to building design/materials, prevention tools and public awareness that will reduce the risk of losses to structures and their surroundings.
- Data collected through this research will aim to improve the survivability of homes in years to come by identifying hazard factors that increase the ignition potential of structures as well as the knowledge of how fires travel between structures.
- The results from this research project will ultimately be used to better understand how homes ignite and how the impact of wildfire on communities can be reduced.
- Government policy bodies, industry, the public, fire departments, public safety organizations, wildfire management agencies, builders, and several other key stakeholders can all benefit from a better understanding on structural ignition and wildfire risk in the built environment.

Concerns regarding the research

- This research will not look to assign blame or responsibility for losses. Data collected during this research will not affect the insurance of individual homeowners or their liability regarding the wildfire.
- Researchers will always respect private property and community sensitivities.
- Personal information captured inadvertently like street signs and house numbers (which researchers will avoid gathering) will all subsequently be removed from data and results.
- If in the communication of the research certain pictures are anticipated to be used, permission will first be requested from homeowners.

How the research will be conducted and by whom

- Data will be collected on fuel arrangement, structural characteristics and neighborhoods using UAV's (drones), 360-degree cameras and data collection forms.
- All data will be analyzed post fire and stored securely in an access-controlled data platform developed for the project.
- FPInnovations is a private not-for-profit forest research organization that makes up the research team.
- They have extensive experience in everything from wildfire operations and firefighter safety, to mechanical engineering and data collection technology.

Research link to wildfire response

- The research team will be a part of BC Wildfire Service response, coordinating research efforts with Incident Management Teams, authorities having jurisdiction and the BC Wildfire Structure Protection Branch
- Research will not prevent, impact, or delay structural protection and wildfire suppression efforts. Priority, after the safety of firefighters and other personnel, is defending structures from embers and flames of wildland fire.

Safety

- Due to the nature of the research, there will be physical separation between fire suppression and control operations and research activities. Areas that are significant for research will likely not overlap with areas where the wildfire has impinged the community and is not safely extinguished.
- Researchers will not be in areas where other frontline operators have been restricted from entering due to safety.

Logos and brief project description

FireSmart BC, in partnership with NRCan have launched a research project in British Columbia aimed at providing communities with tools, resources and assets, that will help key decision makers and local governments better mitigate losses to structures and their surroundings caused by wildfire. By implementing a case-study research model for wildfires in the wildland-urban interface, they hope to gain a better understanding of the factors leading to ignition and loss of homes and other structures. The intent behind this research project is to improve the foundation for enhanced FireSmart guidelines and FireSmart communications with the public, as well as better inform policy, legislation and development initiatives regarding FireSmart, and enhance future wildfire resiliency initiatives.