BC FireSmart Committee Information and Action Items

From:	Karen Borden <kborden@ubcm.ca>
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Cc:	Karen Borden <kborden@ubcm.ca>
Sent:	July 23, 2021 1:34:02 PM PDT
Attachments:	image003.jpg, image001.png, WUIG acknowledgement letter_Contributor_electronic_final_en.pdf, CRI Results report_outcome harvesting_PID_Final_20210721[1].docx, National WUI Guide-Public-Final-EN.pdf, image002.png

Good afternoon BCFSC Members,

Thank you for putting forth your availability for this month's BCFSC meeting, we will likely do the same for our August meeting to ensure agencies availability. In the meantime however we need to continue to move some things along. Please take a moment to quickly read through below points and action items highlighted in **red** by the corresponding due date.

1. As requested in an earlier email, we are going to be shifting our FireSmart BC main page and messaging this summer to focus more on prevention, risk, and preparedness. You will see a change in our webpage next week as well as a shift on our social media platforms. We are hoping that we can be part of encouraging the public and our partners to take an active role in preparing themselves for this wildfire season and the ones to come. **If you have any feedback on this messaging once it is rolled out please send it to Kelsey.**

2. On July 21, we filmed a public service announcement with Parliamentary Secretary Jennifer Rice, this will hopefully be shared via our channels by the end of the month, again with a focus on preparedness.

3. The WUI research team has been deployed to four incidents so far this summer. They are currently deployed to the Octopus Complex in the Southeast region. Each has yielded opportunities for process improvement and we were able to test the ignition assessment system on several burnt and unburnt structures. We anticipate more deployments this summer and will continue to update you as the project progresses.

4. We are in the process of putting together a proposal to conduct a study in Lytton similar to that which was conducted in Fort McMurray after the Horse River wildfire. We may have missed our window for data collection but are hoping that this study can both provide insight into the disaster itself as well as provide recommendations on how we can build Lytton back as a more wildfire resilient community and maybe an example for FireSmart construction and development for BC. This will be a BCFSC project, motion for approval to follow as well as a one pager describing the project.

5. FireSmart BC Conference – we are in the process of selecting a conference event manger contractor and if you or a member of your agency would like to be part of the organizing committee, **please let me know by Friday, July 30th.**

6. The attached “Results Report Outcome Harvesting” document was provided by Heather Fehr, Deputy Manager of Prevention, BCWS.

   Action item: Please review the attached report paying attention to gaps or great ideas which you think could be added to the success and outcome review. BCWS would like to keep this a participatory process—so feedback and ideas are very welcome! It would be great to know as well if throughout the review process the committee would like to be involved in oversite and review of the findings as well as in engagement workshops.

   Timeline: **Feedback is required by Friday, August 6** as BCWS is hoping to have this out to RFP in the next 1-2 weeks in order to have results together for the fall.

7. Registration is open! International Wildfire Prevention Workshop - Join the first virtual annual international gathering of wildfire prevention professionals - September 8 - 9, 2021 – to register: **Click Here**.

   Attend the International Wildfire Prevention Workshop and LEVERAGE your agency's resources with interagency experience and topical trainings, HEAR from leaders in wildfire prevention who have adapted their tactics to engage target audiences and foster behavior change in both virtual and in-person environments, DISCOVER how you can use the "three Es and A" of wildfire prevention: Education, Enforcement, Engineering, and Administration, LEARN from others' successes and failures, BUILD relationships with prevention professionals who share your passion for making a difference.

8. National Guide for Wildland-Urban Interface Fires – Attached is the guide and the letter of appreciation for your contribution.

   The link below also provides you with the online versions along with the impact analysis for the implementation of the Guide. https://nrc-publications.canada.ca/eng/search/?q=National+guide+for+wildland-urban-interface+fires%3A+guidance+on+hazard+and+exposure+assessment&m=1

Thank you and if you have any questions or concerns, please contact myself or Kelsey.

Cheers, Karen

Regards,

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Together we can build a FireSmart BC

Thankful to work and live in the traditional territories of the Lekwungen speaking peoples, today represented by the Esquimalt and Songhees First Nations.

National Research Council Canada | Conseil national de recherches Canada

NRC·CNRC

28 June 2021

Dear Contributor:

Re: National Guide for Wildland-Urban Interface Fires

I am writing to express my appreciation for your valuable contribution to the development of the National Guide for Wildland-Urban Interface Fires, the first of its kind for Canada.

A copy of the Guide is attached in PDF format. The Guide is also be available for download at the following link National Guide for WUI Fires.

With its comprehensive guidance, the Guide is an essential resource for the wildfire community, in particular, and for Canada, in general, to protect wildland-urban interface areas from the impacts of wildfire. Thank you for graciously contributing your time, insight and expertise to its development.

Sincerely,

Noureddine Bénichou, Ph.D.
Principal Research Officer and Project Manager
Construction Research Centre
Email: Noureddine.Benichou@nrc-cnrc.gc.ca

Canada

BC WILDFIRE SERVICE

Project Initiation Document

Ministry of Forests, Lands, Natural Resource Operations & Rural Development

PROJECT IDENTIFICATION			
Project Name	CRI success and review communication document		
Project Sponsor	Chris Hodder		
Project Manager	Heather Fehr		
Project Level	Level 1	Level 2	Level 3

PROJECT GOAL

The goal of the project is to analyze and communicate the successes, partnerships and stories of projects undertaken through the CRI funding allocations from 2018-2021. The CRI program was established in 2018 as a direct result of the 2017 wildfire season and subsequent reviews of the prevention program at the time. The CRI program replaced the SWPI program and was built from a foundation of the seven FireSmart disciplines.

This scope of the review would include projects undertaken by proponents, through grants administered through partners in both the community and crown land categories.
The simple goal of the project is to answer a set of broad questions:

- What was successfully implemented through the CRI program?
- What did (all partners and implementers) learned through the CRI program?
- What did the program address from the recommendations in the Abott- Chapman Report 2017/8, MNR and other Prevention reviews?
- How has the CRI program contribute to community resilience in BC to date?

BACKGROUND & CONTEXT

The Community Resiliency Investment (CRI) program was announced by the provincial government in 2018 and is intended to reduce the risk of wildfires and mitigate their impacts on BC communities.
As of January 2021, CRI includes three streams:

- Stream 1: FireSmart Community Funding & Supports, administered by UBCM
- Stream 2: Crown Land Wildfire Risk Reduction, administered by the Ministry of Forests, Lands, Natural Resource Operations & Rural Development.
- Stream 3: FireSmart Economic Recovery Fund, administered by UBCM, CBT, Community Forests, BC Cattleman's Association.[1]

There are two delivery and funding mechanisms within CRI: **FireSmart Community Funding and Supports (FCFS)**, and **Crown Land Wildfire Risk Reduction (WRR).** Additional CRI resources can be found on the FireSmart BC website. Stream 3, was introduced in January 2021 as a temporary stream to assist BC in the recovery efforts from COVID19.

FireSmart Community Funding and Supports (FCFS)

[1] Note: Stream 3 is a short term COVID19 recovery based program

Administered through the Union of British Columbia Municipalities (UBCM) with an initial investment of $60M, this program is available to local authorities, including First Nations, to deliver FireSmart activities as supported by the BC FireSmart Committee.

Highlights of the program include:

- 100% funding of up to $150,000 across a suite of FireSmart activities.
- Regional, multi-jurisdictional applications are encouraged
- Incentives have been added to undertake FireSmart activities on private land.
- Funding opportunities are available for fuel management projects on First Nation reserves.
- More information on the FCFS program can be found here: https://www.ubcm.ca/EN/main/funding/lgps/community-resiliency-investment.html

Technical reviews and prioritization of FCFS applications are done by a committee made up of UBCM, Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD), Forest Enhancement Society of BC, and First Nations Emergency Services Society (FNESS) staff with final approval by the BC FireSmart Committee.

Crown Land Wildfire Risk Reduction (WRR)

Administered through the Ministry of Forests, Lands, Natural Resource Operations, and Rural Development with an initial 2019/20 investment of up to $25M per year, through to 2021/22. This funding is in addition to the nearly $6M allocated the previous fiscal year and complements the CRI FireSmart Community Funding and Supports category. The Crown Land WRR program is available for internal delivery of priority activities on higher risk areas.

Highlights of the program include:

- The Crown Land WRR funding category is intended to reduce wildfire risk on Crown land around communities and high value infrastructure
- Fuel management planning and treatment activities focusing on provincial Crown land located around communities.
- Prescribed fire (including planning and operational treatments) and the development of a comprehensive provincial prescribed fire program.
- Risk reduction activities targeting provincially identified critical infrastructure, beginning with critical response infrastructure such as government-owned radio repeaters, weather stations and airtanker bases.

Operational projects funded by the CRI Crown Land WRR category will be contracted via BC Bid and will help to increase community resiliency to wildfire, increase ecosystem resiliency and support local contractors in communities across the province. Successful WRR outcomes require collaboration and coordination within joint operations as implementation of these funds will occur in partnership between BCWS, Resource Districts, BC Parks, BC Timber Sales and Mountain Resorts Branch.

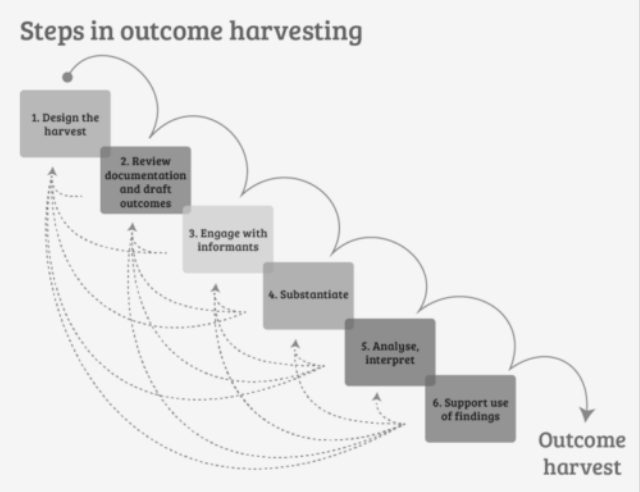
PROPOSED APPROACH

The proposed approach has two different streams. The first stream being the evidence and story collection—this is proposed to be done through a RFP, and a consultancy group who specializes in participatory monitoring and evaluations processes. It is proposed that a methodology such as outcome harvesting is utilized, as this methodology is focussed on outcomes reporting of complex multi-agency projects, where a specific logical framework may not be in place. This first stream would have a deliverable of a success report, but one harvested outcomes, as well as an overview document—which can be turned into a script—for public facing communications, key messages short videos etc.

The second part of the proposed approach is the communication of results to the BC public. This stream would utilize the findings in the success report and focus on communicating key messages to the BC public (and potentially audience specific targeting). This stream would need communication and social media expertise, and could potentially be undertaken through BCWS current contract with Site Partners.

The How? (Methodology):

Stream One: Monitoring and evaluating the CRI Program Outcomes



It is proposed that outcome harvesting be utilized as the main methodology to review the program. Outcome harvesting is designed to collect evidence of change (the 'outcomes') and then work backwards to assess whether or how an organisation, programme or project contributed to that change. This contrasts with the more traditional way of carrying out M&E, which is to start with activities and then attempt to trace changes forward through output, outcome and then impact levels (logical framework). Outcome harvesting is a participatory process for evaluating complex, multi agency programs.

The Outcome Harvesting approach should be customised to the specific needs of the primary intended users/uses. The six "steps", discussed below, are to be taken more as guiding principles rather than rigid formulae to follow. Nonetheless, the rigorous application of all six principles is necessary for a sound and credible outcome harvest.

Design the Outcome Harvest: The first step is to identify the primary intended users of the harvest (BCWS and BC FSC) and their principal intended uses for the harvest process and findings (to review successes and document learnings). Based on those, the harvest users and harvesters agree what needs to be known and write useful, actionable questions to guide the harvest (harvesting questions).

- This could be complete through an online meeting (facilitated) with the project partners who have closely participated in the grants process (UBCM, FireSmart, Community Forests, FESBC, FNESS, CBT, FLNRORD Districts, BC Parks)
- The deliverable from this step is a framework of questions which will be used to 'harvest' information and outcomes

Review documentation and draft outcome descriptions: From reports, previous evaluations, press releases and other documentation, harvesters identify potential outcomes (i.e., changes in individuals, groups, communities, organisations or institutions) and what the intervention did to contribute to them.

- A list of key documents would need to be formulated and file provided to the consultant/ harvester
    - Program and proponent final reports
    - Videos
    - Decisions notes
    - Evaluations of projects (Partnership Initiatives on the FireSmart website)
    - Proponents reviews/ site visits
    - COP meeting minutes
    - News stories/ releases
    - Field visit (noting the WRR team is expecting to conduct a number of field visits throughout the summer of 2021, these can be utilized as information on lessons, current state, outcomes reached as well as unexpected results. This will be coordinated through the Wildfire Technician- Prevention)

Engage with informants in formulating outcome descriptions: Harvesters engage directly with informants to review the outcome descriptions based on the document review, and to identify and formulate additional outcomes. Informants will often consult with others inside or outside their organisation knowledgeable about outcomes to which they have contributed.

-A list of informants to participate and have a ½- 1 hour conversation with the consultant/ harvester, based on a sampling method
- conversation is free flowing—and similar discussions are compiled similar to what occurs in software systems such a SPSS.
- a sampling[2] approach and schedule would need to be discussed and agreed as far as number of persons to interview, what interview methodology to use (1:1, groups, thematic based etc).

Substantiate: Harvest users and harvesters review the final outcomes and select those to be verified in order to increase the accuracy and credibility of the findings. The harvesters obtain the views of one or more individuals who are independent of the intervention (third party- potentially First Nation and Regional Districts) but knowledgeable about one or more of the outcomes and the change agent's contribution.

- Would need to determine this step—or amalgamate it)

Analyse and interpret: Harvesters, classify all outcomes, often in consultation with the informant to compile areas, and openly discuss with participants.

- Ideally this step could be done as a workshop

Support use of findings: Harvesters propose issues for discussion to harvest users grounded in the evidence-based answers to the harvesting questions. They facilitate discussions with users, which may include how they can make use of the findings.

- Ideally this step is done as a workshop with step 5

Stream two: Public communication of CRI Success

This stream would benefit from expertise in media, communications and marketing. This stream would utilize the findings in stream one, and communicate the success to the BC public, potentially with specific focus audiences, such as Municipalities/ First Nations, Industry partners, and community groups, taking the key findings and communicating those to different audiences. Within this stream—there would need to be discussion on what audiences we would like to specifically target. Given we have a current contract with Site Partners, and they have produced most of the case study videos, and web content for the initiative funding, they would be an ideal partner to take the key findings from the outcome harvesting and create public facing media.

BUSINESS OUTCOME

[22] Sampling methodology would need to be qualitatively based, do to the sample size and number of projects. There is not enough project to extrapolate data in a statistically relevant method, with a high enough confidence rate (C=95% +/- 10). Suggested *adaptive* or *critical case* sampling

A strategic review of the first three years of the CRI program will inform design principles as CRI shifts towards a longer-term funding model to support the Ministry Priority to "*provide natural hazard and emergency response services to BC to support community resilience*". This approach also supports the implementation of the 2021-2026 BCWS Strategic Plan.

Understanding the challenges and success of the first three years of CRI ensures that a continuous improvement, adaptive management lens informed by analysis and partners engagement, is applied to the evolution of prevention management in BC.

PROJECT SCOPE

Work Included in Project Scope	Work Excluded from Project Scope
Stream one: • Creating a process based on Outcome Harvesting Methodology with the Oversight Committee. • Developing a schedule for participatory engagement sessions (virtual)- with project partners, in small groups for harvesting outcomes • Facilitate process for focussing harvested outcome with representation group in a face to face (ideally) workshop • Deliver a success and lessons based report to BCWS • Complete internal ' what we heard' process document on raw findings • Complete finding report once outcome harvesting methodology is applied to raw findings. Stream two: • Creating visual content (Video) + print content (infographic/ visual information) based on findings from reports • Recommend focussed audiences to target • Post and share content on 2-3 social media platforms • Report the analytics for 3 months after content is shared-- impressions, hits, likes, clicks through the website, time spent watching video, user based information (sex, geographic information/ locational etc)	Stream one: • Audit of the efficiency of the program (to be done after last intake in 2022) • Financial audit on value of money—this will be undertaken in 2022 once there is further implementation of some of the projects and funds are further spent. • Distribution of physical reports (all reports and distribution will be virtual) • Internal engagement on report findings with WLT/ ELT and Fire Centers, and Regions etc—this will be done by the Prevention team • Updating information for public on government websites (to be completed in coordination with External communications team and GCPE) Stream two: • Engagement from posting on social media • Setting up platforms for posting (will utilize existing channels websites) • Subscriptions or software for analytics reporting.

PROJECT DELIVERABLES

Stream one:

1) Prior to undertaking outcome harvesting—submission of a plan, including timeline, methodology, necessary travel, and reviewed and approved overview questions.
2) Interim/ draft finding report, prior to outcomes being harvested and grouped, based on the 'what we heard' process.
3) Facilitation of review workshop/ learning workshop to go over findings
4) Workshop report/ overview
5) Final report (no more than 15 pages), with a key messages document of no more than 5 pages.

Stream two:

1) Public facing outreach through social media, which allows results of the CRI to be shared easily to audience.
2) Follow up analytics reporting for 3months after public release.

RESOURCES

Internal

- Internally this project requires a project lead to oversee and manage the proposed consultant for stream 1 and 2, it is proposed this is done by the Deputy Manager Prevention, in order to have the Prevention team within BCWS able to full participate as members of the review and success report.
- Stream 1 will also draw on field reports, and this can align and draw from fuel management field reports and 'spot checks' which are to be completed by the Wildfire Technician Prevention and partners such as Community Forests, UBCM and Cl WRR etc. It is proposed the Wildfire Technician Prevention, also supports the scheduling and relationship support for the consultant in stream 1, alongside the Deputy Manager.
- For Stream two, internal resources requirements from the communication and engagement team, including coordination and support from a Communications Specialist, to organize wit the consultant and ensure branding and government guidelines are followed, as well as to follow up on areas outside of the project specific scope. This person would also support with internal communication on the process to inform the organization (BCWS) of ongoing processes and results.

External

- Stream 1 would require an RFP for reviewers/ evaluators (individual or team—due to size of program, likely a team) to manage the outcome harvesting and process for a participatory review process (workshop, virtual meetings, review process)
- Stream 2 would require a contract (or additional work to existing contract (potentially the Site Partners contract)

Financial Resources

- It is proposed that this process will cost approximately **$45,000- $60,000 CAD**, which could be costed to 71498 – CRI- Budget line 'contract/ other'. This line is currently over budgeted at 520,000 CAD, and is to be scaled down to close to 300,000 CAD
- Any Face to Face meeting, would be scheduled into October, which is when the Prevention will have a 'check-in on expenditures and budget, currently a face to face meeting—it would be expected the facilitation for the meeting be included in the consultants proposal, although participants travel would be from individual budgets for those people to attend—or supported through Prevention Travel budget. (TBD)
- Oversite resources would include a number of hours from the Deputy Manage Prevention, support for field visits from the Wildfire Technician Prevention, and

support from the Communications and Engagement Team. Approximately over a 3 month period the level of effort from these positions is approximated to :

- Deputy Manager- .25 FTE
- Wildfire Technician . 25 FTE (alongside the reviews already in the works with community forests)
- Communication and Engagement- .15FTE

PROJECT SCHEDULE		
Activity	**Description**	**Date**
Development of PID/ Internal socialization of scope	Pull together the initial idea through the PID, socialize this project idea for feedback with: • HQ Prevention Team • Operations Team • BOLT	Before July 20th, 2021
External feedback from partners on idea and the formulation of RFP	- Open discussions as part of existing management calls with UBCM, Community Forests, Columbia Basin Trust etc - Once feedback is coordinated draft the request for proposal	By July 30th, 2021
Stream 1: Outcome Harvesting	- Contract consultant(s), for harvesting - Set initial meeting with partners to further design the participatory method for review - Undertake harvesting (aligning with Prevention field visits and reviews) - Completion of raw data collection and internal sharing (what we heard) - (ideally) face to face workshop with handful of involved proponent and partners to review and go over findings and categorization of harvesting	August- mid-October (by end of October F2F workshop- ideally) Note: alongside this work there will be a re-design for CRI2, which timelines will align.
Stream 1: Final Report and key messages	- Final report and Key messages document provided in Draft to BCWS and both documents are finalized after 1-2 iterations of feedback[3]	October
Stream 2: Public Communication	- RPF/ or contracting with public communication provider	November- Feb 2021

[3] Feedback from BCWS will be provided by a small group of leaders and technical staff. Feedback would be in three categories 1) correcting factual information which may be incorrect 2) additional details necessary from the consultant 3) clarifying unclear writing or ideas.

	- Develop script/ story board based on key messages from outcomes harvesting and audiences - Filming additional b-role content, and/ or compression of available photo with audio from partners etc. - Draft video/ social media campaign discussed in draft	
Wrap up and incorporation to CRI2.0 planning	- Along side this work, from August-October, information will be pulled for the planning of CRI2.0 - Wrap up of this process will include: o Socialization of results within BCWS and Ministry o Socialization of process and how it was done with other provincial programs o Snapshot type article highlighting the work o Sharing through COPs	Aug- December 2021

EXECUTIVE APPROVAL

Having reviewed the project documentation, this project is approved for execution

Name	**Position**	**Signature**	**Date**
	Project Sponsor		
	Project Manager		

NRC·CNRC

NATIONAL GUIDE FOR WILDLAND-URBAN INTERFACE FIRES

Guidance on hazard and exposure assessment, property protection, community resilience and emergency planning to minimize the impact of wildland-urban interface fires

National Research Council Canada
Conseil national de recherches Canada

Canada

Page 013 of 307 to/à Page 206 of 307

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BC FireSmart Committee Lytton Project

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Cc:	Karen Borden <kborden@ubcm.ca>
Sent:	August 5, 2021 3:24:22 PM PDT
Attachments:	image003.jpg, image001.png, BCFSC Lytton Project.pdf, image002.png, image004.jpg

Good afternoon BCFSC members,

We wanted to provide you with an update on the Lytton project. We have also attached the overview of the Lytton project for your information

FireSmart BC is going to be sending the request for images/videos out to the public at the end of this week, but we want you to understand that the most important data will come from those agencies that were involved with first response. **Therefore; we are asking the FCABC and EMBC to circulate this request throughout your networks and ensure it gets into the hands of those that were directly involved**. This targeted outreach would make the project, our final report and the recommendations that much stronger.

If you have any questions, please don't hesitate to contact me.

Cheers, Karen

Regards,

Karen Borden
BC FireSmart Committee Coordinator
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Together we can build a FireSmart BC

Thankful to work and live in the traditional territories of the Lekwungen speaking peoples, today represented by the Esquimalt and Songhees First Nations.

*Join us for a free 45-minute webinar – **Tips and Tricks for Working with FireSmart BC Tools and Resources***

August 26th, 2021 - 11:00 – 1145 am. *Click here for more information and to register!*

BC FireSmart Committee Lytton Project

Overview:

In light of the recent wildland-urban interface (WUI) fire that destroyed a large majority of the Village of Lytton and Lytton First Nation in B.C., a post-fire examination, referred to as the Lytton Project, is being conducted. This examination is specifically designed to draw conclusions about structure loss and fire progression, and to maximize the lessons learned from the disaster. Incidents as devastating as the 2021 fire in Lytton may not be common, but it is in our collective best interest to learn as much as we can to prevent similar occurrences in the future, while also contributing to the efforts of rebuilding a wildfire resilient community.

Call for Images and Video:

A primary means of understanding the fire will be through the comprehensive review and analysis of images and video taken in the Village of Lytton and Lytton First Nation before, during and after the fire. ***FireSmart™ BC is calling on anyone who has captured images or video of the fire that impacted the area. FireSmart BC is also requesting images of homes, property and landscapes that had undergone preventative fuel treatment work before the fire began***. These files are being gathered solely for the purpose of data collection and analysis, and will not be used without your expressed consent.

The files can be uploaded securely at: firesmartbc.ca/bcfsc-lytton-project

Support:

The Lytton Project is currently led by the BC FireSmart Committee (BCFSC) and is being supported by all BCFSC agencies, as well as the Institute of Catastrophic Loss Reduction (ICLR), the Intact Centre on Climate Adaptation (INTACT), FireSmart Canada, Indigenous Service Canada (ISC) and the First Nations Emergency Services Society (FNESS). The examination will be conducted by an experienced team of post-fire WUI researchers and FNESS staff.

For more information please contact:

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Tips & Tricks For
Working With
BRITISH COLUMBIA
FireSmart™
August 26th

February 16 and 17, 2022 BCFSC Agenda Package - Centre Vancouver Island Ballroom, Hotel Grand Pacific and Via Zoom

From:	Karen Borden <kborden@ubcm.ca>
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Cc:	Joel Hamilton <pyriscence.consulting@gmail.com>, Marken, Helena FLNR:EX <helena.marken@gov.bc.ca>, Larry Watkinson <larry.watkinson@penticton.ca>, Quentin Nelson <qnelson@fness.bc.ca>, Osbourne, Kelly FLNR:EX <kelly.osbourne@gov.bc.ca>, Cam McAlpine <cam@earnscliffe.ca>, Greg Wilkinson <greg@earnscliffe.ca>, Justin Van Mulligen <justin@sitepartners.ca>, Danica Gallaher <danica@sitepartners.ca>, Karen Borden <kborden@ubcm.ca>
Sent:	February 10, 2022 10:42:40 AM PST
Attachments:	image003.jpg, Item #2. Draft Minutes-January 20 2022.pdf, Item #3. FireSmartBC_2022WorkPlan_DRAFT.pdf, Item #6. BCFSC Lytton post-fire examination FOR APPROVAL.pdf, Delegate Bag Items -2022 FireSmart BC Conference.pdf, Item #3. FireSmartBC_2022WorkPlan_DRAFT.docx, image001.png, Item #1. Agenda - Feb. 16-17, 2022.pdf, image002.png, image004.png

Good morning BCFSC members and guests,

Attached are the agenda materials and the information needed to access the agenda package for the BCFSC Strategic Planning Session and Committee meeting on **Wednesday/Thursday, February 16 and 17, 2022 from 8:30 am – 4:30 pm.** This meeting will be held in person in the Centre Vancouver Island Ballroom at the Hotel Grand Pacific, Victoria, BC and via Zoom for those that are unable to attend in person *(links below)*

Lytton Post-Fire Examination Final Report *(Agenda Item #6.)*

Attached for your approval is the BCFSC Lytton post-fire examination final report. It will be motioned for your approval during our meeting next week. It is also being shared with the Village of Lytton and Lytton First Nations for their approval before it is published by ICLR.

2022 FireSmart BC Conference: Building Collaboration and Community – Delegate Bags

Attached you will find the Delegate bags list, as per our last meeting we are asking each agency to contribute an item to the bag (there will likely be 350 bags in total). The list provided consists of recommended emergency preparedness items that have been vetted for quality and performance. Please respond by **Friday, February 25th, 2022** with the item that your agency would like to add to the delegate packages. Please note if another agency has already selected that item we will ask you to choose your second option. Kelsey will coordinate transfer/assignment of funds once the items have been procured. If you have any questions please let me know.

BC FIreSmart Committee Draft 2022 Work Plan *(Agenda Item #3)*

Attached you'll see the draft 2022 work plan. It is a living document and will be adjusted once our strategic plan is set and will continuously be updated as our action items shift and are executed. Please take some time over the next three weeks to take a look through the plan. If there are gaps in our key focus areas, or perhaps areas that you feel are not important for us to be focusing on in the next year please provide that feedback to myself or Karen by March 4th. We

will briefly discuss the work plan during our February meeting and put the work plan forward for motion during our March meeting.

I also loaded all agenda materials onto the CRUSH FTP site as we are using the **CRUSH FTP** site to send out agenda package materials to you. **Click the link below to access the login page** and you will find the login and password below to access the CRUSH FTP site. From that site, you can easily download, view or print the agenda package.

s.15; s.17

Login ID: s.15; s.17
Password:

How to access the agenda package materials:

- All of the agenda materials for the February 16/17, 2022 meeting are loaded under: 2022 Agenda Packages/February 16-17, 2022 Agenda Package
- Click on each of the files to download or review them
- Each attachment has been numbered with the corresponding agenda item number it pertains to

Zoom Meeting – please note – there are different Zoom links for the Day One and Day Two Sessions:

Day One – Wednesday, February 16, 2022
Join Zoom Meeting: s.15; s.17
Meeting ID: s.15; s.17

Day Two – Thursday, February 17, 2022
Join Zoom Meeting: s.15; s.17
Meeting ID s.15; s.17

If you have any questions or concerns, please don't hesitate to contact either me or Chair Kelsey Winter.

Cheers, Karen

Regards,

Karen Borden
BC FireSmart Committee Coordinator
FireSmart BC | Union of BC Municipalities
FireSmartbc.ca | ubcm.ca
525 Government Street, Victoria BC V8V 0A8
Email: info@firesmartbc.ca

REGISTRATION NOW OPEN
2022 FireSmart BC Conference: Building Collaboration and Community
May 11 and 12, 2022 - Kamloops, BC

Together we can build a FireSmart BC

Thankful to work and live in the traditional territories of the Lekwungen speaking peoples, today represented by the Esquimalt and Songhees First Nations.

Draft Minutes
BC FireSmart Committee Meeting
January 20, 2022 - Via Zoom

Members:		
Kelsey Winter, BCWS (Chair) Danyta Welch, UBCM Phil Lemire, FCABC Garth Wiggill, FLNRORD Dean Colthorp, FNESS	Larry Price, FNESS Chris Hodder, BCWS Greg Anstruther, ISC (left meeting at 1335) Gord Pratt, FESBC Lindsay Vandesteeg, BC Parks	Tony Fiala, EMBC Jay Zakaluzny, Parks Canada Lisa Barrett, EMBC Ray Ault, CIFFC Simon Joubarne, ISC
Also in Attendance:		
Joel Hamilton, FCABC		
Regrets:		
Secretariat: Karen Borden, UBCM		

Administration	
1	Greg Anstruther, ISC thanked the committee for all the work that has been done by this committee and he introduced Simon Joubarne to the BCFSC committee. Simon will be taking over Greg's spot for the ISC on the committee effective today. Greg left the meeting at 1335. **Call to Order** Chair Winter called to order at 1335 and Karen did the roll call. Chair Winter welcomed Simon Joubarne, ISC to the BC FireSmart Committee.
2	**Approval of Agenda** *Tony Fiala/Phil Lemire* ***It was moved and seconded that the agenda was approved with the addition of the Lytton Post-Fire Examination Report under additional items.*** ***CARRIED***
3	**Approval of Minutes** *Phil Lemire/Lindsay Vandesteeg* ***It was moved and seconded that the Minutes of the October 28th, 2021 and the Minutes of the November 23/24th, 2021 meetings were approved.*** ***CARRIED***

4	**Earnscliffe Strategies – Strategic Planning Update** Cam McAlpine introduced his Earnscliffe Strategies colleagues – Merriah Michelle, Stephanie Constable and Allen Greig to the BCFSC. He updated the committee on what they have been doing on the strategic planning since the November meeting and advised that they will be ready for the next session of strategic planning at the February 16/17 in-person meeting in Victoria. Merriah Michelle provided the committee with an overview of the findings of the public opinion survey. Chair Winter thanked the team from Earnscliffe Strategies and they left the zoom meeting.
Project Updates	
5	**2022 FireSmart BC Conference: Building Collaboration and Community – Website and Registration Update, Delegate Bags** Karen Borden, UBCM provided an update to the BCFSC on the planning and logistics for the FireSmart BC 2022 Conference. She advised the committee that the Local Organizing Committee had an idea to move forward with conference delegate bags that contained useful items that would be included into a grab n go emergency bag. In order to do that and help to share the costs associated with that, Karen canvassed the BCFSC members for their support in this idea along with their assistance in providing some of these items that had been identified as possible additions. ***ACTION:*** ***Karen Borden, UBCM will provide a complete list of grab n go items with their costs so the BCFSC members can use this list to approach their member agency for support on either supply of or financial donations towards the purchasing of these items.*** ***All BCFSC members to approach their member agencies with the list of items and advise Karen Borden, UBCM what their agency will contribute.***
6	**BCFSC Communications Directors – Update/Reconfirm list of directors with member agencies** Chair Winter briefed the members on the work being done to share information such as social media posts, events, etc. through our communication directors at our members agencies. At this time, the list needs to be updated to ensure we are sharing this information with the correct person at each agency as we wish to begin utilizing this channel to ensure we are getting our messages out to as many as we can reach and through our partner networks ***ACTION:*** ***All BCFSC members to confirm/update the communications contact person/contact information for their agency and send that information to Karen via email by Friday, February 7th. 2022.***
For Discussion	
7	**International Women's Day** Chair Winter provided an overview of the proposed 2022 International Women's Day video to the members. She advised that she wished to include women from all of the BCFSC member agencies to participate. Chair Winter asked BCFSC members to recommend/provide contact information for women in their agency that would like to participate in this year's video.

	ACTION ***All BCFSC members to recommend/provide contact information for women in their agency that would like to participate in this year's video and pass that information along to Karen via email by Monday, February 7th.***
8	**BCFSC 2022 Workplan: new format and internal team integration** Chair Winter advised the BCFSC members that she was working with the team at SitePartners on a new format and internal team integration for the BCFSC 2022 Workplan**.** She noted that by combining the three existing work planning documents into one document will make it easier to follow what's being accomplished throughout the year by all FireSmart staff, the team at SitePartners and the work being done by the BCFSC. The first draft will be available mid-February and it will be shared to BCFSC members for review and comments. The living work plan will be brought to the BCFSC for approval at the March BCFSC meeting.
9	**FESBC Role for Material Distribution (status update)** Gord Pratt, FESBC provided an update on the role and work being done by FESBC around FireSmart BC materials distribution.s.22 s.22 s.22 but he was asked to canvass other BCFSC agencies to see if anyone might be interested in taking that work over from FESBC in the event that FESBC does wind down in the future. Lisa Barrett, EBMC advised that EMBC houses their printed materials in the government warehouse through Crown Publications. She noted that Crown Publications looks after managing and filling the orders on behalf of EMBC and this is handled through a contract. ***ACTION*** ***Lisa Barrett, EMBC to check with Crown Publications/EMBC to find the costs associated with the management and filling of printed materials orders and report back to Chair Winter.***
10	**Andrew Peller Contribution** Chair Winter, BCWS advised the BCFSC that she was contacted by Andrew Peller regarding a charity contribution to FireSmart BC. Part of their business plan for this year was to create a product that addressed the concerns of British Columbians. They surveyed the BC public and their growers and identified that wildfire was overwhelming the top concern with environment and climate change coming in a distant second. To address that public focus, they created an environmentally friendly product called "Fireline" their 'wine with purpose,' which will be available in May across BC. A percentage of proceeds they will be donating to wildfire prevention and resiliency. They have approached FireSmart BC to be the recipient of those donations. Chair Winter noted that the campaign with OK Springs in 2021 generated $60,000 for wildfire prevention and those funds were donated directly to the Red Cross. This was a campaign focused primarily in the Okanagan with a product only available in that geographic area. The Peller project would have provincial reach and therefore generate a much larger donation to wildfire resiliency efforts, with little to no effort on our part. Chair Winter advised that Andrew Peller would work with the BCFSC on how and where to spend the funds. It was agreed that BCFSC should enter into a partnership with Andrew Peller to support the Fireline Wine initiative through the BCFSC relationship with Site Partners
Motions for Approval	

11	**BCFSC 2022 Terms of Reference** The BCFSC reviewed the 2022 BCFSC Terms of Reference. There were a number of minor edits suggested and once those edits have been made, they were supportive of approving the 2022 Terms of Reference. *Gord Pratt/Garth Wiggill* ***It was moved and seconded that the 2022 BCFSC Terms of Reference be approved as amended.*** ***CARRIED***
12	**Community Resiliency Investment (CRI) Program Recommendations** Danyta Welch, UBCM provided an overview of the 2022 CRI program and provided some proposed recommendations for the BCFSC's review and approval. Recommendation #1 *Phil Lemire/Larry Price* ***It was moved and seconded that the BCFSC prioritize funding based on the recommendations of the CRI Evaluation Committee.*** ***CARRIED*** Recommendation #2 *Dean Colthorp/Gord Pratt* ***It was moved and approved that the BCFSC defers prioritization on the 2022 FireSmart Community Funding & Supports intake for the Staff Review and Pending applications to the recommendation of the CRI Evaluation Committee provided the application fall within the same requested amount.*** ***CARRIED***
Standing Agenda Items	
13	**Standing Committee on Research** No update at this time.
14	**Standing Committee on Strategic Direction** Gord Pratt, FESBC advised the BCFSC that the Standing Committee on Strategic Direction committee has been working with the team at Earnscliffe and they will continue to provide direction on the process as it moves forward to the next strategic planning session on Feb. 16/17, 2022.
15	**Home Partners Program Update** Joel Hamilton, Provincial HPP Coordinator provided an update on the Home Partners Program. Joel noted that 8 of the 10 previous authorities will be continuing with Home Partners. Joel noted that he will continue to try to contact the two First Nations that previously ran the program and check on their intention moving forward. In 2022 there is an additional 15 communities coming on board so there will be a total of 23 local authorities participating in the HPP program as of 2022. The total includes 4 regional districts, 4 First Nations, 2 resort municipalities and 13 municipalities. He noted that he had 70 wildfire mitigations specialists trained and in that 2022 will be a busy year for training of wildfire mitigation specialists with 15 new local authorities coming on board. As at the end of 2021 – a total of 1,882 Home Partners Program assessments were completed across the province and of that, 670 were completed in 2021.
16	**FireSmart BC Resources** Gord Pratt, FESBC provided an update on the FIreSmart BC resource distribution. He also noted that the BCAA thank-you would be posted publicly next week and that $17,000 was raised by BCAA staff and those

	funds will be used to restock BC FireSmart printed materials for 2022. Gord also advised that they had distributed over 53,000 copies of FireSmart BC printed materials to-date. ***ACTION*** ***Gord Pratt, FESBC to reach out to Janet Ford, BCWS and/or Amanda Reynolds, BCWS with a recommendation of what the restocking materials should include for the 2022 fire season.***
17	**FireSmart Canada Update** Ray Ault, CIFFC provided an update on FireSmart Canada. He briefed the BCFSC members on the Wildfire-Resilience Best-Practice Checklist for Home Construction, Renovation and Landscaping (Builders Checklist) that has just been published. This document is intended for new home construction, renovations and landscapers. Ray also advised the group that the FireSmart Canada website is being updated and will be published in February. FireSmart Canada is working with BC, Alberta and other provinces on updating and improving several programs including the Local FireSmart Representative Program, the FireSmart Canada Neighbourhood Recognition Program and the Home Partners Program. CIFFC currently has four positions being recruited for and that will assist the FireSmart Canada program. Ray also noted that the work being done with Site Partners has been a great asset as FireSmart Canada and BC work together.
18	**Additional Topics** **Lytton Post Fire Examination** Chair Winter updated the BCFSC on the post-fire examination of Lytton project. The report is currently being edited and finalized by the review panel and then will come to the BCFSC as well as the Village of Lytton, Lytton First Nations and First Nations Forestry Council for final approval. Chair Winter advised that the Institute for Catastrophic Loss Reduction (ICLR) offered to publish this report when it is ready to be released. They would cover the cost of publication, i.e. graphic design, translation, editing and printing. Chair Winter feels that this would help to elevate and share this work to a larger audience and is supportive of ICLR's proposal. The BCFSC agreed to permit ICLR to publish the report as per their offer to do so.
19	**Next Meeting Date** **Tuesday/Wednesday, February 16/17, 2022 – two-day hybrid meeting - Hotel Grand Pacific, Victoria, BC** ***ACTION*** ***Karen Borden, UBCM will canvass all BCFSC members and guests by email to confirm whether they will be attending the February 16/17, 2022 two-day BCFSC meeting in person or virtually.***
20	**Adjournment -** The BC FireSmart Committee meeting ended at 1550.

BRITISH COLUMBIA
FireSmart™

2022

Work Plan

TABLE OF CONTENTS

Executive Summary

This document provides a summary of FireSmart BC's program, and sets communication objectives and priorities for the 2022 calendar year. It was produced by the FireSmart BC and SitePartners teams and will be reviewed and approved by the BC FireSmart Committee (BCFSC). The work plan is intended for ongoing use throughout the year for both FireSmart BC and SitePartners teams and will be a living document.

The work plan breaks down the upcoming year's key areas of focus under the seven FireSmart disciplines, each sub-section providing a more granular look at that discipline's key initiatives and their associated objectives, communications plans (strategy, tactics, timelines), team structures and budget. Key tactical elements such as project specifics and timelines will be integrated into the "FireSmart BC Weekly Project Status" working document.

This work plan has been created to align with the BCFSC's ongoing strategic planning work. Additionally, the communications strategies have been informed by insights derived from the recently completed "British Columbians Perceptions of FireSmart BC" report, which detailed the results of a 1,000 person survey across the province.

2022 Snapshot

The FireSmart BC program enters 2022 with significant momentum. An extremely challenging 2021 wildfire season greatly accelerated the program's already encouraging growth trajectory. The program took major strides in 2021 with regards to the scope, quality and frequency of communications, while also experiencing significant increases in visibility and publicity. Analytics further highlighted these strides with strong growth in the FireSmart Canada Neighbourhood Recognition Program (FCNRP) and Local FireSmart Representative (LFR) networks as well as web and social media metrics.

2022 presents a notable opportunity to continue FireSmart BC's progression into making FireSmart a household name and ensuring everyone who lives, works and plays in British Columbia understands and contributes to increasing the province's wildfire resiliency.

The theme for FireSmart BC in 2022, which is also the theme of the inaugural FireSmart BC Conference is "Building Collaboration and Community", two concepts that aptly outline the key focus areas of the FireSmart BC program in 2022. These focus areas will apply to the entirety of the work FireSmart BC is aiming to accomplish and are summarized below.

Collaboration – A commitment to working in-step with inter-agency and industry partners to expand the reach of the FireSmart BC program. Continuing to improve synergies within the BCFSC while also building relationships with target groups in other sectors (businesses, municipalities, developers, insurance, structural, garden/landscape, etc.).

Community – Leveraging the strong, established FireSmart BC network while also looking to reach new and underserved communities (such as First Nations and remote/rural areas). Using an equity lens to ensure FireSmart BC is accessible to all.

Communications and Audience Overview

The major key focus areas within each discipline require their own communication strategies and plan. Different communication tactics will be used to achieve many of the objectives outlined in this plan, therefore communications specifics can be found within each discipline in the Discipline Overview section.

Communications in general will rely on ongoing leveraging of FireSmart networks, online audiences and tools (see Communication Tools and Channels), as well as targeted paid digital and traditional media campaigns to support major initiatives and to reach a broader audience.

Broadly, the goal is to reach people who live, work and play in British Columbia. FireSmart BC is designed to be accessible to everyone in the province (general public), which requires consideration of audiences in all geographic and demographic groups, in both urban and rural areas. This includes people living and working in interface areas, which also includes farmers, ranchers, and industry workers. Media, government, and interagency stakeholders, members and partners are also part of the target audience, as they have the ability to help deliver and broadcast key FireSmart messaging.

The communication initiatives found herein will be coordinated by SitePartners on behalf of FireSmart BC and the BCFSC. Communications strategies will be shared with the following FireSmart BC networks on an as needed basis throughout the year:

- Local FireSmart Representatives
- Wildfire Mitigation Specialists
- FireSmart Coordinators
- Communications Directors (from each BCFSC agency)
- FireSmart Canada's Strategic Advisory Group(s)

FireSmart BC & SitePartners Teams and Workflow

The FireSmart BC team is the group under the BC Wildfire Service FireSmart Program Lead that guides and executes the day-to-day operations of the FireSmart Program in BC.

FireSmart BC Team Overview

Kelsey Winter - FireSmart Program Lead, Overall Direction, Research, Strategy
Amanda Reynolds - FireSmart Education Officer, Podcast, LFR Workshops
Karen Borden - BCFSC Coordinator, Conference lead
Janet Ford - FCNRP liaison, Plant Program Lead**,** Resource manager
Joel Hamilton - Provincial Home Partners Program Coordinator
Helena Marken - FireSmart Analyst, Library program lead
Kevin Good - FireSmart Intern, USB engagement lead

SitePartners role as the FireSmart BC Agency of Record is to support the development and growth of the FireSmart BC program through the planning and execution of various communications and program initiatives such as: website, social-media, video, major campaigns, stakeholder and partner engagement, strategic planning, project coordination etc.

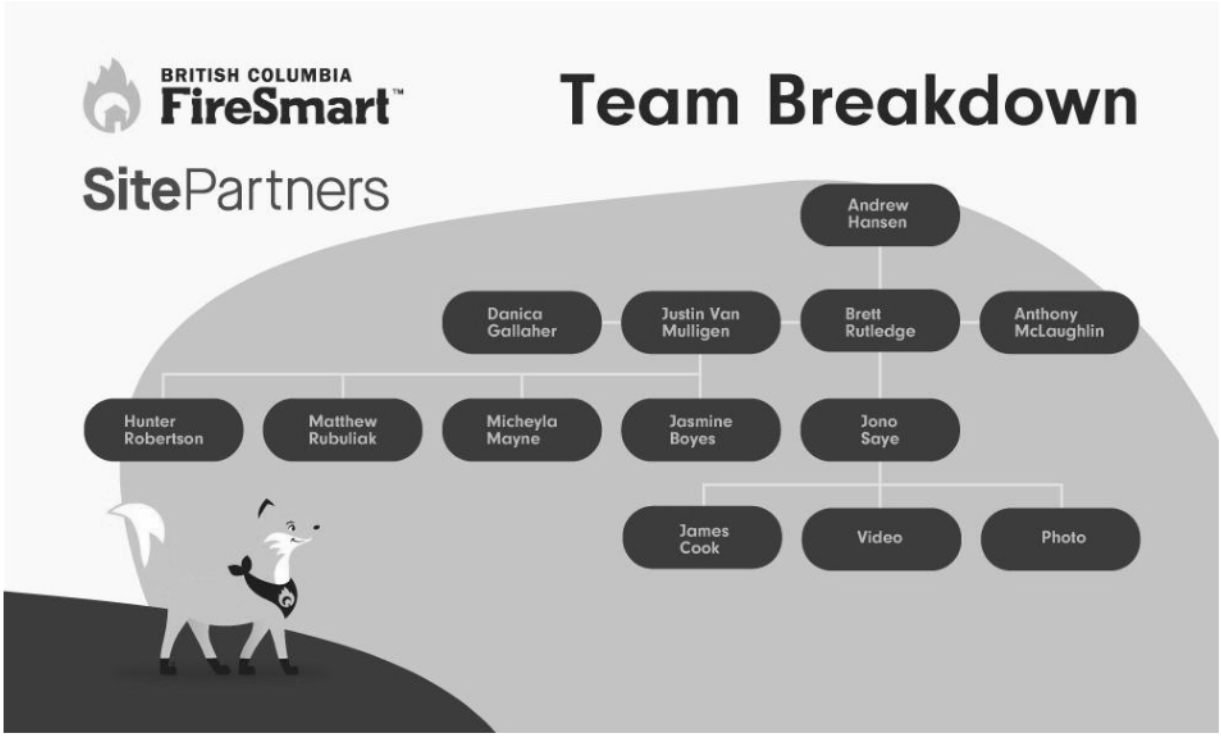
SitePartners will work closely with the FireSmart BC team to provide expertise and support on the projects identified in this work plan, as well as additional miscellaneous items as required.

SitePartners Team Overview

Below is a list of account members and team leads, structured to maximize efficiency and expertise while managing the account.

Andrew Hansen - Account lead (Finance and Overall Direction), Strategic Consult, Video lead
Justin Van Mulligen- Account lead (day-to-day operations), Strategic Consult, discipline lead (Vegetation Management, Development Considerations, Emergency Planning, Education, Legislation and Planning)
Brett Rutledge - Creative lead, website
Anthony McLaughlin - Website and technology support
Danica Gallaher - Communications lead, Strategy lead, discipline lead (Interagency Cooperation)
Jono Saye - Major campaign creative direction, lead copywriter, video support
Matthew Rubuliak - Communications channel lead, discipline lead (Cross-Training)

Micheyla Mayne - Special project support
Jasmine Boyes - Special project support - Education Materials
Hunter Robertson - Administrative support
James Cook - Design and brand
Chris Ruiter, Mitchell Toth, Ben Lum, Quinn Patterson - Photo & Video Production and Post-Production



Internal workflows and program review

Building upon internal workflow progress made in 2021, SitePartners and the FireSmart BC teams will meet weekly to review active projects. In addition, on the first Thursday of the month a meeting will be held to review overall objectives and key initiatives as well as discuss metrics and program achievements. The BCFSC will be updated monthly on program deliverables by the FireSmart BC or SitePartners teams.

An annual report will be created by the FireSmart BC Team and SitePartners on behalf of the BCFSC to showcase what the program has achieved in the calendar year. The first annual report will be created for 2021.

Three in-person meetings will be held to provide an opportunity for teams to collaborate on key campaigns and initiatives:

Feb/March 2022 - Spring campaign launch planning
June 2022 - Summer campaign planning, half-year check-in (when possible)
November 2022 - Season review and 2023 planning

2022 Overall Program Objectives

The below objectives have been identified to provide a holistic representation of the growth of the FireSmart program in BC. They will be measured each year.

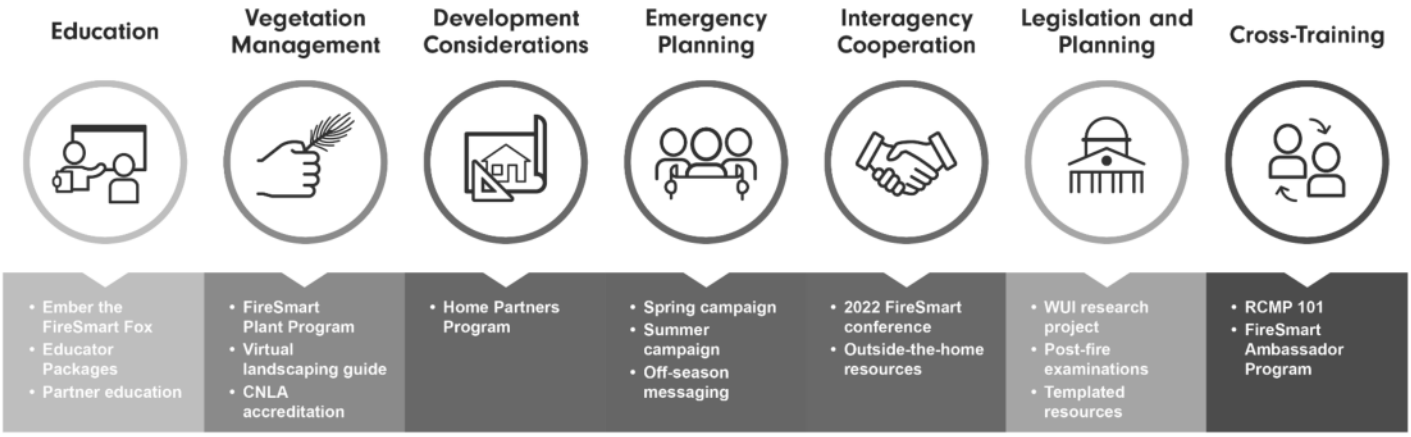
1. Increase baseline brand awareness to 55% (current 48%)
2. Increase brand familiarity (current 25% / 18% / 5% - see Appendix D)
3. Increase LFR and FCNRP network by at least 15%
4. Continue to grow digital engagement and online community through the growth of website traffic (50% year/year increase) social network following (30%), and email subscriber lists (25%)

For a breakdown of FireSmart BC communications key metrics see:
FireSmartBC_AnnualMetricTracker

Disciplines Overview

As the FireSmart BC program and team continue to grow, so do its various initiatives. The key focus areas for 2022 are outlined below centered under the seven FireSmart disciplines. The key focus areas are instrumental in informing FireSmart's resourcing (teams and budget), direction and content strategy for the year ahead.

2022 Work Plan Overview



BRITISH COLUMBIA FireSmart™

Education

Ember the FireSmart Fox
Educator Packages
Partner education (FireSmart Coordinator, BCFSC, LFR)

Vegetation Management

FireSmart Plant Program
Virtual landscaping guide
CNLA accreditation

Development Considerations

Home Partners Program

Emergency Planning

Spring Campaign
Summer Campaign
Off-season messaging

Interagency Cooperation

2022 FireSmart Conference
Outside-the-home resources

Legislation and Planning
WUI research project
Post-fire examinations
Templated resources

Cross-Training
RCMP 101
FireSmart Ambassador Program

A visual/calendar representation of our key initiatives can be found here

EDUCATION

Overview

The education discipline is at the core of the FireSmart program and has been the area that has received the most focus (and made the most progress) to date. Education will continue to be prioritized in the year ahead through further expansion of programs/resources for groups that have the most influence and ability to help share FireSmart messaging as well as the creation of resources for new audiences.

High-level objectives for this discipline involve moving beyond homeowner education to work collaboratively with new audiences and identify what resources/information they require to educate their own networks. These audiences include educators, libraries and FireSmart partners (member agencies, LFRs, FireSmart coordinators, local government, First Nations).

Key focus areas:

1. Educator Packages
This initiative is a critical piece in helping educate younger generations about FireSmart. The approach will be to select a panel of educators from across BC to provide feedback on our current educator materials. Once feedback is analyzed, FireSmart BC will update materials accordingly and work with educators and schools on a plan for distribution, through targeted outreach and professional development day presentations. This

progress will unfold gradually over the first half of 2022, with a goal of having finalized/updated materials for the Fall 2022 school term.

Additionally, through outreach to libraries across the province ahead of the Spring/Summer season, FireSmart education materials will be made available to summer reading programs in pilot/participating locations.

2. Ember the FireSmart Fox
While the presence of the pandemic has limited the ability to move forward with a widespread Ember event/outreach strategy, there is still significant headway to be made this year after the 2021 successful launch. Assets such as Ember swag, a 'request an appearance' web form as well as select participation in summer FireSmart BC events will continue to help get Ember into FireSmart communities across the province.

To build upon Ember's momentum in the digital space, Ember's Den will be expanded and new social media assets will be created to continue to integrate Ember with FireSmart's core brand identity.

3. Partner education (FireSmart Coordinator, BCFSC, LFR)
The FireSmart BC program/brand is fortunate to have a vast network of engaged partner agencies and individuals across the province who are looking to help spread the word. It is critical that these audiences are enabled by FireSmart BC providing them with the know-how and resources they need to mobilize their own networks.

A webinar series touching on topics such as: Key Campaigns, Digital best practices, Creating FireSmart communications etc. will keep networks in the loop. Additionally, expanding the online toolkit and resources will further help provide these audiences with the materials they need to be successful.

Education			
Key Focus Areas	**Educator Packages**	**Ember the FireSmart Fox**	**Partner Education**
Objectives	-Identify panel of educators and hold initial focus groups -Updated resources for Fall 2022 -1 Library group on board	-Create new online resources -Ember appearance in every fire center this summer -Solidified suit request form and request an appearance protocol	-Hold at least 3 webinars for LFRS/FireSmart Coordinators -Expand FireSmart toolkit

Team	SP: JB, MM, JVM FS: AR, KW	SP: BR, MM, JVM FS: AR, KW	SP: JVM, MM FS: AR, KW, KB
Timeline	Jan-Sep	Year-Round	Year-Round
Reference Doc	Educator Comms Plan Library Engagement	**N/A**	**TBD**

VEGETATION MANAGEMENT

Overview

The vegetation management discipline took major strides in 2021 with the creation of the new FireSmart BC Landscaping Guide and launch of the pilot plant tagging program with Art Knapp in Kamloops and Prince George.

Ongoing growth of this discipline is critical in reaching audiences that may not have exposure to FireSmart through other more established initiatives such as the FCNRP as well as due to the importance of fire-resistant vegetation in the non-combustible zone.

The current popularity of gardening amongst all generations provides a unique opportunity to make in-roads with new markets and age groups. Most importantly, fire-resilient landscapes can serve as a property's "first line of defence" in the face of wildfire.

The high-level objective of 2022 is to create increased awareness and understanding regarding FireSmart plants and how FireSmart vegetation can increase structure survivability. In addition, to build upon the strong progress of last year with an expanded plant tagging program and public launch as well as additional resources and inroads with regards to professional partnerships and affiliations.

Key focus areas:

1. FireSmart Plant Program

This major initiative will be FireSmart BC's first campaign of 2022. Building upon last year's great start (new guide, Art Knapp pilot), the plant program will be formally branded and expanded to garden centres throughout the province. The program will be supported with engaging point-of-sale materials, informative training packages and an

integrated and highly publicized launch. The launch will feature online videos, ads and contests as well as physical events at participating garden centres across the province.

2. Virtual Landscaping Guide

Following in the footsteps of the interactive homeowner's guide, the virtual landscaping guide will provide gardeners and landscapers with an easy-to-use and accessible tool to increase wildfire resiliency on their property. Working with Subject Matter Experts the online guide will highlight specific vegetation important to Indigenous culture, provide opportunity for the public to ask an expert and have a map so British Columbians can zoom into which plants are relevant for their own address.

3. CNLA Accreditation

Building on positive initial conversations, the FireSmart BC team will continue collaborating with the Canadian Nursery Landscape Association on a formal FireSmart Landscaping accreditation program.

Vegetation Management Overview			
Key Focus Area	**FireSmart Plant Program**	**Virtual Landscaping Guide**	**CNLA Accreditation**
Objectives	- 20+ Garden Centres across BC - 3 Events - Public launch including: digital, media, and events -Creation of materials and seminars for retail partners	**-** 3,000 Downloads/Views	-Have initial conversations with CNLA about course -Determine host and structure -Set up delivery for 2023
Team	SP: JVM, BR, JS, MM FS: JF, KW, JH, HM	SP: BR, AM FS: KW, JH	SP: JVM FS: KW, HM
Timeline	January - May	February	September
Reference Doc	**LINK**	**(Link TBD)**	**TBD (KW)**

DEVELOPMENT CONSIDERATIONS

Overview

The focus of the development considerations discipline in 2022 will be based primarily around ongoing growth of the Home Partners Program. 2021 saw the hire of a Provincial Home Partners Program Coordinator as well as new municipalities, local governments and First Nations joining the program.

Home Partners is important to high-level objectives as it provides the best avenue for the creation of true wildfire resilient neighbourhoods. It complements the community-based approach of the FCNRP by focusing more on the individual by providing strong mitigation recommendations as well as the possibility for incentives to FireSmart one's property.

The high-level objective of 2022 is to continue the momentum and adoption of the program by focusing on Regional District and First Nations participation.

Key focus areas:

1. Home Partners Program

Supporting the Provincial Home Partners Program Coordinator with educational materials and other assets to help sell the program to Regional Districts and First Nations. This includes videos, presentation decks/fact sheets, case studies etc.

Additional focus will be provided to engage, train and follow-up with Wildfire Mitigation Specialists (WMS) as well as starting to document stories of individuals that have engaged with the program, had an assessment and carried through to complete mitigation recommendations.

Development Considerations Overview	
Key Focus Area	**Home Partners Program**
Objectives	- Every Regional District (34) contacted and either signed up or in-progress - Increase in number of First Nations communities signed up - Increase in HomePartners inclusion on 2022 CRI applications

	- Increase in trained WMS (59 currently)
Team	SP: JVM, BR FS: JH, KW
Timeline	January - May = Ongoing outreach and onboarding August - November = Targeted outreach and CRI application support
Reference Doc	**HPP Metric Tracker**

EMERGENCY PLANNING

Overview

The emergency planning discipline comprises the biggest outward-facing initiatives of the year: The Spring and Summer Campaigns. The Spring Campaign has become an annual initiative for FireSmart BC and serves as the foremost opportunity to raise brand awareness and communicate a preparation-related message to British Columbians. Previous campaigns have employed a combination of TV, radio, direct mail and digital, PR/earned media and have focussed on pushing the FireSmart Homeowners Manual. Typical timelines for this campaign are from April - June.

The Summer Campaign was first launched in 2021 in response to the grave wildfire situation and saw FireSmart BC play a more active role in providing critical messaging regarding wildfire awareness, mitigation and evacuation planning. The “Make a Plan” campaign was deployed in July and August to areas that were threatened by wildfire. The scale and scope of the Summer Campaign is dependent on the severity of the wildfire season and messaging priority.

This discipline is important as it provides a key linkage between the wildfire mitigation messaging and resources of other disciplines (Vegetation Management, Education, Development Considerations) as well as the real threat of wildfire to landscapes, structures and communities. Additionally, proper execution of emergency planning initiatives requires effective collaboration with key partners such as the BC Wildfire Service and Emergency Management BC.

The high-level objective will be driven by the recent strategic consumer research conducted and will focus on growing FireSmart BC brand awareness and uptake in high-priority regions of the province (Cariboo, Kamloops, Southeast, North/Prince

George).

Key focus areas:

1. Spring Campaign
This year's FireSmart BC Spring Campaign is set to be the largest to date. The need/urgency for compelling prevention and preparation messaging has been highlighted by a variety of factors such as:

- 2021's impactful wildfire season
- Illuminating consumer research underscoring both the importance and value of the FireSmart BC program and its relatively early-stage brand awareness
- The impact and success of previous campaigns
- An overall increased public awareness and recognition of the importance of emergency preparedness brought on by key events (BC Floods, Lytton Fire, Climate Change, California wildfires etc.)

The success of the campaign will be determined by the ability to raise brand awareness, engage partner agencies and drive download and uptake of key resources. Additional objectives may include: increase understanding of wildfire behaviour and risk, increase FCNRP applications, and drive an uptake in CRI applications in target gap areas.

A detailed breakdown of the campaigns objectives, strategies and tactics can be found in the "Spring Campaign Communications Plan".

2. Summer Campaign

The Summer Campaign will be dependent on the severity of the wildfire season and the specific needs for messaging. Campaign messaging and objectives will similarly be driven by situational factors. The campaign will use targeted messaging to illicit action in key at-risk communities. Including:

- Following and understanding wildfire maps and fire danger rating guidelines
- Obeying Evacuation Orders and Alerts
- Making an evacuation plan
- Implementing short-term wildfire mitigation activities

A detailed look at the Summer Campaign scope and communications will be provided in Spring 2022.

3. Off-Season Messaging

Appropriate messaging will be identified and executed to inform audiences in the quieter Fall and Winter months. It is critical that messaging keeps the FireSmart BC program top-of-mind while also being mindful and sensitive to audience interest levels (e.g. avoid wildfire messaging burnout).

Emergency Planning Overview			
Key Focus Area	**Spring Campaign**	**Summer Campaign**	**Offseason Messaging**
Objectives	-	**TBD**	
Team	SP: JVM, BR, JS, MM, DG, AH FS: KW, AR, HM, KB	SP: JVM, BR, JS, MM, DG, AH FS: KW, AR, HM, KB	SP: JVM, MM FS: KW
Timeline	April-June	July-August	Sept - Feb
Reference Doc	**TBD (**Week of February 14th)	**TBD (**Spring)	**N/A**

INTERAGENCY COOPERATION

Overview

The interagency cooperation discipline in 2022 represents a significant opportunity to build upon values of collaboration. The year ahead is all about looking at audiences beyond the home/neighbourhood and engaging BC FireSmart Committee agencies, as well as government and industry partners to help build wildfire resilience across BC.

While the FireSmart program was built with a focus on grassroot community involvement, it is participation from bigger businesses, government at all levels and other key partnerships that will allow it to be truly effective. FireSmart is a shared responsibility, and more than a responsibility it is something partners should be accountable for. Ongoing partnerships and cooperation with various agency partners

will enable leveraging of collective strengths and amplification of FireSmart BC messaging.

The high-level objective is to provide partners with both the knowledge and resources they need to help expand the reach of the FireSmart program, while also using internal BCFSC reach to help broadcast partner messages to all audiences.

Key focus areas:

1. 2022 FireSmart Conference
Planning is already well underway for the 2022 FireSmart BC Conference. January through March will focus on fine-tuning logistics and promotion of the event. Leveraging the FireSmart BC network, email lists and other means to help get the word out. Additional consideration will be given to sponsoring attendance for target attendees to ensure the conference has a diverse audience representative of FireSmart stakeholders throughout BC.

2. Outside-the-home Resources
Building upon the initial progress made in 2021, further consultation with the advisory team created to guide this initiative will continue. The approach will be to start with partners that are already engaged (e.g. BC Parks) in FireSmart and go through the process of identifying, creating and distributing materials they need to help educate their team about FireSmart landscapes and structures. Once this initial process is complete, it will be refined and adapted for two additional partners.

3. First Nations Outreach
Our initial goal is to create accessible FireSmart resources for communities that currently lack the means or awareness to build wildfire resiliency. The first initiative within this outreach plan is the FireSmart USB project which will provide a package to First Nation/Indigenous communities including a USB drive and other materials to help them take initial strides in becoming FireSmart.

Interagency Cooperation			
Key Focus Area	**OtH Resources**	**FireSmart Conference**	**First Nations Outreach**
Objectives	-Create resources for 2 partners	-350+ attendees representing a diverse audience -Quality roster of speakers	-Create a USB package to distribute to FN across BC -Send out to FN

		-Smooth and successful event	
Team	SP: DG, MM FS: KW	SP: BR, MM FS: KB	SP: JVM, MM FS: KG, AR
Timeline	TBC	Jan-May	Jan - Mar
Reference Doc	**TBD**	**TBD**	**Outreach Plan**

LEGISLATION AND PLANNING

Overview

The legislation and planning discipline in 2022 will be focused around finalizing and distributing the BCFSC Lytton post-fire examination report as well as ongoing WUI research. Continuing progress of this discipline provides further legitimacy to the program and will be invaluable in informing and guiding future public policy as well as post-fire recovery efforts.

The high-level objective is to further substantiate the need for, and scientific underpinnings of, the FireSmart program. This foundation of information will be instrumental in driving ongoing funding opportunities.

Key focus areas:

1. WUI research project

FireSmart BC will enter into year two of the WUI research program with hopes of gathering data regarding how structures ignite and how fire travels with the WUI. Working with FPInnovations based on work done in 2021 the program will continue to evolve and capitalize off strong relationships with Structure Protection Branches built in 2021. SitePartners will provide filming support, document editing and upload solutions for evolving wildfire incidents.

2. Post-fire examinations

The BCFSC will publish, with the Institute of Catastrophic Loss Reduction, their findings of the post-fire examination conducted in Lytton. First steps will be taken to create a framework for future post-fire examination studies and incorporation of the Ignition Assessment System. The Lytton report will be finalized, designed and released to target

audiences in early 2022. A detailed distribution plan with specific knowledge-sharing targets will be created and executed upon.

3. Templated resources
Feedback from the Community Resiliency Investment Program (CRI) consistently shows that while applications have the best intentions on eligible activities within the legislation and planning discipline, they do not have the knowledge, background or understanding to follow through. Templated and good examples of by-laws, Development Permit Areas, Official Community Plans, and Community Wildfire Resiliency Plans would be instrumental in encouraging applicants to make changes within this discipline.

Legislation and Planning			
Key Focus Area	**Lytton Research**	**Ongoing WUI Research**	**Templated resources**
Objectives	-Widespread dissemination of our research report	-Multiple deployments during fire season -Lay the groundwork to roll out project to other provinces	-Create list of resources -Determine subject matter experts and authorities -Locate and obtain permission for good examples
Team	SP: JVM, BR FS: KW	SP: JVM, BR FS: KW	SP: JVM FS: KW
Timeline	Jan-Mar	April-Sept	Jan-Dec
Reference Doc	**N/A**	**N/A**	**N/A**

CROSS TRAINING

Overview
The Cross Training discipline focuses on using FireSmart networks and partnerships to share best practices and training opportunities. Fire Departments working with wildfire management and emergency management agencies is the predominant activity within this discipline. Training others and providing consistent background knowledge helps

spread the FireSmart message and grow the program. The year ahead will include collaborating with the RCMP to create a FireSmart 101 learning program specific to their work and involvement with wildfire as well as transitioning or replacing the current BC Wildfire Service Fire Warden program to the BCFSC FireSmart Ambassador program.

The high-level objective is to engage new audiences and to provide them the fundamental information and tools they need to get onboarded into the FireSmart ecosystem.

Key focus areas:

1. RCMP 101
Partnering with the RCMP training specialist within the Kamloops Region, FireSmart BC will develop a FireSmart basics course that will be piloted in BC and then made available to all of RCMP nationally. The course will provide background information on the FireSmart program and assist RCMP officers in knowing how to talk with authority on things like fire behaviour, evacuations, preparedness etc. The course will be available through the RCMP Agora platform and stand alone through the FireSmart BC website for other interested parties (i.e. municipal police). The course will be developed alongside a framework for further 101 courses to groups like Search and Rescue, Red Cross, etc.

2. FireSmart Ambassador Program
Currently, the BC Wildfire Service does not have a public outreach staff member dedicated to prevention and educating the public on FireSmart. Fire Wardens share messages that are mostly focused on prevention of human-cased fire and the program is utilized in differing ways and to differing effects across BC. The FireSmart Ambassador program would be a youth or permanent hire program that utilized BCWS hires to educate the public in face-to-face interactions about FireSmart. 2022 will focus on approval and development of the program and possibly a pilot.

Cross Training		
Key Focus Area	**RCMP FireSmart 101**	**FireSmart Ambassador**
Objectives	-Create RCMP FireSmart 101 Course -Create course framework	-Create program -Obtain approval -1 zone per fire centre onboarded to pilot program
Team	SP: MR FS: KW	SP: MR FS: AR
Timeline	TBD	TBD
Reference Doc	**N/A**	**N/A**

APPENDICES

Appendix A: Communications Tools & Channels

Below is a breakdown of the communications tools and channels that will be leveraged to support the key focus areas and further build upon strong digital foundations. Ongoing growth and integration of these channels will best support campaign based initiatives as well as on-going brand communications.

A major focus for 2022 will be that various channels work together in a way that is coordinated and consistent. For Example:

1. A FireSmart Plant Program video is uploaded to our website

2. A FireSmart Magazine article providing an expanded write-up on the video is posted

3. The Magazine article and video are launched on our social media channels

4. A Podcast Episode featuring a Plant Program personality is released

5. A FireSmart Newsletter (e-blast) is sent out to email subscribers highlighting the new article and podcast

6. Social Media channels share the content additional times as needed

Additionally, the content and messaging focus of these channels will be driven by the themes outlined in the 2022 Work Plan Communications Calendar

SOCIAL MEDIA

The FireSmart BC social media channels experienced considerable growth in 2021. Not only did the account following grow (40% avg. across all platforms), the quality, relevance and consistency of digital content took major strides forward. This progress will be built upon in 2022, with an added focus on ensuring content is both on-theme and continues to improve in calibre. Additionally, an increased focus will be placed on leveraging online networks to the fullest extent. This includes BCFSC member agencies as well as local government and other FireSmart community accounts online.

Objectives

1. Achieve account growth by an average of 30% across platforms: Facebook (aggregate of followers/likes), Instagram and Twitter

2. Develop and implement an ongoing paid ad budget and program to support ongoing growth and initiatives, this would include comprehensive reporting.
3. Increase participation by member agencies. This will be tracked through monitoring of their post sharing activity.
4. Execute at least 3 social media contests to better engage audiences.
5. Develop a content toolkit including: FireSmart photography, Video clips and graphics and share these assets effectively with online social media partners.

Supporting Documents
FireSmart BC Social Media Guidelines
2022 BCFSC Master Social Media Calendar

WEBSITE (includes Newsletter and Magazine)

The FireSmartBC.ca website has continued to expand and evolve as a central hub for information for both the general public and program partners. Ongoing efforts have been made to improve the user experience through a navigation update and its usefulness to partners through the LFR Den and FireSmart Toolkit.

Last year's wildfire season messaging resulted in a significant year for website traffic growth, with an over 100% increase in website traffic. All while maintaining site performance numbers (Session Duration, Bounce Rate) well above industry standards. The focus for 2022 will be to continue to improve and develop smaller sub-areas of the site including: The Virtual Landscaping Guide, LFR Den, FireSmart Toolkit, etc.

Additional components of the website ecosystem include the FireSmart magazine and newsletter. Both of these tools have been appropriately used to date but would benefit from increased effort and coordination to maximize their effectiveness.

Objectives

1. 50% increase in year/year web traffic
2. Launch of Virtual Landscaping Guide, Expansion of Ember's Den, Increase the inclusion of our resources (Indigenous Groups, More Audiences, More Structure/Property Types, etc).
3. 18 Magazine articles released, supporting our annual content calendar
4. 12 Newsletters sent out (an average of 1 monthly) while increasing our newsletter audience size by 25%

Supporting Documents
N/A

PODCAST

Launched last year, the FireSmart Podcast experienced strong initial success and was well-received by audiences. Growing this tool in 2022 will be achieved through an increased focus on alignment with the annual content calendar and a consistent cadence of episode releases.

Objectives

1. A minimum of 12 episodes released next year
2. Improve upon our “Avg. Plays per Episode” metric by at least 25% (currently 145)

Supporting Documents

Podcast Planning Document

VIDEO & PHOTO

Overview

Video has been a powerful tool for the FireSmart BC brand in recent years. It serves as a medium that can educate and inspire audiences, showcase the grassroots communities and inspire the people that define the program. FireSmart BC will effectively utilize video in the year ahead by continuing to evolve and diversify the storytelling approach to be more cinematic, impactful, on-message and occasionally, comedic. Video will additionally be a primary element in the execution of primary public-facing campaigns (Spring, Summer, Plant Program).

Brand Photography is an area that requires improvement in 2022. An increased focus will be placed on identifying and capturing photos that will support other marketing efforts as needed.

Objectives

1. Increase total video views by 25%
2. Leverage our library of video content to create new assets to support key disciplines (Education, Emergency Planning)
3. Conduct a minimum of three FireSmart photoshoots

Key Documents

FireSmart Weekly Project Status (Video Tab)

Appendix B: FireSmart BC Program Background

The FireSmart BC program is overseen by the BC FireSmart Committee (BCFSC), whose purpose is to: Collaboratively maintain and improve the delivery of the FireSmart BC program by ensuring improvement and development of the seven FireSmart disciplines to better support wildfire preparedness, prevention and mitigation. BCFSC is committed to aligning with FireSmart Canada as well as the national prevention and mitigation strategy.

The BCFSC works collaboratively with its members as it relates to communications to provide mutual support on related communications initiatives. This helps to amplify BCFSC messages, add value, leverage resources, and reach new audiences.

Initiated in May 2017 by the BC Wildfire Service, the BC FireSmart Committee members now consist of:

• Office of the Fire Commissioner

• BC Wildfire Service

• Fire Chiefs' Association of BC

• Forest Enhancement Society of BC

• Union of BC Municipalities

• Emergency Management BC

• First Nations' Emergency Services Society of BC

• Parks Canada

• BC Parks

• Indigenous Services Canada

• FLNRORD – Regional Operations

• FireSmart Canada

Appendix C: Reference Documents

FireSmart Key Messaging
FireSmart BC Social Media Guidelines
FireSmart Canada Marks Usage
2021 Communications Strategy
Weekly Project Status

BC FireSmart Committee Work Plan 2022
BCWS Prevention Program Overview 2020
FireSmart and Prevention Outcomes
BCFSC Terms of Reference 2020
BCFSC Strategic Plan

Appendix D: Research Breakdown - Brand Awareness

		Fire Centre					
Q23: Have you ever heard of FireSmart BC?	Overall	Northwest	Prince George	Cariboo	Coastal	Kamloops	Southeast
Yes, I have heard of it and am very familiar with it	5%	6%	9%	18%	3%	11%	9%
Yes, I have heard of it and am somewhat familiar with it	18%	19%	18%	23%	14%	37%	37%
Yes, I have heard of it but am not familiar with it	25%	41%	29%	29%	25%	24%	27%
No, I have never heard of it	52%	34%	44%	30%	58%	28%	27%

Item	*Photo of item*	*Estimated Cost per unit (350 units)*	*Estimated total cost*	*Member agency*
Teton Backpack		$17.16 & $80.00 logo set up fee	$6,006 & tax and set up fee	
Waterproof Matches with Case		$10.95	$3,832.50 & tax	
Blazing the Trail: Celebrating Indigenous Fire Stewardship https://firesmartcanada.ca/product/blazing-the-trail-celebrating-indigenous-fire-stewardship/		$10.00	$3,500 & tax	
20 L Collapsible Water Storage Container		$9.70	$3,395 & tax	

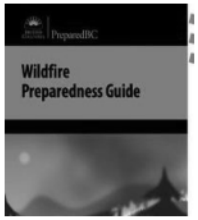
Item	*Photo of item*	*Estimated Cost per unit (350 units)*	*Estimated total cost*	*Member agency*
Paracord Bracelet		$8.99	$3,146.50 & tax	
Thunder UL Certified 7600 MAH Power Bank		$8.50 & $65.00 logo set up fee	$2,975 & tax and set up fee	
Seatbelt Cutter/Window Breaker		$8.00	$2,800 & tax	
Emergency 3 Wick Candle		$7.95	$2,782.50 & tax	
Can Opener		$5.45	$1907.50 & tax	

Item	*Photo of item*	*Estimated Cost per unit (350 units)*	*Estimated total cost*	*Member agency*
LED Flashlight		$5.11 & $60.00 logo set up fee	$1,788.50 & tax & set up fee	
Emergency Whistle		$2.27 & $65.00 logo set up fee	$794.50 & tax	
Aquatabs Water Purification Tablets: Canadian 100/Pack		$20.99 - 100/pack 35 pkgs @ $20.99/pack = 10 tablets per delegate bag	$734.65 & tax	
Emergency Blanket (foil)		$40.00 for 25 foil blankets 14 pkgs X 25 each = 350	$560 & tax	

FireSmart BC Member Agencies

1. FCABC
2. FireSmart Canada
3. BCWS
4. FNESS
5. BC Parks
6. FESBC
7. UBCM
8. ISC
9. EMBC
10. Parks Canada
11. FLNRORD Regional Ops
12. OFC

These items will also be added to the delegate bags.

FireSmart Begins at Home Manual		Supplied by FireSmart BC
FireSmart BC Landscaping Guide		Supplied by FireSmart BC
Prepared BC Wildfire Preparedness Guide		Supplied by EMBC

BC FireSmart Committee

AGENDA

Wednesday, February 16 and Thursday, February 17, 2022
Central Vancouver Island Ballroom
Hotel Grand Pacific, Victoria, BC and Via Zoom (links below)
Time: **0830 - 1600**

Members:		
Kelsey Winter, BCWS (Chair) Phil Lemire, FCABC Jay Zakaluzny, Parks Canada Lisa Barrett, EMBC/OFC Chris Hodder, BCWS	Gord Pratt, FESBC Danyta Welch, UBCM Garth Wiggill, FLNRORD Ray Ault, CIFFC Larry Price, FNESS	Larry Price, FNESS Dean Colthorp, FNESS (virtual) Lindsay Vandesteeg, BC Parks (virtual) Tony Fiala, EMBC (virtual) Simon Jourbarne, ISC (virtual)
Also in Attendance: Quentin Nelson, FNESS Kelly Osbourne, BCWS (virtual) Larry Watkinson, FCABC Greg Wilkinson, Earnscliffe Strategies	Cam McAlpine, Earnscliffe Strategies Joel Hamilton, FireSmart BC/FCABC Danica Gallaher, Site Partners Justin Van Mulligan, Site Partners	
Regrets:		
Secretariat: Karen Borden, FireSmart BC/UBCM		

DAY ONE

Join Zoom Meeting: s.15; s.17
Meeting ID: s.15; s.17

1	**Welcome and Roll Call**	Kelsey Winter, BCWS	0830 - 0840
2	**Process Review and Level Setting**	Cam McAlpine/Greg Wilkinson, Earnscliffe Strategies	0900 - 1000
Refreshment Break			*1000 - 1015*
3	**The Roof of the Strategy House** • Breakout Exercise • Plenary Exercise	Cam McAlpine/Greg Wilkinson, Earnscliffe Strategies	1015 - 1230
Lunch			1230 - 1300
4	**The Pillars of the Strategy House** • Plenary Exercise • Breakout Exercise	Cam McAlpine/Greg Wilkinson, Earnscliffe Strategies	1300 - 1600

Refreshment Break			1445 - 1500
5	**Preview of Day Two**	Cam McAlpine/Greg Wilkinson, Earnscliffe Strategies	1600 - 1630
DAY TWO **Join Zoom Meeting:** s.15; s.17 **Meeting ID:** s.15; s.17			
BC FireSmart Committee Meeting Agenda			
Administration		***Agency***	***Time***
1	**Approval of Agenda** *(motion required)*	Kelsey Winter, BCWS	0830
2	**Approval of Draft Minutes – January 20th, 2022** *(motion required)*	Kelsey Winter, BCWS	0830 - 0830
For Discussion			
3	**FireSmart BC Work Plan**	Kelsey Winter, BCWS	0830 - 0900
4	**FireSmart BC Literacy Program**	Helena Marken, BCWS	0900 - 0920
5	**FIreSmart BC Plant Tagging Program**	Helena Marken, BCWS	0920 - 0935
Motions for Approval			
6	**BCFSC Lytton Post-fire Examination Report** *(motion required)*	Kelsey Winter, BCWS	0935 - 0945
Standing Agenda Items			
7	**Standing Committee on Research** *(verbal)* *No update at this time*	Dean Colthorp, FNESS (Committee Co-Chair)	0945
8	**Standing Committee on Strategic Direction** *(verbal)*	Gord Pratt, FESBC (Committee Chair)	0945
9	**Home Partners Program Update** *(verbal)*	Joel Hamilton, FCABC	0945 - 0950
10	**FireSmart Canada Update** *(verbal)*	Ray Ault, CIFFC	0950 - 1000
11	**Community Resiliency Investment Program Update** *(verbal)*	Danyta Welch, UBCM	1000 - 1010
12	**Summary of BC FireSmart Resource Distribution through FESBC**	Gord Pratt, FESBC	1010 - 1020
13	**Additional Topics** *(verbal)*	All	1020 - 1030
14	**Next Meeting** Thursday, March 24, 2022	All	1030

Refreshment Break			1030 - 1045
15	**Foundation, Walls and Windows** • Plenary Exercises	Cam McAlpine/Greg Wilkinson, Earnscliffe Strategies	1115 - 1200
Lunch			1200 - 1230
16	**Foundation, Walls and Windows** *continued* • Plenary Exercises	Cam McAlpine/Greg Wilkinson, Earnscliffe Strategies	1230 - 1415
Refreshment Break			1415 - 1430
17	**Next Steps**	Cam McAlpine/Greg Wilkinson, Earnscliffe Strategies	1430 - 1600
18	**Adjournment**	Kelsey Winter, BCWS	1600


2022 FireSmart BC
Conference
Building Collaboration & Community

RE: Fire Spread? Report for Lytton

From: Clark, Darlene EMBC:EX <Darlene.Clark@Gov.bc.ca>
To: Peterson, Dave EMBC:EX <Dave.Peterson@gov.bc.ca>
Cc: Herie, Beth EMBC:EX <Beth.Herie@gov.bc.ca>, Iwama, Julia EMBC:EX <Julia.Iwama@gov.bc.ca>, Walker, Jennifer EMBC:EX <Jennifer.7.Walker@gov.bc.ca>
Sent: February 23, 2022 9:23:59 AM PST
Attachments: BCFSC Lytton post-fire examination FOR APPROVAL.pdf

Weyt-k,

Attached is the report that I have. It was sent to the Village Feb. 10th. Is this the same report?

Kukwstsétsemc.

Darlene Clark (she/her)
Manager, Community Recovery
Community Recovery Branch
Emergency Management BC
Office: (250) 312-6759 Cell: (250) 819-6534 Fax: (250) 371-5246
Follow us on Twitter @EmergencyInfoBC and @PreparedBC

Sent from the traditional territory of the Tk'emlúps te Secwépemc.

From: Peterson, Dave EMBC:EX <Dave.Peterson@gov.bc.ca>
Sent: February 23, 2022 05:22
To: Clark, Darlene EMBC:EX <Darlene.Clark@Gov.bc.ca>; Iwama, Julia EMBC:EX <Julia.Iwama@gov.bc.ca>
Cc: Herie, Beth EMBC:EX <Beth.Herie@gov.bc.ca>
Subject: Fire Spread? Report for Lytton

Hi Darlene. We heard yesterday that BC Wildfire Service has drafted a report on the fire in Lytton. Have you seen this draft? If so, please send it on to me as soon as possible. If not, I will go to Ian Meier directly for it.

I understand that this is not the long-awaited report into the fire cause itself but am worried that it will be confused with that report and will stir up lots of emotions in Lytton.

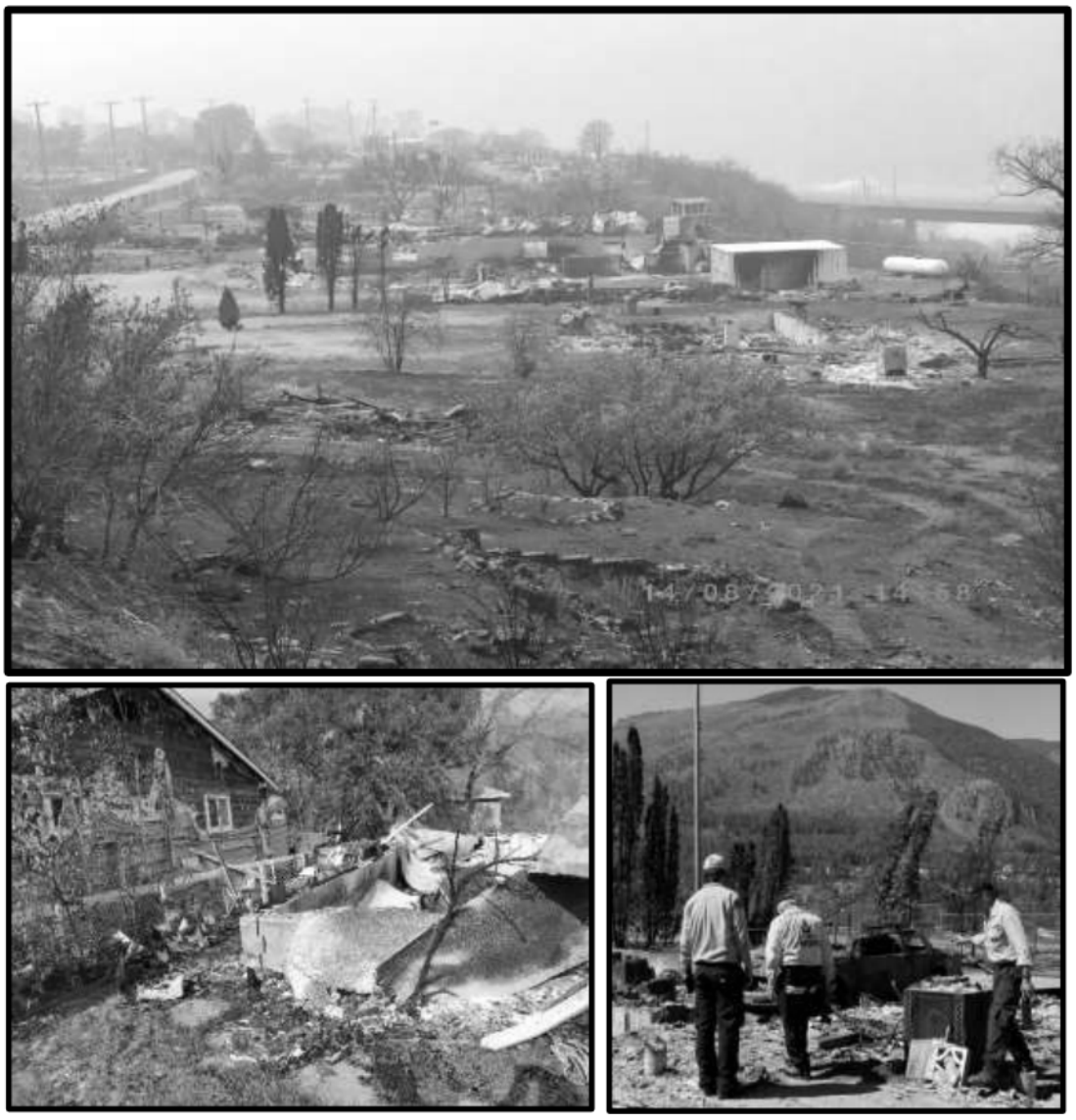
The sooner we sort this out the better, thanks.

Dave Peterson
Assistant Deputy Minister
Recovery and Funding Projects
Emergency Management BC

An examination of the Lytton, British Columbia wildland-urban fire destruction

Summary Report to the British Columbia FireSmart Committee

Prepared by:
Jack D. Cohen, PhD., Research Physical Scientist, Missoula, MT.
Alan Westhaver, M.Sc., ForestWise Environmental Consulting Ltd., Salmon Arm, BC.



Explanation for using the term "wildland-urban":

The term "wildland-urban interface" is a geographic classification that implies a geographic determination of community wildfire destruction. However, as we will later explain, the community location—the "interface," "intermix," or other classification—does not determine structure ignition vulnerability during an extreme wildfire. "Wildland" references wildfire, and specifically extreme wildfire, as the unique source of simultaneous ignitions across wide areas of the community. "Urban" references burning structures as a principal source of community fire spread and the resulting destruction of numerous community structures where people live and do business. Thus, we use the term "wildland-urban" (WU) fire without "interface" as a more appropriate reference to how W-U fire disasters occur, assessing community ignition vulnerabilities contributing to disastrous fire destruction and importantly, how to effectively create ignition resistant communities for preventing WU fire disasters.

The opinions expressed in this summary report are those of the authors and not necessarily those of the British Columbia FireSmart Committee.

Photographs: Frontispiece and all other photos by Alan Westhaver, unless credited otherwise.

Acknowledgements

We thank the British Columbia, FireSmart Committee for sponsorship of the Lytton wildland-urban (WU) fire examination. We are particularly grateful to Ms. Kelsey Winter, BC Wildfire Service and Chair of the Committee for championing this project, making arrangements for site access and facilitating our work at every stage. We also appreciate assistance from:

- Chief and Council of Lytton First Nation (LFN) who welcomed us onto their land and into their community.
- Elders Lucy Machelle and Fred Peters, who accompanied and advised us at Lytton. Your kindness, knowledge and hospitality were exceptional, especially given the disastrous circumstances in your community.
- Officials of the Village of Lytton, the Thompson Nicola Regional District, Emergency Management BC and the British Columbia Wildfire Service for arranging access.
- Those who lived the fire and agreed to provide interviews to help us better understand the June 30th, 2021 Lytton WU fire disaster.
- Kelly Johnston of FireSmart Canada and Brenden Mercer of the First Nations Emergency Services Society (FNESS) for assistance during the field examination, and technical support and critical thinking throughout.
- Cheryl Evans, Larry Price, Dean Colthorp, Mark Ackerman and others for their review of report drafts.

Dedication

Speaking on the nationally broadcast CBC radio show "*As it Happens*" in early July 2021, Councillor John Hogan of the Lytton First Nation spoke about the disaster:

> "***We want the whole country to be able to learn from this because hotter things are coming…. We have to get ourselves ready; we have to have things in place that are going to really assist communities in being able to resist wildfire threats and disasters that are going to be on a continual basis from here on in. We really want people to be cognizant, you just can't be dismissive of science and weather, and we have to really educate ourselves as best we can on how to help our climate, our environment and our fellow human beings.***"

We dedicate this report in the spirit of good will, with honor and respect for First Nations people and all Lytton residents enduring impacts of the fire and now faced with recovery. Our intention is to improve the understanding of how this community ignited and burned, what contributed to these losses, and to assist with recommendations for re-building in ways that can prevent a re-occurrence. We also hope this report will assist other communities to effectively prepare for and survive inevitable future wildfires.

Table of contents

List of figures

Executive Summary

The British Columbia FireSmart Committee initiated this examination of the Lytton Wildland-Urban (WU) 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.
- Making recommendations for readily attainable ignition resistant materials and designs, and best practices for rebuilding and maintenance of fire-resistant communities at the Village of Lytton and Lytton First Nations, Klahkamich (IR 17) and Klickkumcheen (IR 18).

The Lytton WU fire disaster site examination was conducted August 10 – 14, 2021.

The Lytton Creek Fire started the afternoon of June 30, 2021 just south of the Village of Lytton. Although the wildfire burned until contained in early August at over 83,000 hectares, the Lytton community was involved in the first several hours of the first afternoon leading to the disastrous community destruction. Nearly all the totally destroyed primary structures were in the three Lytton communities of the Village of Lytton (112 homes and businesses), Klickkumcheen (IR 18, 34 homes), and Klahkamich (IR 17, 5 homes) totaling 151 totally destroyed homes and businesses.

The extreme wildfire behavior at the Lytton community was a rapidly spreading surface fire due to high wind speed, high temperature and low relative humidity in fine dead fuels of grass, light shrubs and understory pine needle litter. The wildfire remained a surface fire without producing the large flames of a crown fire. Thus, the Lytton community was not exposed to a broad scale shower of wildfire burning embers. The uncontrollable extreme wildfire behavior was from high rates of fire spread that quickly developed into four separate paths that simultaneously spread along or spread to the boundaries of all three Lytton communities in less than one-hour.

The high wildfire spread rate resulted in the near simultaneous initiation of community ignitions along the boundaries of each Lytton community. Analysis of aerial reconnaissance photos revealed more than 20 primary structures burning at 1800 hours in the Village of Lytton, IR 18 and IR 17 without the presence of wildfire activity adjacent to the Lytton community. The wildfire quickly spread, quickly consumed the fine vegetation and burned out leaving the initial burning structures to continue fire spread within the community for about two hours without further wildfire influence.

Ignition and fire spread, whether wildland or urban, only occurs as a process that meets the requirements for combustion – a sufficiency of fuel, heat and oxygen. Post-fire observations of totally destroyed structures with adjacent green vegetation indicate the requirements for structure ignitions must have been met in close proximity to the structures. Science has shown that the ignition vulnerabilities of a structure in relation to burning objects on and within 30 metres of a structure principally determine its ignitions. This relatively small area of a structure and its immediate surroundings is called the *home ignition zone* (HIZ) and identifies where

the most effective activities must occur to prevent WU fire disasters without necessarily controlling extreme wildfires. Wildland-urban fire disasters are a structure ignition problem and an ignition resistance approach within the HIZ is how potential structure ignition vulnerabilities (fuel) and potential burning objects (heat) within 30 metres can be eliminated or reduced to create significant ignition resistance during extreme wildfire conditions. In a community of overlapping HIZs such as the Lytton community, the collective ignition resistant HIZs create an ignition resistant community resulting in low risk of destruction during extreme wildfires.

Wildfires are inevitable and during severe conditions, extreme wildfires are inevitable. The Lytton community experienced this inevitability. However, WU fire disasters are not necessarily inevitable. We have the readily available opportunity for taking an effective alternative ignition resistant structure approach for preventing WU fire disasters. Our current emergency response approach to wildfire is failing in two significant ways: 1) it is not restoring fire as an appropriate ecological factor and paradoxically, increasing the extent of detrimental ecological severity, and 2) fire control fails during extreme wildfire behavior and structure fire protection fails when extreme wildfire encroaches ignition vulnerable communities. We have the readily available opportunity to create ignition resistant communities and not only prevent WU fire disasters, but importantly, low community risk from wildfire will facilitate an expanded restoration of more wildland fire as an appropriate ecological factor.

Key Findings

1. Wildfire conditions were extreme, not from a high intensity fire spreading through tree canopies (crown fire), but from a rapidly spreading surface fire burning through grass, forest litter and shrubs, aided by largely short distance ignition spotting from a profusion of burning embers.
2. Given the Lytton wildfire conditions of rapid fire spread along four different fronts and necessary considerations for life-safety under such conditions, it is unrealistic to expect a successful initial attack wildfire suppression response.
3. Wildfire spread to Lytton community boundaries and initiated community ignitions in less than one-hour. Wildland surface fuel outside the community had burned well before 1800 hrs. and any continued influence from wildfire had ceased. By 1800 hrs., 20 primary structures were heavily fire involved and fire spread primarily from burning structures continued within the Lytton community without wildfire influence for 1.5 to 2 hours.
4. Surface fire and short-range spot fires from burning embers initiated multiple structural ignitions, largely at the edges of the Village of Lytton, IR 18 and IR 17 within 1 hour of the reported wildfire. Within one and one-half hours of the wildfire report (by 1800) more than 20 primary structures were significantly burning, distributed along the 4 wildfire Spread Paths in the Village of Lytton, IR 18 and IR 17. The rapid, simultaneous fire involvement of this many primary structures would have overwhelmed any reasonable municipal structure protection response in that region.
5. Structure ignitions during extreme wildfires are principally determined by the local ignition conditions of the home ignition zone (HIZ); that is, a structure and its flammable attachment's ignition vulnerabilities to burning embers in relation to burning materials within 30 m. An extreme wildfire provides ignition hazards from flames and burning embers; HIZ ignition vulnerabilities determine structure ignitions and community fire disasters. Hence, WU fire disasters are a structure ignition problem.

6. Lofted, wind-driven burning embers - principally from burning structures - initiated ignitions across streets to adjacent blocks of ignition vulnerable structures thus continuing fire spread through the Village of Lytton and IR 18.
7. Fire spread continued through the Lytton Community was principally determined by the highly vulnerable ignition conditions within individual HIZs, and by high structure-to-structure flame spread potential due to overlapping HIZs. Density of structures in Lytton-area communities was commonly increased by placement of highly ignitable sheds, workshops and other outbuildings close to primary structures.
8. The non-flammable exterior walls remaining until structure collapse prevented flame radiation and contact sufficient for ignition at the adjacent surviving house. This indicates an opportunity to use common building materials that mitigate structure-to-structure community fire spread where there are densely overlapping HIZs.
9. The Lytton WU fire disaster, as with previous WU fire disasters, occurred during extreme wildfire conditions; however, total building destruction does not indicate a high intensity wildfire flame exposure. Most structures are unprotected due to an overwhelmed structure fire response; thus, any sustained structure ignition from burning embers or contact with low intensity surface fire results in total destruction. For individual structures and collectively communities, ignition resistance is the most effective approach for reducing community wildfire risk and preventing WU fire disasters.

Based on our examination, these findings and accepted science, we close the report with recommendations for recovery, rebuilding and maintenance of wildfire-resilient Lytton communities. These have equal application to all other communities in wildfire-prone regions of Canada, whether they are existing or planned.

Four strategic recommendations point to the need for re-framing the fundamental WU fire problem (to one of structural ignition, rather than wildfire itself); and to shifting the focal point of individual and collective community efforts onto pro-active mitigation activities which will directly reduce the ignition vulnerability and exposure of homes, businesses and critical infrastructure. These are followed by more specific categorical recommendations addressing recognized “FireSmart” disciplines (e.g., vegetation management, building criteria, regulations, infrastructure, fire response capability and planned re-introduction of wildland fire to the surrounding landscape).

Most importantly, we advocate for a collaborative, community-wide approach that actively engages residents and local/provincial emergency management personnel in a long-term partnership to raise awareness of the WU fire problem, develop a functional framework for action, and motivate effective WU fire risk reduction activities by property owners and authorities, working together within the boundaries of the re-building community.

Background

Purpose of Lytton WU fire disaster examination

The British Columbia FireSmart Committee, a broad coalition of national, provincial and municipal emergency agencies, dedicated to mitigating losses from WU[1] fires, initiated this examination of the Lytton WU fire disaster.

The purpose of this examination is to:

a) Understand 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.
b) Communicate 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.
c) Make recommendations for readily attainable ignition resistant materials and designs, and best practices for rebuilding and maintenance of fire-resistant communities at the Village of Lytton and Lytton First Nations, Klahkamich (IR 17) and Klickkumcheen (IR 18).

This report is based upon intensive field observations made in Lytton August 10 – 14, 2021 by the authors with assistance from Kelly Johnston[2] and Brendan Mercer[3], and on imagery and first-hand oral reports gathered from a variety of sources.

Introduction

The Lytton wildland fire was reported on June 30, 2021 at 1638 (PDT) located south of the Village of Lytton. The wildfire rapidly spread as a surface fire primarily through fine dead vegetation to initiate structure ignitions at the periphery of the community. The Lytton wildfire burned until early August and grew to over 83,000 hectares (BC Wildfire Service); however, the wildfire affecting the Lytton community rapidly spread as a surface fire and initiated ignitions at the edges of the Lytton community within about an hour of the wildfire's ignition. Then without further wildfire influence, fire continued to spread through the Village of Lytton and Lytton First Nations, burning structures, vegetation and other flammable urban materials. The fire destruction of Lytton area communities occurred during the first afternoon of the Lytton wildfire on June 30. It resulted in 151 totally destroyed primary structures: 112 in the Village of Lytton, 34 in Klickkumcheen (IR 18), and 5 in Klahkamich (IR 17) (Fig. 1). Hereafter, we collectively refer to the Village of Lytton, Klickkumcheen (IR 18) and Klahkamich (IR 17) as the Lytton community; this was the spatial scope of this examination.

[1] See "Terminology Noted inside front cover of report
[2] Wildland Fire Professionals
[3] First Nations Emergency Services Society, Kamloops

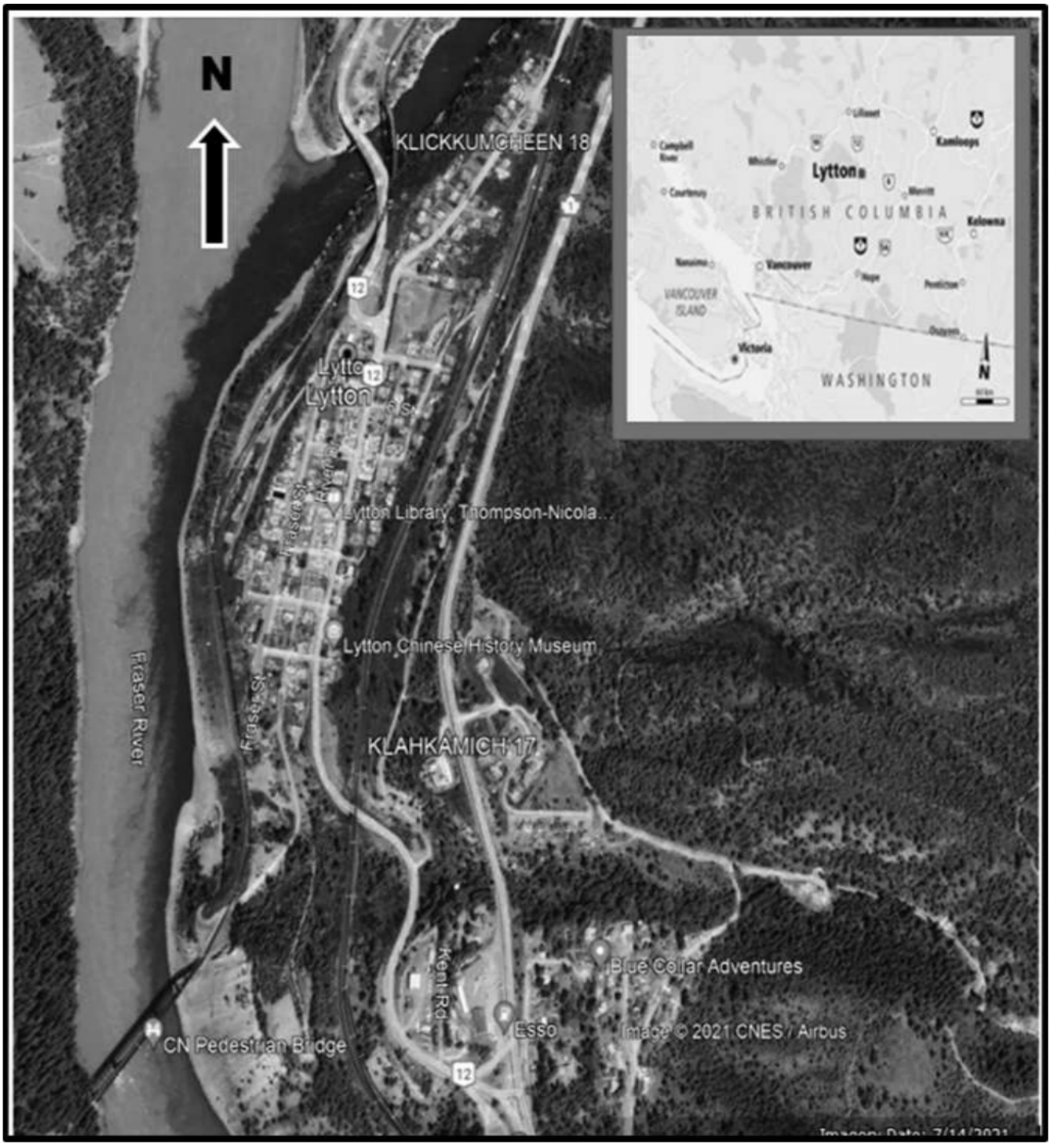


Figure 1: Lytton, British Columbia and the principal areas of examined community destruction.

Lytton location and community

Lytton, British Columbia (community population ~450 persons) is located about 260 km northeast of Vancouver (Fig. 1, inset). The community is situated on the east side of the steep sloped Fraser River Canyon, on a bench elevated above the confluence of the Thompson and Fraser Rivers.

Lytton, for the purposes of this report, is actually comprised of three distinct but adjacent jurisdictions. These are: the Village of Lytton with 120 primary residential and business structures, adjoining Klickkumcheen (IR 18) located immediately to the north with 35 primary structures, and Klahkamich (IR 17) upslope and about 500 m southeast across the Trans-Canada Highway 1 with 16 homes (Fig. 1). In total, about 179[4] primary structures comprised the three Lytton – area communities. The Village of Lytton and contiguous IR 18 area span a distance of approximately 1,300 m along the river. The Lytton community is positioned in one of Western Canada's busiest and most congested transportation corridors which includes the Canadian National (CNR) and Canadian Pacific Railways (CPR), the Trans-Canada Highway 1, and its junction with Highway 12.

The Village of Lytton was a mix of residential, business and public structures. IR 17 and IR 18 were primarily residential. The residential lots of all three Lytton areas typically had wood constructed homes with garages, sheds and workshops creating common separation distances of 2-5 meters between structures of all types, within and between lots. The Lytton business district along Main Street, was comprised of larger buildings, tightly spaced or sharing a common wall. The older buildings of the business district (estimated at 50+ years old) were largely wood construction. The map in Figure 1 provides street locations for later reference (Examination of community destruction section) when community fire location and progression are described.

The Lytton Creek wildfire

The Lytton Creek wildfire[5] ignited on June 30 at the peak of an unprecedented provincial heat wave. Province-wide, new wildfires were occurring at a rate of 40 per day, including two other nearby "wildfires of note" (George Road, June 09; Mc Kay Creek, June 30). The Lytton wildfire spread along the boundaries of each of the three Lytton area communities and initiated structure ignitions primarily at the community edges. These resulted in continued fire spread within the community without further influence from the wildfire (Fig. 2). Here, we describe the wildfire that initiated Lytton community ignitions in terms of the topography, significant fire weather before and during the wildfire, and the vegetative fuels primarily responsible for the type and spread of wildfire. Distinctly different from wildland fuels, community fuels include all combustible materials associated with structures and human residency and are responsible for determining ignition potential and fire spread within the built environment. Community fuels are described in detail later in the report.

Topography

The Village of Lytton, IR 17 and IR 18 are located near the bottom of a steep sided canyon at the confluence of the Fraser and Thompson Rivers. The Village of Lytton and contiguous IR 18 (Fig. 1) sit on a largely level bench that gently rises from south to the north, about 60 meters above river level. At the southern extent of the Village of Lytton, a steep (60%) south-facing slope drops 35 – 40 meters in elevation to a nearly level ½-hectare drainage basin. The basin is bounded by River Drive and near the CNR tracks. The Lytton Public Works yard is also south of Lytton Village and mid-slope between the basin and homes at the southernmost edge of the community. The west side of the Village of Lytton/IR 18 bench is bounded by a steep slope extending abruptly down past the CNR tracks to the Fraser and Thompson Rivers. The east side of the Village of Lytton Village and IR 18 ascends steeply with a series of steps occupied by the CPR tracks, several homes adjacent to the Old Trans-Canada Highway and then to the Trans-Canada Highway 1. IR 17 is located on moderate slopes, east of the Village of Lytton and above Highway 1.

[4] Data gathered by the First Nations Emergency Services Society

[5] Designated K71086 by the BC Wildfire Service, final size 83,671 hectares

Weather

Lytton and its regional area experienced high pressure that persisted from April through June. This resulted in significantly above average temperatures and below average precipitation. The total precipitation for the period April through June was about 5 percent of average with June receiving a negligible 0.8 mm.

Lytton[6] daily high temperatures for the 5 days, June 25 – 29, before the fire disaster were above 40° C with the all-time Canadian record high of 49.5° C occurring on June 29. The afternoon temperature on June 30 approached that record high. The inland regional area around Lytton also experienced similar temperatures. Combined with highly dissected terrain and specifically the deep, steep slopes of the Fraser River canyon, the sunlit slopes and high temperatures produced strong slope-canyon winds channeled up the river canyon. The canyon winds develop as slopes are heated and temperatures increase becoming strongest in the later afternoon between 1600 and 2000 with relative humidity decreasing to below 15 percent. On June 30, afternoon wind speeds in Lytton were reported at about 35 km/hr with gusts of 50 km/hr and greater. These are the conditions that prevailed as the Lytton Creek wildfire ignited, grew rapidly, and led to the initiation of multiple ignitions in community fuels.

Wildfire spread and intensity

Importantly, a relatively moderate intensity but rapidly spreading surface wildfire, principally burning along the ground in dead grass, dry low shrubs and deep accumulations of leaf and needle litter, was the predominant and most notable wildfire characteristic. A surface burning wildfire caused Lytton community ignitions; not a crown fire producing an extreme intensity “wall” of flame spreading through conifer tree canopies and long range (> ½ km) ignitions from lofted burning embers.

The oblique aerial photo (Fig. 2) taken shortly after the fire shows extensive amounts of unburned (green) tree and shrub canopies in the surrounding forest areas and within the community. The unconsumed canopy foliage substantiates that a high intensity crown fire did not occur; thus, could not be responsible for the resulting total fire destruction. Conversely, our on-site examination revealed nearly 100% of the surface fuel had been consumed with pervasive evidence of an intense burning ember exposure; for comparison, visualize a winter blizzard of snow pellets but the snow pellets are burning embers instead.

[6] Data from Environment Canada weather station, in Lytton

Figure 2: Green tree and shrub canopy foliage within the blackened areas of surface fire and adjacent to destroyed structures within the community. The photo does not include the IR 17 residential area that is off the scene to the center-right.

We graphically estimated the four separate principal paths of wildfire spread out of a small basin near the CNR tracks south-southwest of Lytton Village (Fig. 3). Spread along the four paths was simultaneous, but the spread rates were not necessarily equal. Figure 3 notations locate the basin (B) and Spread Paths numbered 1 to 4. Numbering of the Spread Path arrows does not imply chronological order, or an intensity ranking.

Figure 3: Arrows trace the estimated eventual Spread Paths of wildfire that exposed Lytton Village, IR 18 and IR 17 to flames and burning embers that initiated community ignitions

Spread Path descriptions:

(**1**) Fire spreads along the steep slope above the CNR tracks on the west side of Lytton;

(**2**) Fire spreads directly into the Lytton Village area south of 1st St;

(**3**) Fire spreads along the east side of Lytton Village on both sides of the CPR tracks and along the west side of Trans-Canada Highway 1; and

(**4**) Fire spreads up the steep forested slope across Main St and the CPR tracks to Highway 1 and across Highway 1 to the western edge of IR 17.

Wildfire and structure fire observation timeline

1610 – Personal observation of no observed smoke while walking south on Main St.

1638 – First recorded report of wildfire south of and toward the CNR tracks below and south of the Village of Lytton.

1649 – Personal observation at 5th St and Main apartment of smoke with ash and ember debris carried by a strong wind (Fig. 4b).

1654 – Personal observation of surface fire burning rapidly upslope towards CPR tracks, homes, Old TCH and Highway 1 at rear of Main Street buildings, opposite First Street. (Fig. 7a)

1709 – Personal observation while traveling north on Highway 1 past IR 17 that the wildfire had reached the west side of Highway 1.

1715 – Personal observation of heavy smoke originating from steep slopes between CNR tracks to rear of Fraser St. homes, and gusting to the north.

1716 – Personal observation from 5th St and Main apartment of structure fire in the vicinity of south Fraser St.

1718 – Personal observation while traveling south on Highway 1 past IR 17 that fire had crossed the highway and burning on the western side of IR 17 (Fig. 8a).

1720 – Personal observation of fire in IR 18

1830 – Personal observation across from the Post Office while leaving the Village of Lytton that spot ignitions of structures had occurred north of 6th St between Main and Fraser (Fig. 14).

Wildfire spread narrative

The following wildfire spread narrative is based on the observed wildfire timeline, the authors' on-site examination of the burn pattern and ember debris, evidence of weather/fuel conditions and aerial photos of the wildfire areas burned (Figs. 2 and 3). Computed wildfire rates of spread were used for comparison with observed wildfire locations.

The wildfire was likely burning in the basin, above the CN tracks when first reported. It spread across the discontinuous patchwork of bare soil and dead surface fuels in the basin (**B** in Fig. 3; Fig. 2, 4a), burning all of the available surface vegetation. Fuel discontinuities likely hindered wildfire spread within the basin (Fig. 4b); however, high temperature, low relative humidity, and southerly winds increased the likelihood of short-range spot ignitions by burning wind-driven embers propelled across gaps. Steep bluffs bordering the basin to the south (upwind) would have generated gusty, swirling wind characteristics enabling spot ignitions across fuel discontinuities within the basin. Given the observation of fire spreading along Spread Path **3** east of Main and 2nd St at 1654 hrs (Fig. 7a), we estimate the wildfire spread within the basin (**B** in Fig. 3) took 10 to 12 minutes before reaching the top of the basin and spreading along the four Spread Paths.

Spreading out of the basin (**B** in Fig. 3), the wildfire had more continuous dead grass and heavier accumulations of litter surface fuels on the northwest, north and northeast steep slopes (40 to 60 percent) of the basin. Beyond the basin, wildfire spread would have been more rapid, enabled by more continuous surface fuels resulting in Spread Paths **1**, **2** and **3** (Fig. 3) dominated by dead grass and increased exposure to strong south winds (Figs. 5, 6 and 7a and b).

Surface wildfire spreading east along Spread Path **4** primarily spread through a continuous surface layer of loose Ponderosa pine needle and twig litter until reaching Highway 1. Fire spread would have been largely dominated by steep slopes (30 to 60 percent) as the forest canopy and terrain shielded the understory from strong winds. Path **4** fire spread was exposed to strong winds upon reaching Highway 1 and likely spotted across into grass on the west side of IR 17. All of the wildfire Spread Paths would have been characterized by a ground blizzard of flaming and glowing embers that generated numerous spot ignitions in advance of the fire front, and able to stream across fuel gaps such as roads and a railroad bed.

Figure 4:
a) Discontinuous burned patches in the basin (B in Fig. 3) with the steep bluff in upper center of photo (left);

b) Smoke rising from vicinity of the basin (B) at 1649 hours, as viewed from Main and 5th St. (Zoey Shamley)

Figure 5: Spread Path 1 on the west side of the Village of Lytton and extending to IR 18 (left)

Figure 6: Spread Path 2 at the top of the basin leading into the Village of Lytton (right)

Figure 7:
a) Along Spread Path 3, east of Main & Second St., the Village of Lytton, burning at 1654 hrs. (Zoey Shamley)

b) Post-burn view of Spread Path 3 on the east side of the Village of Lytton extending up to IR 17 (right)

Figure 8:
a) Wildfire along Spread Path 4 reaching Highway 1 below IR 17 at 1709 (Zoey Shamley)

b) Post-burn view of Spread Path 4 leaving the basin to the east toward IR 17 (right)

Computed wildfire spread rates were applied to the Spread Paths (1, 2, 3 and 4) after the wildfire burned out of the basin. The computed fire spread rates confirmed the likelihood of wildfire rapidly spreading to encroach the boundaries of the Village of Lytton, IR 18 and the west side of IR 17. The "Wildfire observation timeline" above indicates wildfire had spread to and along the Lytton community boundaries within about 40 minutes from the reported time of fire (1638). Using the Canadian and U.S. fire behavior systems and guidance from the fire behavior that occurred, wildfire rates of spread were computed for continuous short grass (Spread Paths 1, 2 and 3), and typical understory surface litter of a long-needle pine forest (Spread Paths 4).

Canadian and U.S. equivalent fine fuel moisture inputs (FFMC – 96.4 and about two-percent moisture content) were used for all fine fuels. A constant 40 km/hr wind speed and zero slope was used for short grass fuels (Paths 1, 2 and 3). Calm wind (pine canopy sheltered, 0 km/hr wind speed) and 50 percent slope were used for understory pine litter (Path 4). The computed spread rate for Spread Paths 1, 2 and 3 ranged from 150 m/minute to 230 m/minute; the computed spread rate for Spread Paths 4 ranged from 20 m/minute to 40 m/minute. Using the lowest computed spread rate, fire spread spanning Spread Path 1 (1,300 m) and similarly for Spread Path 3 would have taken less than 9 minutes. Fire spread along Spread Path 2 (150 m) to the Village of Lytton, south would have occurred within one minute and along Spread Path 4 to IR 17 would have taken less than 30 minutes.

Key Finding (1): Wildfire conditions were extreme, not from a high intensity fire spreading through tree canopies (crown fire), but from a rapidly spreading surface fire burning through grass, forest litter and shrubs, aided by largely short distance ignition spotting from a profusion of burning embers.

Key Finding (2): Given the Lytton wildfire conditions of rapid fire spread along four different fronts and necessary considerations for life-safety under such conditions, it is unrealistic to expect a successful initial attack wildfire suppression response.

Examination of community destruction

The examination of the home destruction started on August 11, five weeks after the Lytton community destruction occurred. Typical of post-fire examinations, the total destruction of structures had eliminated most evidence of ignition vulnerabilities and where and how many ignitions led to the fire destruction. Although there was minimal disturbance to most totally destroyed building sites (i.e., within 0 – 30 m. from structures), details of conditions contributing to structure ignition potential were also severely diminished. For example, vegetation and structure conditions at the time of the fire were not evident at the time of examination thus limiting our ability to reliably evaluate fire exposures and ignition vulnerabilities. As is common in post WU fire examinations, no attempt was made to assign specific causes of structure ignition; however, we categorically determined whether structures could have ignited from high intensity wildfire or must have ignited from burning objects near the structure and/or directly from burning embers. The significant benefits of images in Figures 2, 4a, 6, 7b, and 8a, b is to highlight post-fire unconsumed, and still green vegetation leading to and adjacent to totally destroyed structures.

Aerial photo time sequence, general analysis of fire spread in the community

The following 3 aerial photos[7] reveal disconnected areas of structures burning in the Village of Lytton, IR 18 and IR 17. The photos span 29 minutes beginning at 1800 (82 minutes after the fire was reported) and thus continue the timeline of wildfire observations presented above.

The following aerial photos and analysis provide details that reveal:

[7] Taken by responding BC Wildfire Service air attack officers.

- There is no wildfire burning adjacent to or toward the Lytton community at 1800 hrs; community fire spread and burning to total destruction is continuing without a wildfire influence;
- The burning structures are adjacent to or downwind from the wildfire Spread Paths identified in Figure 3;
- The ignition and burning of community structures has not occurred in a contiguous, “line” fire spread pattern through the community;
- Over 20 heavily fire involved structures are burning in the initial 1800 hrs photo;
- Structure-to-structure ignitions are occurring from the initially ignited sheds, homes and businesses;
- The elapsed time between home burning, to fully involved, to collapse into smoldering debris is an hour or less.
- Highly tilted smoke columns from burning structures indicate strong south winds influencing potential structure-to-structure flame exposure and short-range, downwind deposition of burning embers from burning structures.

Figure 9: Aerial photo at time 1800 hrs. (BC Wildfire Service photo)

1800 photo

Less than 1.5 hours after the Lytton Fire was reported (1638 hrs), the community in this scene is burning without any active wildfire adjacent to the community. Blackened areas on the perimeter show where the wildfire has burned adjacent to the community; it has since burned out and is no longer smoking after consuming the fine fuels. As well, there is no evidence of high intensity crown fire in the green-canopied forest surrounding the community.

Burning structures (Fig. 9, numbered yellow dash ovals) are associated with the previously discussed wildfire Spread Paths 1 – 4 (Fig. 3). The spacing and similar degree of structure fire involvement spanning Path 1 (**1** oval) supports an assumption of near simultaneous structure ignitions due to the rapid fire spread.

Burning structures along the Lytton community perimeter indicates the surface wildfire-initiated ignitions of flammable materials on private property that spread to then ignite structures. Ignitions have been initiated in IR 18 and a fully involved structure is burning (Fig.9, upper left **1** oval). Smoke is likely obscuring other structures that may be burning in IR 18. Ignitions of structures and nearby urban fuels initiated by Spread Path 2 have resulted in community fire spread with structures burning in the southern part of the Village of Lytton (**2** oval). Similarly, Spread Path 3 initiated home ignitions along the old Trans-Canada Highway and has resulted in several homes burning (**3** oval). Homes and sheds are burning in IR 17 initiated from Spread Path 4 (**4** oval). Over 20 primary structures are burning.

Figure 10: Aerial photo at time 1813 hrs. (BC Wildfire Service photo)

1813 Photo

Thirteen minutes later most of the structures south of 1st St are completing consumption (**A** oval). Just to the west, structures between Fraser St and River Dr continue to burn vigorously. Although smoke obscured, the Village of Lytton north of 2nd St between Fraser and Main St (**B** oval) does not show significant fire involvement. However, the contiguous fire involvement west of Fraser St and east of Main St north of 2nd is becoming increasingly fire involved indicating structure-to-structure fire spread (**C** ovals). For example, the buildings of and around the Totem Motel on the west side of Fraser St between 2nd and 3rd St have become more involved, and just north of there, the Catholic Church and the front of the pool building and Chamber of Commerce appear to be burning. The homes burning along Spread Path 3 (Fig. 3) are now in the final stage of consumption (**D** oval).

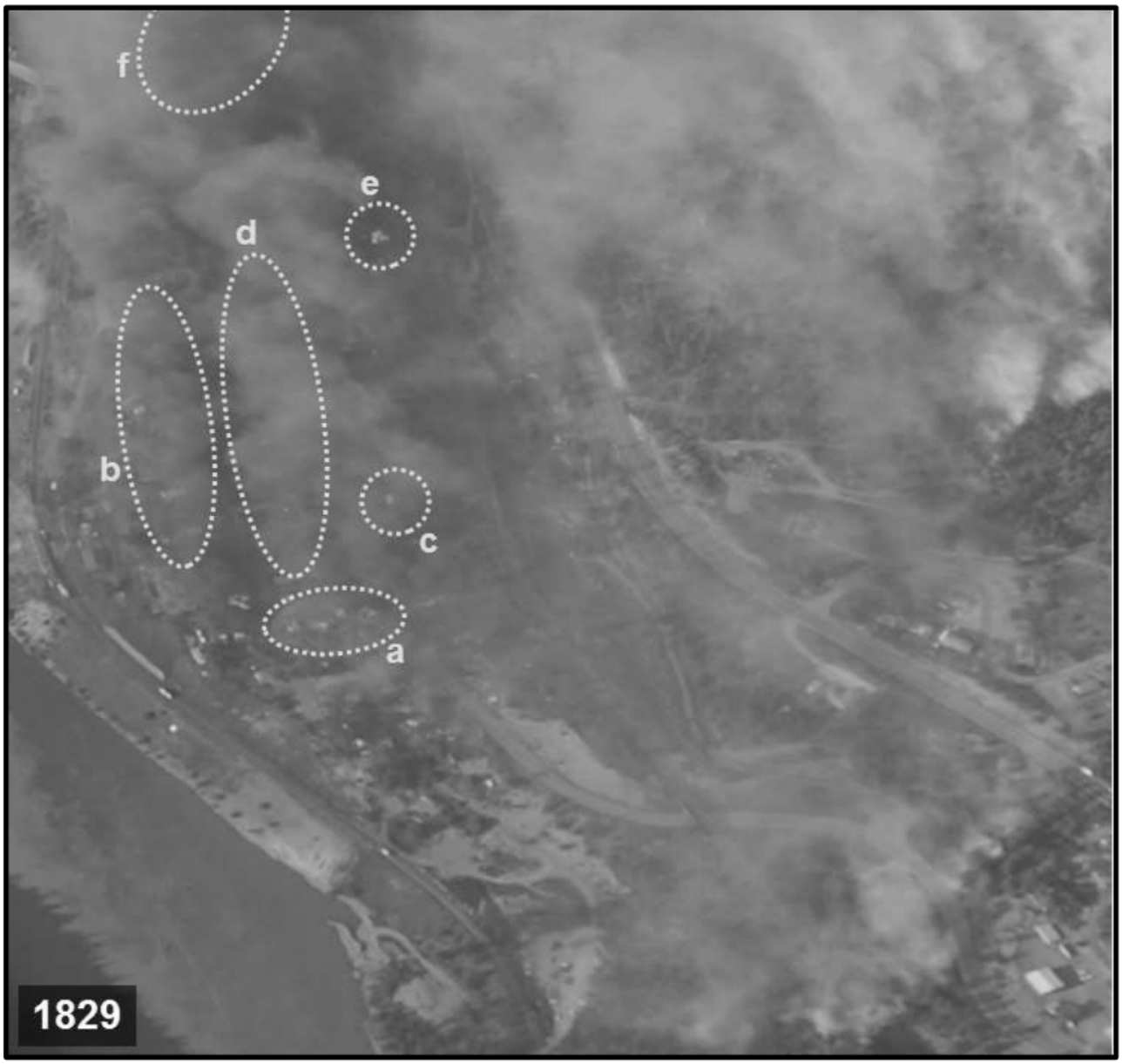


Figure 11: Aerial photo at time 1829 hrs. (BC Wildfire Service photo)

1829 photo

In the 16 minutes since the last scene, all the structures on the south side of 2nd St from the west side of Fraser St to the east side of Main St are burning (**a** oval). Most of the structures burning south of there have largely been consumed. Structures on the west side of Fraser St continue to burn (**b** oval). Compared to Figure 10, it appears the Totem Motel structures have largely been consumed with the Catholic Church in the last stages of consumption (southern portion of **b** oval). Fire has advanced north on the east side of Main at 3rd St (**c** oval). The Village of Lytton north of 2nd St between Fraser St and Main St has yet to start significantly burning (**d** oval). A structure on the east side of Station St and 7th St is fully involved (**e** oval). Although obscured by smoke and not evident in the above Figure 11, the original photo reveals "glows" of flame indicating a number of involved structures in IR 18 (**f** oval).

Specific time sequence analysis, burning structures in the south Village of Lytton

Figure 12: South Lytton Village at 1800h, 1813h, and 1829h. Photos are referenced to one another by a yellow x on two different buildings with turquoise-colored roofs. Yellow arrow locates the surviving home of interest.

1800 – The yellow arrow identifies the house that did not burn. The neighboring house to the south is burning; the house on the north side (red roof) is not. Across Fraser St. from the surviving house is a structure becoming fully fire involved.

1813 – The house burning south of the survivor house is not showing significant flame indicating it has largely been consumed. There is no indication of fire protection at either 1800 or at 1813. The house to the north of the survivor has yet to exhibit signs of ignition. The structures directly across Fraser St from the survivor show an increase in intense fire involvement.

1829 – The structures directly across Fraser St from the survivor home have been consumed. Now the adjacent house to the north is significantly involved, despite not showing involvement at 1813.

Specific time sequence analysis, burning homes in IR 17

Closer analysis of burning homes in IR 17 provides more detail of how the homes ignited and burned than is apparent from a post-fire examination. The ignitions in IR 17 resulted from Spread Path 4 (Fig. 3), to the east and above the Trans-Canada Highway. Specifically, a “ground blizzard” of burning embers streaming across Highway 1 ignited surface fires, largely in dead grass, along the western edge of IR 17. Surface fire and ember deposition in cured grass and leaf litter most likely initiated ignitions on residential property that spread in vegetation, sheds and debris to ignite the five destroyed homes.

Figure 13: Time progression of 5 destroyed houses in IR 17. Each photo references the houses with yellow letters a – e.

1800 – Each of the five residential lots, **a** – **e**, have structures burning but only 3 homes are involved at 1800. The two homes not yet involved, **b** and **e**, both have sheds burning. The burning house, **d**, is fully involved suggesting it was the first to have significant structure flame spread. The house next door to the south, **c**, is heavily involved on the side adjacent to the burning house suggesting a structure-to-structure thermal influence. House **a** is smoking but does not show significant exterior flaming.

1813 – The initial burning home, **d**, has collapsed to a burning debris pile and the adjacent house to the south, **c**, is now heavily involved. The house, **a**, that had been smoking at 1800 is now fully involved. The house to the north, **e**, with the shed burning, is now fully involved. The other house, **b**, with a burning shed does not show signs of significant fire involvement.

1829 – The burning homes **a**, **c**, **d** and **e**, are largely consumed. Notably, house **a**, was only smoking at 1800, fully involved at 1813 and at 1829, shows little flame indicating near consumption in roughly 30 minutes. Similarly, the isolated house **e**, was not showing involvement at 1800, fully involved at 1813 and is in the last stage of consumption at 1829. Structures **d** and **c** appear to have burned the longest. House **b** shows no appearance of ignition; however, it burned to total destruction after 1829.

Structure ignitions in the north Village of Lytton

The following photo (Fig. 14), taken in a northwesterly direction at 1830 hrs, shows the Post Office (left) and two homes (right) that have ignited and are beginning to burn. Contiguous fire spread could not occur due to fuel gaps from streets and discontinuous fuels commonly between structures; thus, burning embers became the primary ignition source. This produced the structure "spot fire" ignition pattern of structures downwind of other burning structures. Except for the Post Office, all the primary structures bounded by Main and Fraser St, and 6th and 7th St were totally destroyed from ember-initiated ignitions.

Figure 14: Structure ignitions from burning embers in the Village of Lytton, at Main St and 6th at 1830 hrs. Smoke obscured this area in the 1829 hrs photo (Fig. 11) preventing a photo determination of the initial burning in the north Village of Lytton that is provided by this photo.

Examination overview

Aerial photo analysis confirmed the wildfire had primarily spread in surface fine fuels along with short-range spotting from burning embers. The wildfire spread along four different Spread Paths initiating community ignitions at the perimeter of the Lytton community. The photo analysis in conjunction with first-hand observations of the fire timeline indicated rapid wildfire spread resulting in near simultaneous ignitions of multiple structures. The 1800 hrs. aerial photo (Fig. 9) reveals more than 20 burning structures in a similar stage of significant fire involvement after a wildfire influence. The absence of destroyed structures at 1800 hrs and the progression of fire involvement and destruction in the two following aerial photos, indicate the burning structures at 1800 were the first to ignite from wildfire.

The burning Lytton community independently continued the spread of fire, leading to its own total destruction in about 2 hours after the wildfire had ceased burning at the community perimeter. Similar to previous examinations of WU fire disasters (Cohen 2000; Cohen 2003; Cohen and Stratton 2003; Cohen and Stratton 2008; Graham et al. 2012; Cohen 2016), the total destruction of a structure occurred within about an hour after the beginning of the structure's significant fire involvement. From the stage of burning at 1800 hrs (fig. 9), we estimate the burning structures at 1800 hrs had been significantly fire involved for 20 to 30 minutes. Thus, most of the significant structure burning would have started at 1730 to 1740 hrs. This is supported by a personal observation at 1716 hrs indicating a burning structure at the southern extent of Fraser St on Spread Path 2. The simultaneous burning of more than 20 dispersed primary structures in the Village of Lytton, IR 18 and IR 17 in little more than one-hour after the reported discovery (1638 hrs) would have overwhelmed any realistically available structure protection (see Fig. 22, WU Fire Disaster Sequence).

The previous wildfire time line discussion determined the wildfire, spreading at Lytton community boundaries, initiated ignitions in urban fuels along the community edge (but not necessarily structures directly) within about 40 minutes (1638 - 1720 hrs). The Figure 11 and 14 photos indicate that by 1930 hrs, most structures in the Village of Lytton, IR 18, and the 5 homes in IR 17 had either been totally destroyed or were significantly burning. The Lytton community supported continued fire spread for about 2 hours without further wildfire influence.

Given total destruction, we could not specifically determine particular vulnerabilities or how structures ignited from our site examination. The following section, "How structures ignite" will show how flammable materials leading to, or on, ignition vulnerable structures would have contributed to their ignition during the Lytton community WU fire.

Key Finding (3): Wildfire burning in light surface fuel and short-range spot fires from wildfire embers initiated multiple structural ignitions, largely at the edges of the Village of Lytton, IR 18 and IR 17 within 1 hour of the reported wildfire. Within one and one-half hours of the wildfire report (by 1800) more than 20 primary structures were significantly burning, distributed along the 4 wildfire Spread Paths in the Village of Lytton, IR 18 and IR 17. The rapid, simultaneous fire involvement of this many primary structures would have overwhelmed any reasonable municipal structure protection response in that region.

Key Finding (4): Wildfire spread to Lytton community boundaries and initiated community ignitions in less than one-hour. Wildland surface fuel outside the community had burned well before 1800 hrs and any continued influence from wildfire had ceased. By 1800 hrs, 20 dispersed primary structures were heavily fire involved and fire continued to spread primarily from one burning structure to another within the Lytton community without wildfire influence for another 1.5 to 2 hours.

How structures ignite

The science of structure ignition during extreme wildfires

Fire, whether wildland or urban, is determined by meeting the requirements for combustion at the fuel location. Thus, fire is a process, not a thing that moves from location to location. During WU fires, structures ignite and burn when the requirements for combustion – sufficient fuel, heat and oxygen – are sustained at one or more places on a structure. We know this as the "fire triangle." However, in the case of WU fire (Fig. 15), the structure

is the "fuel" and burning embers on the structure and all things burning adjacent to the structure (including other structures) are the "heat." Oxygen is always sufficient in this context.

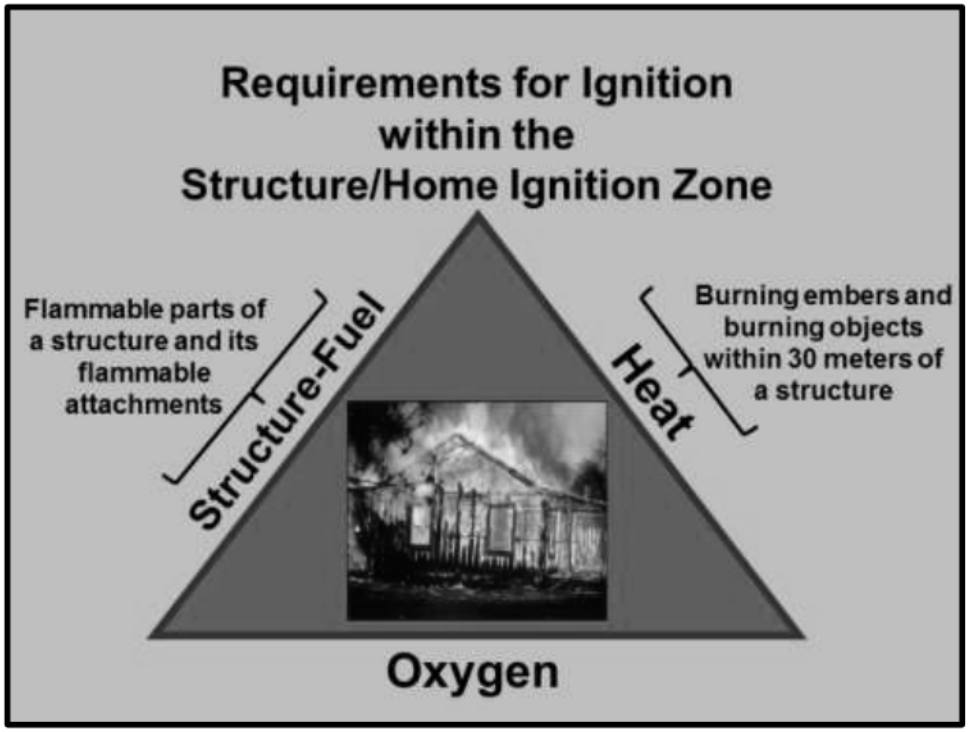


Figure 15: **The fire triangle for WU fire designates structures as the "fuel," and burning embers on the structure and burning materials immediately surrounding the structure as "heat."**

Following from fire as a process and structures being the fuel during WU fire, we define community fire destruction during extreme wildfires in terms of the requirements for combustion:

> ***Wildland-Urban fire occurs when the wildfire spreads from wildland fuels (Wildland) to community fuels (Urban); that is, the homes, businesses, vegetation, vehicles and any other flammable objects within the built environment. For this to occur the wildfire must be close enough for its lofted burning embers and/or flames (sufficient heat) to ignite community fuels leading to burning structures (sufficient fuel).***

Available science (Cohen 2000; Cohen 2003; Cohen and Stratton 2003; Cohen 2004; Cohen and Stratton 2008; Cohen 2010; Graham et al. 2012; Cohen 2016; Westhaver 2017) shows how local conditions at a structure determine its ignition during extreme wildfires. That is, given an exposure to burning embers or flames, a structure's ignition characteristics (vulnerabilities) in relation to burning materials (heat exposure) in its immediate surroundings principally determine structure ignitions during extreme wildfire. Importantly, science has shown the large flames of high intensity crown fire (and thus lesser intensities) are not sufficient to ignite a structure's wood wall beyond 30 metres.

This knowledge resulted in a foundational concept of wildfire loss mitigation, known as the H*ome/structure Ignition Zone* (HIZ, Fig. 16). The HIZ encompasses a home/structure in relation to three surrounding zones of

influence. Collectively, conditions within the HIZ principally determine the potential for a home, or any structure, to ignite during extreme wildfires. The HIZ incorporates all aspects of structure design and materials, as well as all potential sources of ignition exposure from embers and burning materials (vegetation, other structures and objects, and debris).

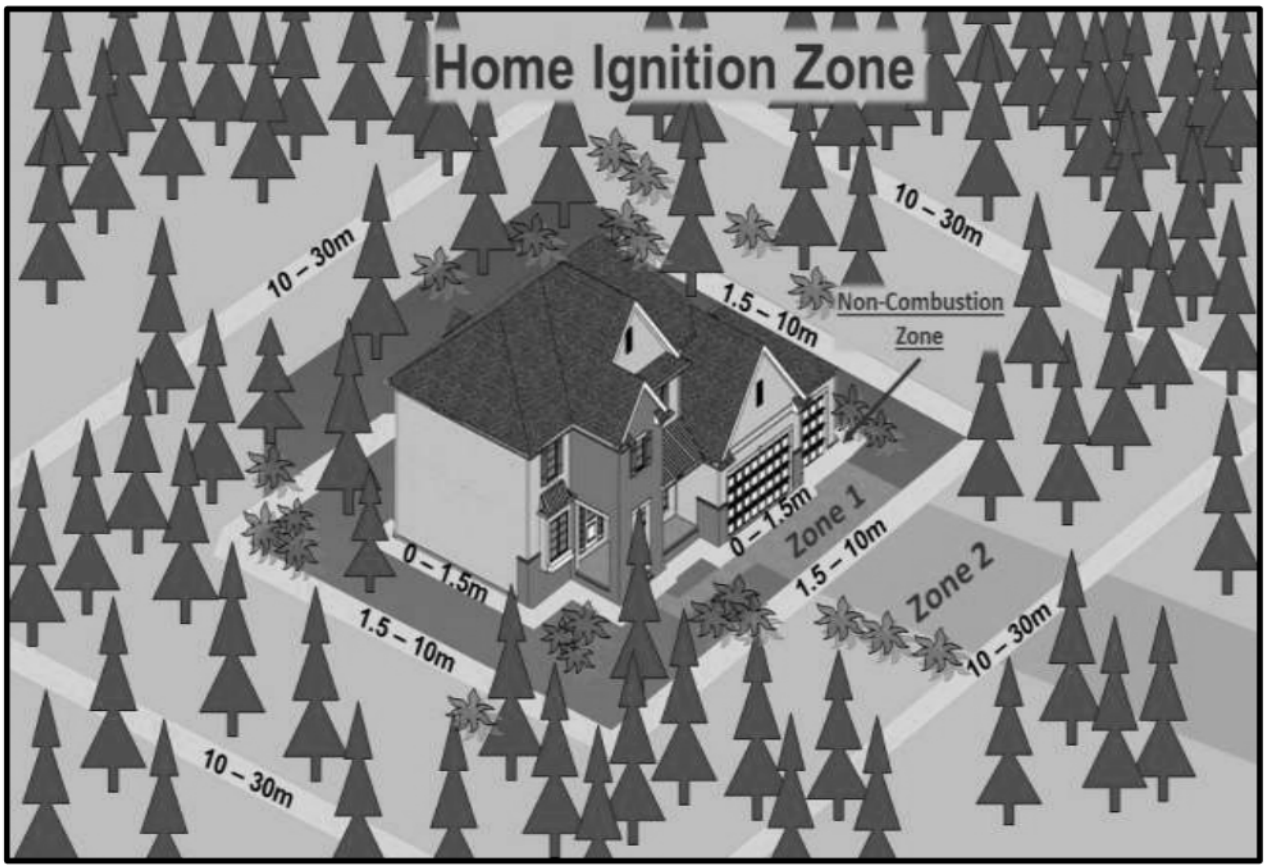


Figure 16: The Home Ignition Zone (HIZ)

The example HIZ in Figure 16 does not overlap with other HIZs, but in reality it is very common for neighboring homes and other structures to share common HIZ space. Such overlaps do not change how structures ignite but do change the social dynamics, requiring shared responsibility for creating ignition-resistant homes, businesses, and collectively, communities.

Thus, structure ignitions from flames occur from fires burning within the HIZ; that is, within 30 metres of a structure/home and its flammable attachments. Fires within the HIZ either spread into the HIZ from outside, or burning embers ignite flammable materials within the HIZ. Importantly, structure ignitions from burning embers, whether from wildfire or the burning community, require the burning embers to contact and accumulate on flammable structure surfaces before ignitions can occur. Extreme wildfires may initiate ignitions within HIZs, but the ignition conditions of HIZs, and collectively the community, principally determine the development of a WU fire disaster.

Wildland-Urban fire spread is commonly sustained by the burning community, principally structures as well as vegetation and other materials. Previous WU fire disaster examinations (Cohen 2000; Cohen and Stratton 2003;

Cohen and Stratton 2008; Graham et al. 2012; Calkin et al. 2014) determined that fire spread within a community, particularly communities with overlapping HIZs, occurred hours after the wildfire ceased significant burning near the community. Hence, disastrous community fire destruction during extreme wildfires is a structure ignition problem not a wildfire control problem.

Key Finding (5): Structure ignitions during extreme wildfires are principally determined by the local ignition conditions of the home ignition zone (HIZ); that is, a structure and its flammable attachment's ignition vulnerabilities to burning embers in relation to burning materials within 30 m. An extreme wildfire provides ignition hazards from flames and burning embers; HIZ ignition vulnerabilities determine structure ignitions and community fire disasters. Hence, WU fire disasters are a structure ignition problem.

Examples illustrating how HIZs determine ignitions

Figure 17: Post-fire Lytton Village scene between 1st and 3rd Streets on July 12. The yellow X identifies the surviving house identified by a yellow arrow in Figure 14 (First Nations Emergency Services Society of BC).

Figures 9 - 11 above generally revealed the Village of Lytton structure fire involvement and progression during the brief period from 1800 to 1829 hrs. Closer examination of events within shared HIZs and between HIZs reveals more about the evolving disaster.

This post-fire view of a southern area of the Village of Lytton shows the overlapping HIZs typical of the community (Fig. 17). With the exception of the small lower left area identified as Spread Path 1, this scene had no wildland fuel. Surface fire in short, dry turf grass within the HIZs was likely initiated by embers and continuous low intensity surface fire from wildfire behind the two houses (dark area burn marks at lower left) south of the surviving house (yellow **X**). The house south of the surviving house (dashed yellow rectangle, Fig. 17) was burning at 1800 and largely consumed by 1813 (Figs. 9 and 10).

Here, with the context of burning structures on both sides, we specifically examine a house on the west side of Fraser St just north of 1st St (identified with the yellow **X**) that survived the Lytton Fire without apparent evidence of protection.

The house north of the surviving house (dashed yellow rectangle) was not burning at 1813 and significantly involved at 1829 (Fig. 11). There are no dark burn marks from surface fire within 5 metres of the surviving house unlike the adjacent houses that did burn. Science tells us the requirements for sustained ignition were determined by ignition conditions immediately adjacent to the two burned houses (Cohen 2000; Cohen 2003; Finney and Cohen 2003; Cohen and Stratton 2003; Cohen 2004; Cohen and Stratton 2008; Cohen 2010; Calkin et al. 2014; Cohen 2016). Although likely exposed to embers and radiant heat, the surviving house clearly did not meet the requirements for sustained ignition; further details are discussed with Figures 19a, b below. The thermal exposure to the surviving house from burning structures directly east across Fraser St (yellow coarse dashed rectangle) did not produce a sufficient ignition exposure. Expanding our view to the north reveals totally destroyed structures that ignited and burned well after local wildfire activity ceased. These structures ignited from the embers lofted across streets from already burning structures. Structure-to-structure fire spread from flames, as well as burning embers, spread fire within each block of buildings.

<u>Key Finding (6)</u>: Lofted, wind-driven burning embers - principally from burning structures - initiated ignitions across streets to adjacent blocks of ignition vulnerable structures thus continuing fire spread through the Village of Lytton and IR 18.

Outbuildings and other flammables

Outbuildings such as storage sheds, workshops, play structures, garages and lean-to's (Fig. 18) in effect, increase the structure density of HIZs. When they ignite and burn, they can become significant ignition sources within the HIZ (see Fig. 13 and discussion). Outbuildings are potentially vulnerable to direct ember ignitions due to gaps and openings at doors, windows, under eaves, etc. The firewood shed (right photo) is highly vulnerable to ember ignition and if burning will assure the home's destruction. However, outbuildings are commonly ignition vulnerable from fire spreading to them or adjacent debris. For example, the shed in Figure 18 (left photo) has dead grass continuous to the wall, debris at the rear and an adjacent wood fence at the property boundary. Commonly, a wood fence at the property boundary has continuous dead vegetation and debris outside the fence. The destroyed outbuilding in the center photo was next to a wood fence adjacent to continuous wildland vegetation outside. The wildfire burned through continuous vegetation to ignite the fence leading to the shed. Outbuildings are commonly positioned close to homes, potentially becoming critical sources of ignition exposure to adjacent homes.

Figure 18: Outbuildings such as the shed on the left are ignition vulnerable from fire spreading in dead grass, flammable debris or a wood fence to contact and ignite it or directly ignite from burning embers such as the firewood on the right. Once ignited, the burning outbuilding or adjacent firewood ignites the house or business.

<u>Key Finding (7):</u> Fire spread continued through the Lytton Community was principally determined by the highly vulnerable ignition conditions within individual HIZs, and by high structure-to-structure flame spread potential due to overlapping HIZs. Density of structures in Lytton-area communities was commonly increased by placement of highly ignitable sheds, workshops and other flammable materials close to primary structures.

Surviving home in the Village of Lytton, south

Although the houses on both sides of the surviving house burned, the local ignition conditions of the surviving house did not meet the requirements for sustained ignition and thus, it did not burn. Inspection and Figure 17 showed no burning within the HIZ leading to the surviving structure, and, importantly, both adjacent burned houses had non-flammable stucco exterior walls (note the wall remnants) that acted as a radiation shield to their surroundings and confined flames to the burning interior. Thus, no structure-to-structure flame ignition occurred, as was particularly common with the high structure density in the Village of Lytton (Figs. 2, 17).

Figure 19: a, b) Adjacent burned houses to the south (left) and north (right) have non-flammable stucco exterior walls.

The south side burning house (Fig. 19a) did not thermally damage the surviving house (about 9 m separation), and there was no char on the wood fence panel (about 2 m separation). The north side burning house (Fig. 19b) was much closer (about 3m) to the surviving house. The top rail of the low wire fence was not charred, and the PVC vinyl siding had little thermal damage within 1 m of the ground. The thermal damage to the surviving house was likely radiation from the burning roof and attachments. As can be seen in Figure 19b, the vinyl siding melted off a portion of the exterior wall wood board sub-sheathing and eave enclosures. None of the exposed wood board sub-sheathing was significantly charred. The plate glass windows fractured but the small glass panes remained held in the vinyl sashes. For perspective, PVC softens to produce damage starting at 95 -100°C; PVC liquefies starting at 180°C; and PVC begins to decompose to produce flammable vapors starting at 140°C. In contrast, wood surface temperature associated with flame ignition is about 325°C. Thus, melted PVC siding is not indicative of the potential for wood wall ignition.

Key Finding (8): The non-flammable exterior walls remaining until structure collapse prevented flame radiation and contact sufficient for ignition at the adjacent surviving house. This indicates an opportunity to use common building materials that mitigate structure-to-structure community fire spread where there are densely overlapping HIZs.

The vinyl siding on the upper portion of the surviving house was thermally damaged from burning structures directly across Fraser St (Fig. 20). As discussed above, the thermal exposure required to damage and even liquefy vinyl siding is significantly less than the thermal requirements for wood ignition. The wood fence at the sidewalk and closer to the burning structures shows no evidence of thermal decomposition (scorch/char).

Figure 20a: Thermally softened vinyl siding on the upper third of the front facing burning structures across Fraser St. Note the wood fencing closer to the thermal source without char. (left)

Figure 20b: Burned structures across Fraser St. produced the thermal radiation that damaged the vinyl. These structures are identified in the coarse dashed yellow rectangle of Figure 17. (right)

Ember ignitions from burning structures

Radiant heating across streets (10 m or more) from burning structures was insufficient to, and did not, initiate ignitions in adjacent blocks. If not flames, then burning embers principally from burning structures must have produced the ignitions from block to block resulting in the Village of Lytton fire spreading across streets. Key Findings (5) and (6) are consistent with observations from other WU fire studies (Cohen and Stratton 2008;

Figure 21: Burning embers ignited the ignition vulnerable wood steps and decking at the front entry way (right photo) of the house (right photo, yellow oval). Another ember ignited structure (right photo) is in the background to the left of the house in front. This house is also shown to the right of the Post Office in Figure 14.

Cohen 2010; Calkin et al. 2014) and with the science that developed the HIZ (Cohen 2004). Figure 21 provides an example of this typical mechanism of fire spread, wherein burning embers were likely generated by burning structures in the adjacent upwind block, and windblown to the house in the photo. The paired images of before (left, October 2018) and during (right, 1830 hrs) the Lytton WU fire illustrates the principal vulnerability that likely contributed to the ignition. The highly weathered wood with openings beneath and between members of the wooden stairs and landing would have accumulated leaves and other combustible debris in addition to the inside corners of the stair/landing construction where burning embers commonly accumulate during extreme wildfire conditions.

How disastrous community fire destruction occurs

The Lytton WU Fire displayed the same general pattern of community destruction as previous WU fire disasters (Cohen 2000; Cohen and Stratton 2003; Cohen and Stratton 2008; Graham et al. 2012; Westhaver 2017) and followed the WU fire disaster sequence in Figure 22 (Cohen 2010; Calkin et al. 2014). The wildfire conditions at the Lytton community were extreme, burning during strong winds and dry fuel conditions to produce high spread rates with fire intensities and ember ignited spot-fires that could not be realistically controlled by realistic initial attack wildfire suppression (Key Findings 1 and 2) . In less than 1 hour (~1720 hrs), the extreme

wildfire had rapidly spread to expose a broad area of structures along four separately spreading flame fronts at the margins the Village of Lytton, IR 18 and IR 17.

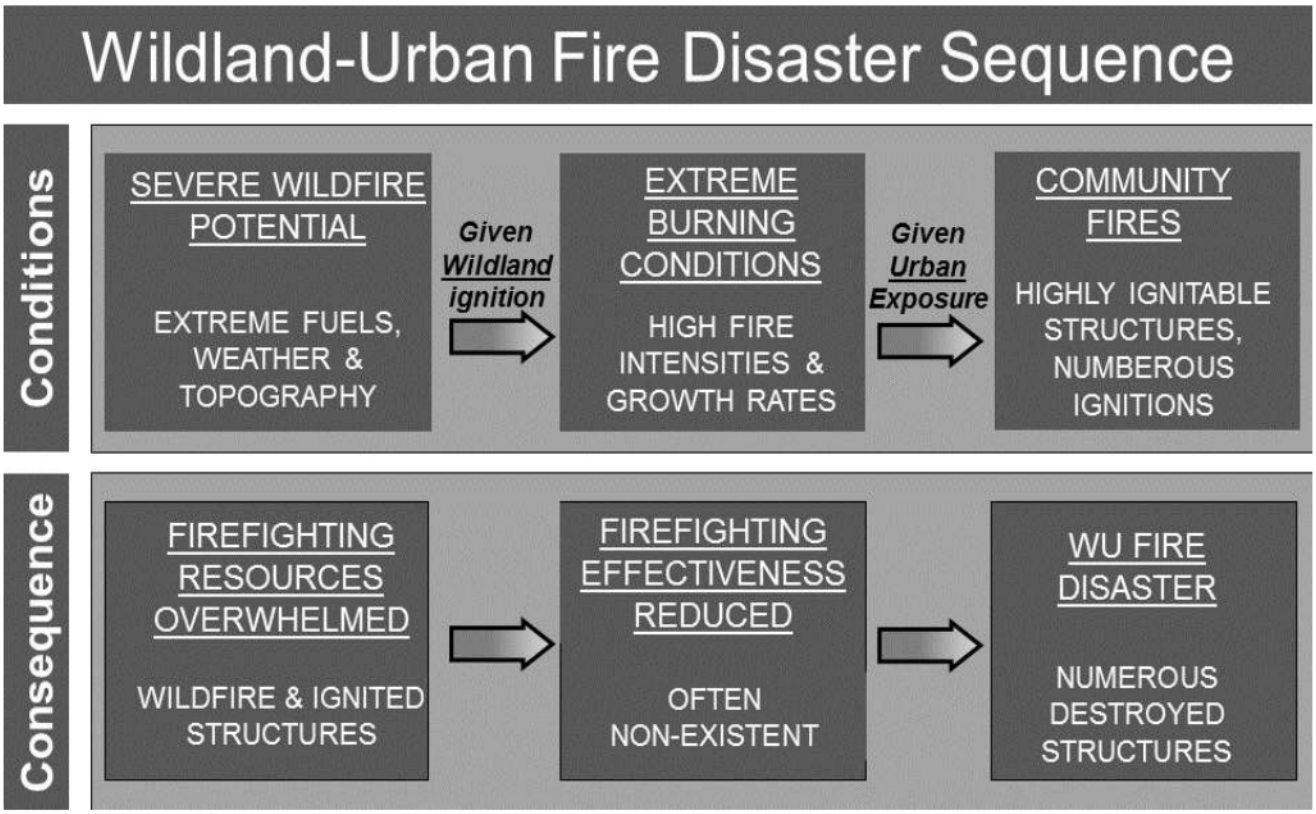


Figure 22: The WU fire disaster sequence.

The three top boxes of Figure 22 identify the principal WU "Conditions" factors leading to numerous synchronized structure ignitions. That is, given severe wildfire potential and a wildfire ignition, extreme wildfire behaviour results that typically overwhelms initial attack suppression. Given a community of highly ignition-vulnerable homes and businesses (HIZs), the extreme wildfire initiates simultaneous structure ignitions in numerous HIZs from showers of burning embers and wildfire flames spreading into HIZs. Note how the Lytton WU fire description above closely follows the top row "Conditions" of the "WU Fire Disaster Sequence" (Fig. 22).

The lower three boxes of Figure 22 identify the overwhelming task of community fire protection under conditions like those that prevailed at the time of the Lytton WU fire disaster. At best, without consideration for public evacuations or life-safety of fire responders, available structure fire protection can neither extinguish the vast majority of numerous initial HIZ ignitions nor suppress burning structures and protect adjacent buildings (Key Findings 3 and 4). Finally, as fire spreads between structures in community fuels, there is exponentially increasing urban fire involvement. This renders community fire protection effectiveness non-existent for most structures. Without the ability to extinguish even small structure ignitions, any sustained ignition results in free burning homes and business leading to their individual destruction, and collectively, to a conflagration. Although

firefighters might be tactically successful at saving some homes and businesses, strategically, fire protection cannot prevent the WU fire disaster.

This raises an important question regarding the potential effectiveness of structure protection during the Lytton WU fire.

***Could the Lytton fire disaster have been prevented with a structure protection response*?**
At 1800 hrs, about 1 hr., 20 min. after the reported wildfire, at least 20 structures, mostly homes, were fully involved in fire. An expected successful structure fire response is three engines per structure assuming an adequate water supply (otherwise, water tenders are required). If no new fires ignited from the burning structures, the Lytton community structure protection task at 1800 hrs would have required 60 urban engines. The best realistic area wide emergency response availability for Lytton would have been overwhelmed. The answer to this question is "No."

The extreme wildfire behavior during the Lytton WU fire disaster is common to all WU fire disasters in the United States and Canada from 1990 to 2020; including those listed in Appendix B. These extreme wildfires are within the 2 to 5 percent of wildfires that could not be controlled with initial attack and this proportion has not changed with increased wildland firefighting technology and resources. Nor is there any likelihood that enhanced rural and municipal departments could manage to control the extraordinarily prolific structural ignitions that occur within the brief timeframe of WU disasters.

Expectations are unreasonable that broad scale fuel treatments will reduce uncontrollable extreme wildfires (Calkin et al. 2014; Finney and Cohen 2003). Thus, preventing WU fire disasters by controlling wildfires is unreasonable (Calkin et al. 2014). We must assume the inevitability of extreme wildfires, but we do not concede the inevitability of WU fire disasters. Ignition resistant communities are the effective alternative for preventing WU fire disasters.

Similar to the general findings from previous WU fire disaster reviews and supporting science (Cohen 2000; Finney and Cohen 2003; Cohen and Stratton 2003; Cohen 2004; Cohen and Stratton 2008; Cohen 2010; Calkin et al. 2014; Cohen 2016; Westhaver 2017), the Lytton examination repeatedly demonstrated that conditions within HIZs principally determined structure ignitions. Local conditions determining structure ignitions during extreme wildfires provide opportunities to reduce structure ignition potential within HIZs, and collectively create ignition resistant communities, thereby preventing WU fire disasters without necessarily controlling extreme wildfires.

<u>Key Finding (9)</u>: The Lytton WU fire disaster, as with previous WU fire disasters, occurred during extreme wildfire conditions; however, total building destruction does not indicate a high intensity wildfire flame exposure. Most structures are unprotected due to an overwhelmed structure fire response; thus, any sustained structure ignition from burning embers or contact with low intensity surface fire results in total destruction. For individual structures, and collectively, community ignition resistance is the most effective approach for reducing community wildfire risk and preventing WU fire disasters.

How can future WU fire disasters be prevented?

The opportunity for preventing WU disasters is evident in the WU fire disaster sequence. If the "Highly ignitable structures," the third condition of the Disaster Sequence (Fig. 22), becomes "Ignition Resistant Structures & Community – Few Ignitions.," the "Disaster Sequence" is prevented. The following list provides the general attributes of an ignition resistant HIZ, the fundamental building block of ignition resistant communities that would interrupt the disaster sequence, and prevent large scale community conflagrations.

An ignition resistant HIZ (reference Fig. 16):

1) Does not support high intensity fire; high intensity burning does not develop within the HIZ and ceases within Zone 2 of the HIZ if spreading inward from wildland vegetation.
2) Can have low intensity fire but cannot have any flame contact or long duration radiation sources of radiation (sheds, woodpiles, etc.) exposing the primary structure to burning objects within the HIZ.
3) Does not have any ignitable/burning material within 1.5 m of the primary structure and its flammable attachments.
4) Is only exposed to burning embers from the wildfire and burning community fuels; these become the only ignition source.
5) Does not have flammable debris on the structure and its flammable attachments.
6) Does not have unscreened openings to the structure's interior, or burning embers accumulating against exterior flammable inside corners or in gaps of flammable exterior materials, or flammable wood roofs.

These attributes, applied to the structure and its surrounding zones of the HIZ, develop individual ignition resistant structures.

Groups of ignition resistant HIZ's function synergistically to produce ignition resistant communities. This is essential in most built environments because, more often than not, HIZs overlap. Consequently, ignition resistance for each structure depends on ignition resistance of neighboring structures. This interdependence presents additional social challenges. Achieving wildfire-resilient communities will require programs that motivate, educate and engage residents/owners in action implement ignition resistance for each and every structure.

An ignition resistant community:

1) Understands and supports a structure ignition approach for wildfire risk reduction at all levels; the elected and administrative officials make strategic decisions and investments commensurate with an ignition resistance approach.
2) Has residents and property owners who collaborate and share responsibility for actions toward achieving ignition resistance.
3) Has inter-governmental/agency/departmental capacity and collaborations to facilitate community wildfire risk reduction, operationally and financially.
4) Has achieved individual overlapping, ignition resistant HIZs that collectively create community ignition-resistance.

Ecological benefits of wildfire-resilient communities

Wildfire, and more generally, wildland fire is not solely a social disruption and destructive agent of communities. Inevitable wildland fire is both a natural disturbance providing ecological resource benefits as well as a natural hazard resulting in community fire destruction. This dilemma represents a profound management challenge: restoring fire as an appropriate ecological factor at landscape scales without having WU fire disasters.

Science reveals wildland fire to have been an important ecological factor in developing and sustaining ecosystems for thousands of years post-Pleistocene, across most North American landscapes (Stewart 2002). As an example, the ecosystems surrounding Lytton are dominated by fire-resistant and dependent plant and tree species that developed with frequent fires at 4 to 50-year intervals. Ironically, the dramatic reduction in wildfire occurrence has led to increased fire intensity, fire size, ecological fire severity and WU fire disasters – the "wildfire paradox" (Arno and Brown 1991; Cohen 2010).

Along with lightning, First Nations cultural burning practices contributed to frequent fires[8] that developed landscape patterns with less dense forest patches, less continuity between forest patches, and species sustainable with wildland fire. However, since European settlement, burning under all conditions of fire spread has greatly reduced (Hessburg et al. 2005). Settlement suppressed First Nations burning practices, changed land use practices and attempted to eliminate and suppress wildfires.

Science (Finney and Cohen 2003; Cohen 2004; Cohen 2010; Calkin et al. 2014) and the corresponding findings from our Lytton WU fire examination show us that we can create and maintain local ignition resistant HIZ conditions that collectively create an ignition resistant community during extreme wildfire conditions. That is the opportunity now open to us, by re-building Lytton as a model wildfire-resilient community, the role of fire in ecosystems that are dependent upon it can be carefully restored.

Key Findings and Conclusions

Key findings

The following are the key findings of this examination as presented throughout the report:

1. Wildfire conditions were extreme, not from a high intensity fire spreading through tree canopies (crown fire), but from a rapidly spreading surface fire burning through grass, forest litter and shrubs, aided by largely short distance ignition spotting from a profusion of burning embers.
2. Given the Lytton wildfire conditions of rapid fire spread along four different fronts and necessary considerations for life-safety under such conditions, it is unrealistic to expect a successful initial attack wildfire suppression response.
3. Wildfire spread to Lytton community boundaries and initiated community ignitions in less than one-hour. Wildland surface fuel outside the community had burned well before 1800 hrs and any continued influence from wildfire had ceased. By 1800 hrs, 20 primary structures were heavily fire involved and fire spread primarily from burning structures continued within the Lytton community without wildfire influence for 1.5 to 2 hours.

[8] First Nation fire use historically accounted for most area burned in some locations, not lightning. Unknown for this area.

4. Surface fire and short-range spot fires from burning embers initiated multiple structural ignitions, largely at the edges of the Village of Lytton, IR 18 and IR 17 within 1 hour of the reported wildfire. Within one and one-half hours of the wildfire report (by 1800) more than 20 primary structures were significantly burning, distributed along the 4 wildfire Spread Paths in the Village of Lytton, IR 18 and IR 17. The rapid, simultaneous fire involvement of this many primary structures would have overwhelmed any reasonable municipal structure protection response in that region.
5. Structure ignitions during extreme wildfires are principally determined by the local ignition conditions of the home ignition zone (HIZ); that is, a structure and its flammable attachment's ignition vulnerabilities to burning embers in relation to burning materials within 30 m. An extreme wildfire provides ignition hazards from flames and burning embers; HIZ ignition vulnerabilities determine structure ignitions and community fire disasters. Hence, WU fire disasters are a structure ignition problem.
6. Lofted, wind-driven burning embers - principally from burning structures - initiated ignitions across streets to adjacent blocks of ignition vulnerable structures thus continuing fire spread through the Village of Lytton and IR 18.
7. Fire spread continued through the Lytton Community was principally determined by the highly vulnerable ignition conditions within individual HIZs, and by high structure-to-structure flame spread potential due to overlapping HIZs. Density of structures in Lytton-area communities was commonly increased by placement of highly ignitable sheds, workshops and other outbuildings close to primary structures.
8. The non-flammable exterior walls remaining until structure collapse prevented flame radiation and contact sufficient for ignition at the adjacent surviving house. This indicates an opportunity to use common building materials that mitigate structure-to-structure community fire spread where there are densely overlapping HIZs.
9. The Lytton WU fire disaster, as with previous WU fire disasters, occurred during extreme wildfire conditions; however, total building destruction does not indicate a high intensity wildfire flame exposure. Most structures are unprotected due to an overwhelmed structure fire response; thus, any sustained structure ignition from burning embers or contact with low intensity surface fire results in total destruction. For individual structures and collectively communities, ignition resistance is the most effective approach for reducing community wildfire risk and preventing WU fire disasters.

Conclusions

A rapidly spreading wildfire, surface fire burning grass and forest surface litter, initiated ignitions of HIZs at the edges of the community. There was no exposure of the Village of Lytton, IR 18 or IR 17 to high intensity crown fire and there was no significant tree canopy torching. Thus, Lytton homes, businesses and public buildings did not ignite from wildfire flame contact, radiant heating or experience a community wide wildfire generated shower of burning embers. Multiple homes located at widely separated sectors of the community's south, northwest, and northeast perimeters were exposed almost simultaneously to surface fire and short-range burning embers resulting in a large number of concurrent structure ignitions.

Once established in residential fuels at the perimeter of the community, fires spread rapidly to adjacent structures by flame radiation, flame contact, and by heavy showers of burning embers primarily from burning structures. At this point, the fire was free-burning in the community, without any further involvement or influence from the wildfire.

The Village of Lytton, IR 18 and IR 17 largely burned after its wildfire exposure and the initiation of scattered community ignitions. We attributed the continuing ignitions of structure and their total destruction, nearly 90 percent, to overlapping HIZs dominated by high structure density and highly ignitable materials in their immediate surroundings. At close range urban fuels were readily susceptible to direct ignition by flames and burning embers from upwind burning structures.

Past WU fire disasters have only occurred during extreme wildfires, when burning conditions overwhelmed fuel treatments[9] and reasonable fire control response. The Lytton WU fire followed the same pattern, identified as the "*Wildland-Urban Fire Disaster Sequence*." Extreme wildfires produce showers of burning embers and intense, rapidly spreading fire that initiate ignitions within a community. However, WU fire science has discovered that the local ignition conditions within HIZs principally determine whether and how structure ignitions occur leading to continued burning within the community.

Our Lytton WU fire examination revealed important opportunities for preventing future WU fire disasters during extreme wildfire conditions. Working together, agencies and residents have the opportunity to practically and effectively address WU fire disasters as a structure ignition problem and create ignition resistant communities, rather than continue with failed expectations of wide-scale fuel treatments, wildfire control and structure fire protection. A structure ignition problem approach, using effective measures creating structure ignition resistance, changes the 3rd upper row "CONDITION" factor in the WU Fire Disaster Sequence (Fig. 22) from "*highly ignitable structures and numerous ignitions*" to "*community ignition resistance with few ignitions*." Thus, the "CONSEQUENCES" would then change to the favourable outcome of, "*effective community fire protection and a WU fire disaster prevented*."

We ultimately conclude that ignition resistant HIZs and communities of the future can sufficiently reduce structure ignitions to enable successful community fire protection and thereby prevent WU fire disasters. Furthermore, ignition resistant communities can enhance the ability of First Nations practitioners to conduct local cultural burning and wildland fire managers to restore increased landscape-scale fire with ecologically appropriate prescribed burning without the threat of WU fire destruction. Implementing both these activities will enhance human benefits by maintaining fire adapted ecosystems and preventing WU fire disasters.

Recommendations

These recommendations are based on findings of the Lytton WU fire examination, and on accepted science relevant to all incidents of extensive community wildfire destruction. Although motivated by our objective to assist Lytton area citizens recover, rebuild and establish a more wildfire-resilient community, these recommendations are equally applicable to all existing or planned communities located in wildfire-prone landscapes, as well as to isolated homes and smaller settlements in rural, agricultural or recreational settings.

Therefore, while these recommendations are addressed specifically to Authorities Having Jurisdiction (AHJ) for planning, re-constructing and maintaining the future Lytton community, we are hopeful they will gain the attention of authorities at all levels with responsibilities for public safety, emergency management and fire

[9] Either by embers skipping over them, or lowered intensity fire burning through them

protection, Canada-wide. Throughout, we recognize the inevitability of extreme wildfires, and their likely increased frequency with climate warming.

The four over-riding strategic recommendations below are followed by others pertaining to the full scope of potential wildfire risk mitigations, and relevant to Lytton and similar WU communities. We recommend that:

1. Strategic:

1.1 The root cause of community wildfire destruction be recognized and re-defined, by all stakeholders, as being a problem of easily ignitable structures and homes, and no longer as merely a wildfire problem.

1.2 The management perspective and priority for efforts to avoid future destruction of wildland-urban communities (and all structures in landscapes prone to wildland fire) are more appropriately shifted to mitigating the vulnerability and exposure of structures (and immediate surroundings), thus multiplying the probability of success by available fire response capability.

1.3 The Home (structure) Ignition Zone, as illustrated Fig. 16), be adopted as the fundamental area of effective wildfire risk reduction activity, and that residential assessments be adapted to place primary emphasis on identifying and resolving local factors affecting ignition vulnerability and contributing to ignition exposure.

1.4 Given the inadequacies of post-fire research, the BC FireSmart Committee aggressively pursue their initiative of conducting early-arrival WU fire case studies as per (Westhaver and Taylor 2020, and Cohen and Westhaver 2021) in order to further advance our understanding of WU problems and mitigation solutions.

2 Reconstruction and safe return of residents to Lytton-area communities:

2.1 AHJ's and individuals responsible for reducing the ignition potential of homes, businesses, outbuildings and infrastructure make community wildfire protection their top priority.

2.2 Based on the foundational understanding that the ignition potential of structures is the root problem of community wildfire destruction, and not the wildfire itself, authorities shift to a paradigm of pro-active wildfire risk mitigations to reduce critical exposure and vulnerabilities within Home Ignition Zones. This is the most effective approach for avoiding future WU fire disasters. It is the only way communities and their people may become wildfire-resilient.

2.3 AHJ's and housing authorities adopt National Research Council of Canada guidance (i.e., the "*National Guide for Wildland-Urban Interface Fires*[10]*, 2021*") for the construction or reconstruction of new and damaged homes, landscaping and for renovations to existing buildings in Lytton communities.

2.4 An interim program of annual mowing of grass and herbaceous vegetation be implemented (2022) at the end of each growing season. Removal of hazardous accumulations of fine surface fuel minimizes risk to residents and new construction. Mown areas should include portions of HIZ's extending onto public lands,

[10] The "Guide" was developed through a rigorous multi-year process involving significant stakeholder input from the construction industry and wildfire science community.

temporarily vacant residential lands and right-of-ways of Federal, Provincial, Municipal and Regional District roads designated as evacuation or emergency access routes.

2.5 AHJ's of Lytton-area communities collaborate with the Union of British Columbia Municipalities, Indigenous and Northern Affairs Canada and other agencies to ensure grant programs include and prioritize allocations for fuel/vegetation modification treatments and hazard reduction activities within, and immediately adjacent to HIZ's.

3 Community engagement, longer-term resilience and living in a wildfire prone environment[11]:

3.1 An awareness program be developed in consultation with community leaders including elders, elected officials, administrators, planners, builders, and residents of re-building Lytton communities to enhance the understanding of how the disaster occurred and the degree of collaboration that will be required to become a model wildfire resilient, ignition resistant community, thus preventing future disasters.

3.2 A local Wildland-Urban Steering Team (W.U.S.T.) be convened with a mandate to share information about community wildfire risk mitigation initiatives among partners and stakeholders, promote programs of community engagement, ensure collaboration and coordination among intra/inter-agency initiatives, and coordinate responsibility for vegetation management within 100 m. of HIZs.

3.3 The Local Fire Department have dedicated staff with the understanding and communication skills required to lead community education and engagement programs for residents and property owners toward establishing and maintaining community wide ignition resistant HIZs.

3.4 The BC FireSmart Committee and Lytton W.U.S.T. facilitate full implementation of the *FireSmart Canada Neighbourhood Recognition Program*[12] *(FCNRP)* in all Lytton-area neighbourhoods. This functional program, is the only proven means of educating, motivating and facilitating sustained active engagement of Canadian WU residents, businesses and property owners in reducing wildfire community risk.

3.5 A full-time "FireSmart Coordinator" position, attached to the Lytton Fire Department and Lytton First Nations, be established to support Lytton fire authorities and the W.U.S.T. with grant applications, implementing the FCNRP and coordinating multiple other aspects of wildfire risk reduction.

3.6 Lytton residents be encouraged to continue including adequately irrigated lawns, productive gardens, and flower beds as important components of their 1.5 m non-combustion zone and fire-resistant HIZs.

3.7 Information on fire-resistant xeriscaping alternatives be provided to Lytton residents.

[11] We recognize the majority of local conditions determining home ignition potential and survival are within the purview of home owners and occupants. Becoming a wildfire resilient community is not possible without actively engaged residents.
[12] Minor adaptations for the local situation may be required for optimal success of the program.

4 Local and regional authorities responsible for development and building permits on Municipal and First Nations lands will review and amend current regulations, by-laws and approval processes to incorporate regulatory mechanisms related to WU fire mitigation, such that:

4.1 It is made mandatory for property owners/residents to establish and maintain a contiguous 1.5-metre-wide non-combustion zone surrounding all structures (including outbuildings).

4.2 Minimum clearances of 8 metres for 1-story structures, and 13 metres for 2-story structures between all new homes, businesses and out-buildings.

4.3 Where structures already exist, less clearance is mitigated with non-flammable exterior materials; removal of windows facing other structures within minimum clearances, metal screening/shutters for small windows (< 0.6 m x 0.6 m) or re-fitting with dual pane tempered glass or wire glass.

4.4 Outbuildings and other large flammable objects (e.g., firewood) are adequately separated from all main structures and structures are not connected by flammable objects (e.g., fences, landings).

4.5 Once-annual removal/mowing of tall grass and weed cover (as the grass becomes cured) by owners on all residential, commercial and corporate lands, is mandatory.

4.6 Permission is freely given to residents participating in the FireSmart Canada "Neighbourhood Recognition Program", and to business owners allowing them to maintain/treat vegetation on public land which is beyond their property line but within their HIZs to meet recommended standards for reducing wildfire risk.

4.7 Structural foundation designs with ground-level openings which allow accumulation of fine debris and embers beneath structures, and use of re-cycled ties for foundations are prohibited.

4.8 Authorities of the Village of Lytton, Lytton-area First Nations and the Province of BC explore regulatory means for compelling corporate landowners to manage vegetation on right-of-ways and other lands within the limits of municipalities to standards that limit wildland fire threats to the community.

5 AHJ's with responsibility for management of urban lands:

5.1 Operational and fiscal resources be allocated to enable once-annual mowing of grass and weeds (at the end of the growing season) and, on a four-year rotating basis to remove excessive new re-growth, space immature trees, and lower branches of evergreen trees within 30 metres of the community perimeter, and remove excessive needle accumulations; apply these activities to:

5.1.1 Public lands within 30 metres of any private residence or business (but beyond the owners respective property line);

5.1.2 Within 30 metres of any public building, public health/educational facility, critical infrastructure installation, or public road; and

5.1.3 Any vacant public lands, or parkland within subdivisions.

5.2 Coordinate with other jurisdictions (e.g., BC Highways) and corporate landowners (e.g., CN Rail, CP Rail) to ensure similar mitigations occur on the right-of-ways of public highways, railways, etc.

5.3 Funding be provided to incentivize replacement of fire-resistant deciduous shade and fruit-bearing trees destroyed by the WU fire on private and public lands within Lytton communities.

6 Critical community infrastructure:

6.1 A reliable domestic water supply and water delivery system be provided and maintained for fire response at the Lytton community, and that the supply is sufficient to avoid the necessity for water rationing, and to sustain gardening lifestyles and fire-resistant vegetation in an arid climate.

6.2 A gravity-flow water delivery capability be established to ensure: continued water supply during power outages, and increased capacity for fire protection.

6.3 All surviving critical infrastructure, and plans for replacement infrastructure be scrutinized by a WU fire specialist to ensure existing WU fire risks are sufficiently reduced prior to the 2022 fire season.

7 Enhanced emergency response:

7.1 Local fire response capability be enhanced, with priority on added expertise and equipment to facilitate rapid response to small spot fires in wildland and residential fuels using a highly mobile, multiple ignition approach with initial attach capable side-by-side ORVs and Type 5 engines.

8 Ecosystem management

8.1 A sustained prescribed fire program be established as a means of restoring natural disturbance and regular vegetation/fuel maintenance.

8.2 Provincial programs for forest fuel modification are coordinated with programs designed to encourage an increase in annual area burned near WU communities, both by agency-sponsored planned prescribed burns and by the cultural burning activities of First Nations. This will encourage the restoration of ecologically appropriate wildland fire.

Literature cited

Abbott, George 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.

Barrow, G.J. (1945). A survey of houses affected in the Beaumaris fire, January 14, 1944. J. of the Council for Scientific and Industrial Research 18, 27-37.

Bénichou N., Adelzadeh M., Singh J., Gomaa I., Elsagan N., Kinateder M., Ma C., Gaur A., Bwalya A., and Sultan M. (2021). *National Guide for Wildland-Urban Interface Fires*. National Research Council Canada: Ottawa, ON. 192 pp.

Calkin, D.E, J.D. Cohen, M.A. Finney, and M.P. Thompson. (2014). How risk management can prevent future wildfire disasters in the wildland-urban interface. Proc. Natl. Acad. of Science. U.S.A. 111, 746-51.

Canadian Interagency Forest Fire Centre. (2017). Canadian Wildland Fire Management Glossary. CIFFC Glossary Task Team and Training Working Group.

Cohen, J.D. (2000). Examination of the home destruction in Los Alamos associated with the Cerro Grande fire. U.S.D.A., Forest Service, Rocky Mountain Research Station. Missoula Fire Lab, Missoula, MT.

Cohen, J.D. (2003) An Examination of the Home Destruction Related to the Local Wildland Fire Behavior during the June 2003 Aspen Fire. Summerhaven, Tucson. USDA Forest Service, Rocky Mountain Research Station. File Report.

Cohen, J.D. and R. Stratton. (2003). Home destruction within the Hayman fire perimeter. In: Graham, R.T., Technical Editor. 2003. Hayman fire case study. Gen. Tech. Rep. RMRS-GTR-114. Ogden, UT. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 396 p

Cohen, J. (2004). Relating Flame Radiation to Home Ignition Using Modeling and Experimental Crown Fires. Canadian Journal of Forest Research, 34(8): pp. 1616-1626.

Cohen, J.D. and R. Stratton. (2008). Home destruction examination – Grass Valley fire. Report R5-TP-026b. U.S. Department of Agriculture, Forest Service.

Cohen, J.D. (2010). The wildland/urban interface problem. Fremontia. Vol. 38:2/38:3. 8p.

Cohen, J.D. (2016). The Roaring Lion fire: An examination of home destruction. Bitterroot Mountains, Montana. Report the Montana Department of Natural Resources and Conservation. 14p.

Cohen, J.D. and A. Westhaver. (2021). User Guide: Data collection for wildland-urban fire case studies in British Columbia. Draft report prepared for the BC FireSmart Committee.

Finney, M. and J .Cohen (2003) Expectation and evaluation of fuel management objectives in Fire, fuel treatments, and ecological restoration. USDA Forest Service Proceedings, RMRS P-29. USDA Forest Service Rocky Mountain Research Station, Ft. Collins, CO), pp 353–366.

Graham, Russell; Finney, Mark; McHugh, Chuck; Cohen, Jack; Calkin, Dave; Stratton, Rick; Bradshaw, Larry; Ned Nikolov. (2012). Fourmile Canyon Fire Findings. Gen. Tech. Rep. RMRS-GTR-289. Fort Collins, CO: U.S. Department of Agriculture,
Forest Service, Rocky Mountain Research Station. 110 p.

Hessburg, P; Agee, J; Franklin J (2005) Dry forests and wildland fires of the inland Northwest USA: Contrasting the landscape ecology of the pre-settlement and modern eras. Forest Ecology and Management, 211(1-2): 117-139.

Stewart, O.C. (2002) Forgotten fires: Native Americans and the transient wilderness. (University of Oklahoma Press, Norman, OK)

Westhaver, A. (2015) Risk reduction status of homes reconstructed following wildfire disasters in Canada. Institute for Catastrophic Loss Reductions research paper series – number 55.

Westhaver, A. (2017) Why some homes survived: Learning from the Fort McMurray wildland/urban interface fire disaster. Institute for Catastrophic Loss Reductions research paper series – number 56.

Westhaver, A. and S. Taylor (2020). Developing a method for conducting wildland/urban interface fire case study research – a foundational document. Institute for Catastrophic Loss Reduction, Research Paper Series # 66.

Village of Lytton – Draft short-term recovery plan (October 27, 2021)

APPENDICES

Appendix A: Glossary of Terms

Appendix B: Significant United States & Canadian Wildland-Urban Fire Disasters (1990-2010)

Appendix A: Glossary of Terms

Burning Ember: A burning ember lofted or falling out of burning vegetation or structures that may be flaming, or glowing that singly or in accumulations potentially ignites adjacent flammable materials.

Community Exposure of the HIZ: The burning residential fuels, vegetation and structure, within the community potentially produces a significant burning ember and flame exposure of the HIZ. This is particularly significant when a community of high-density housing has multiple overlapping HIZs.

Ember – see Burning Ember

Extreme Fire Behaviour: A level of fire behaviour that often precludes fire suppression action. It usually involves one or more of the following characteristics: high rate of spread and frontal fire intensity, crowning, prolific spotting, presence of large fire whirls, and a well-established convection column. Fires exhibiting such phenomena often behave in an erratic, sometimes dangerous, manner. (CIFFC 2017)

Combustible: Any material that, in the form in which it is used and under the conditions anticipated, will ignite and burn. (NFPA, Firewise. Hazard Assessment Methodology. WUI Fire Working Team).

Community Ignition Resistance: The ignition resistance of many homes and other structures that collectively creates ignition resistance of whole or part of a community.

Exposure: The potential heat transferred from burning embers and flames based on the conditions of burning sources irrespective of the ignition vulnerability of an object of interest. (from L.M. Johnston et al., 2019). Example, flame exposure of a home depends on the magnitude and duration of the radiant heat flux and flame contact with flammable exterior structure materials.

Exposure Level - The degree to which structures are exposed to embers, radiation, or flame contact. (NRC)

Firebrand – see Burning Ember

Fire Behaviour: The manner in which fuel ignites, flame develops, fire spreads and exhibits other related phenomena as determined by the interaction of fuels, weather, and topography (CIFFC 2017).

Fire Hazard: Any situation, process or material or condition that can cause a fire or explosion or that can provide a ready fuel supply to augment the spread or intensify a fire or explosion, all of which poses a threat to life or property. (NFPA 921, 2017). Alternatively, “a fuel complex, defined by kind, arrangement, volume, condition, and location that determines the ease of ignition and/or resistance to fire control”. (NFPA 1144, 2018.)

Fire Protection Availability: The presence of effective fire protection to prevent significant home destruction from sustained home ignitions or prevent the spread of fire to other neighboring homes. Given that “fire proofing” homes in a community is unrealistic, the community wildland-urban fire destruction risk is determined by the conditional probability involving home ignition exposure, home ignition vulnerability, and fire protection.

Fire Resistant: Ignition-resistant construction methods using building materials and design features that reduce the vulnerabilities of buildings to ignite from burning embers (firebrands) and flame exposures. (NFPA 1144, 2018).

Fire Resistive: see Fire Resistant

Flame Hazards: Any flame producing burning source within the HIZ. Research has designated the extent of the HIZ such that flames beyond the HIZ do not transfer sufficient heat to directly ignite a home.

Forest Overstory: Layer of tallest or dominant trees in the forest, generally mature trees. Syn. canopy.

Fuel: Any living or dead organic or manmade material located in, on, or above the ground that contributes to fire. This includes "urban" fuels (i.e., homes, businesses, and industrial structures), and their associated combustible surroundings. More technically, fuel is the physical characteristics of live and dead biomass that contribute to wildland fire.

Fuelbreak: An existing barrier or change in fuel type (to one that is less flammable than that surround it), or a wide strip of land on which the native vegetation has been modified or cleared, that act as a buffer to fire spread so that fires burning into them can be more readily controlled. Often selected or constructed to protect a high value area from fire. In the event of a fire, may serve as a control line from which to carry out suppression operations. (CIFFC 2017)

Fuel Modification: Any manipulation or modification of fuels to reduce the likelihood of ignition or the resistance to fire control (NFPA).

Hazard Assessment: Assess hazards to determine risks. Assess the impact of each hazard in terms of potential loss, cost or strategic degradation based on probability and severity. (NFPA, Firewise. Hazard Assessment Methodology. WUI Fire Working Team).

Hazard Factor: In the terminology of the Canadian *FireSmart*® program: a "hazard factor" is one of many structural (components or design), vegetative, or other combustible elements within a Home Ignition Zone that contributes to a structure's susceptibility to ignition during a WUI fire event. Typically, each hazard factor is evaluated and rated individually during a comprehensive structural hazard assessment.

Hazard Reduction: Any treatment of living and dead fuels to diminish the likelihood of a fire starting, to lessen potential rate of spread and resistance to control (CIFFC 2017.

Home Ignition Potential: The conditional probability of ignition exposures and the home ignition vulnerabilities resulting in ignition probability.

Home Ignition Response: The probability/likelihood of a home to sustain ignitions from an exposure of burning embers and flames.

Home Ignition Zone (HIZ): A home and its flammable attachments in relation to immediately surrounding burning objects that principally determine home ignitions during WU fires. The HIZ includes the home and flammable attachments, and the immediate surroundings within 30 meters.

Home Ignition Zone 1: the area of the HIZ located 1.5m to 10m of the home and its flammable attachments.

Home Ignition Zone 2: the area of the HIZ located 10 – 30m from the home and its flammable attachments.

Ignition: the process of initiating self-sustaining combustion. (NFPA 921, 2017)

Ignition Assessment: A term used in this User Guide more pertinent to and focused on the problem of home ignitions leading to destruction. Ignition Assessment replaces the term "Hazard Assessment" in recognition that "hazard" involves ignition exposure, but home ignition requires ignition vulnerability to a given "hazard" exposure for determining potential home ignitions, the WU fire problem.

Ignition Hazard: Sources of flames and embers, one of three important elements of WU fire destruction risk (along with ignition vulnerability and fire protection availability).

Ignition Hazard Exposure – see Ignition Hazard

Ignition-Resistant Building Material. A type of building material that does not sustain ignition and flaming combustion. (NFPA 1144, 2018). (See **Fire Resistance**)

Ignition Vulnerability (also Response): One of three principal elements of WU fire destruction risk (along with ignition hazard and fire protection availability).

Mitigation: Related to preventing WU fire destruction – an action that reduces home ignition potential by reducing home ignition vulnerabilities in relation to ignition exposures from wildfires and community burning, and those that can be reduced within the HIZ.

Non-Combustion Zone area of the HIZ located 0 – 1.5m from the outermost perimeter of the home and its flammable attachments (i.e., walls, foundation or any home attachment such as deck, porch, stairs).

Real-time Observations: research techniques applied or operational during the structural ignition phase – time period when structures are exposed to heat transfer from a wildland fire.

Residential Fuels: Structures, vegetation and any other combustible materials or objects found within the community that become a source of ignition exposures.

Resilience: the ability to prepare for and adapt to changing conditions and withstand and recover rapidly from disruptions. (NFPA, 2014)

Recommended FireSmart Guidelines: These are criteria established and published by Partners in Protection (2003) to mitigate individual WUI hazards related to structural, vegetation, infrastructure, and other elements of a home and its surroundings. FireSmart guidelines are founded in standards developed by the National Fire Protection Association, supplemented by research by the Canadian Forest Service pertaining to crown fire reduction.

Spotting: A fire producing burning embers (firebrands), lofted in the fire's convection column and carried by the wind, or lofted in a fire whirl that fall beyond the main fire perimeter and result in separate ignitions/spot fires. (CIFFC 2017)
Structural Fuel: Fuels composed of combustible building components and man-made materials.

Wildfire: An unplanned or unwanted natural or human-caused fire.

Wildfire Exposure of the HIZ: This is primarily a burning ember exposure of the HIZ. The HIZ is defined (see **Home Ignition Zone**) as an area extending a distance that the flames of intensely burning crown fires cannot sufficiently heat a home's flammable materials to ignition and can be conditioned to halt crown fire spread.

Wildfire Risk: The potential value change of something of interest resulting from a wildfire occurrence. It is the product of an occurrence probability and a change probability resulting in value changes from the wildfire. Typically, "wildfire risk" is viewed as a negative value change when the wildfire is a natural hazard. However, when considering wildfire also as a natural disturbance, the "net value change" of an occurrence can be positive.

Wildland Fuel: Fuels composed of vegetation from forests, grasslands, shrub lands or other plant communities.

Wildland-Urban (WU) Fire: The recommended term (2021) to replace "Wildland/Urban Interface (WUI)" because home destruction during wildfires is not determined by a geographical definition relating largely residential development in proximity to undeveloped land without consideration of wildfire potential. Rather, home destruction is determined by meeting the requirements for combustion that occur immediately adjacent to the surface of a flammable material.

Wildland-Urban Disaster Risk: The probability of an exposure to extreme wildfire conditions and an ignition resulting in extreme wildfire conditions times the probability of exposing largely residential development of a given vulnerability to ignitions as depicted in the Wildland/Urban Interface Disaster Sequence.

WU: Abbreviation for wildland-urban, an increasingly acceptable term for WUI.

WUI: Abbreviation for wildland-urban interface.

Appendix B: Significant United States & *Canadian*[13] Wildland-Urban Fire Disasters (1990 – 2021)

Year	Incident	Location (USA)	Homes Destroyed (approx.)
1990	Painted Cave	Santa Barbara, CA	479
1991	WA state 'Firestorm' Tunnel	Spokane, WA Oakland, CA	108 2900
1993	Laguna Hills, Old Topanga	Laguna & Malibu, CA	634
1996	Millers Reach	Big Lake, AK	344
1998	Florida wildfires	Flagler & Volusia Cnty, FL	300
2000	Cerro Grande	Los Alamos, NM	239
2002	Hayman Rodeo-Chediski	NW of Colorado Sprgs, CO Heber-Overgaard, AZ	139 426
2003	Aspen Old, Cedar, etc.	Summerhaven, AZ Southern CA	340 3640
2003	*Okanagan Mountain Park*	*Kelowna, BC. Canada*	*238*
2006	TX, OK Wildfires	TX & OK	723
2007	Angora Witch, Slide, etc.	Lake Tahoe, CA Southern CA	245 2180
2010	Fourmile Canyon	Boulder County, CO	168
2011	Bastrop Complex, etc.	Central TX	2725
2011	*Flat Top Complex*	*Slave Lake, AB. Canada*	*428*
2012	High Park, Waldo Canyon	Colorado Front Range	605
2013	Black Forest	El Paso County, CO	511
2014	Carlton Complex, etc.	Okanogan County, WA	342
2015	Butte, Valley	Amador & Lake Cnty, CA	1797
2016	Chimney Tops 2	Gatlinburg, TN	2000
2016	*Horse River*	*Fort McMurray, AB Canada*	*2400*
2017	Tubbs, Nuns, Thomas, etc.	No. & So. California	9000
2018	Carr, Camp, Woolsey, etc.	No. & So. California	16,000
2019	Kincade	Sonoma Cnty	374
2020	Almeda Dr., Beachie Creek Glass Fire, North Complex	Jackson Cnty, OR No. California	2825 308, 1200+
2021	*Lytton Creek*	*Lytton, BC. Canada*	*151*

[13] Canadian W-U fires are noted in italics.

FW: Fire Spread? Report for Lytton

From: Peterson, Dave EMBC:EX <Dave.Peterson@gov.bc.ca>
To: Richards, Tara R EMBC:EX <Tara.Richards@gov.bc.ca>, Turner, Jordan EMBC:EX <Jordan.Turner@gov.bc.ca>
Cc: Johnson, Sheldon EMBC:EX <Sheldon.Johnson@gov.bc.ca>, Godlonton, Brian EMBC:EX <Brian.Godlonton@gov.bc.ca>, Iwama, Julia EMBC:EX <Julia.Iwama@gov.bc.ca>
Sent: February 23, 2022 9:50:21 AM PST
Attachments: BCFSC Lytton post-fire examination FOR APPROVAL.pdf

Jordan, I was just made aware of this report late yesterday, and that it has been made available to the Village of Lytton as well as some external parties. I suspect it could become public information relatively quickly, and will raise significant questions regarding the still ongoing Fire Cause Investigation led by BC Wildfire Service.

Dave Peterson (he/him)
Assistant Deputy Minister - Recovery and Funding Projects
Emergency Management BC
Block A – Suite 200, 2261 Keating Cross Rd
Saanichton, BC V8M 2A5
Phone: 250-387-0019 *EMBC: Disaster Recovery*

Every Child Matters
Honouring and Respecting the legacies of the missing

From: Clark, Darlene EMBC:EX <Darlene.Clark@Gov.bc.ca>
Sent: February 23, 2022 09:24
To: Peterson, Dave EMBC:EX <Dave.Peterson@gov.bc.ca>
Cc: Herie, Beth EMBC:EX <Beth.Herie@gov.bc.ca>; Iwama, Julia EMBC:EX <Julia.Iwama@gov.bc.ca>; Walker, Jennifer EMBC:EX <Jennifer.7.Walker@gov.bc.ca>
Subject: RE: Fire Spread? Report for Lytton

Weyt-k,

Attached is the report that I have. It was sent to the Village Feb. 10th. Is this the same report?

Kukwstsétsemc.

Darlene Clark (she/her)
Manager, Community Recovery
Community Recovery Branch
Emergency Management BC
Office: (250) 312-6759 Cell: (250) 819-6534 Fax: (250) 371-5246
Follow us on Twitter @EmergencyInfoBC and @PreparedBC

Sent from the traditional territory of the Tk'emlúps te Secwépemc.

From: Peterson, Dave EMBC:EX <Dave.Peterson@gov.bc.ca>
Sent: February 23, 2022 05:22
To: Clark, Darlene EMBC:EX <Darlene.Clark@Gov.bc.ca>; Iwama, Julia EMBC:EX <Julia.Iwama@gov.bc.ca>
Cc: Herie, Beth EMBC:EX <Beth.Herie@gov.bc.ca>
Subject: Fire Spread? Report for Lytton

Hi Darlene. We heard yesterday that BC Wildfire Service has drafted a report on the fire in Lytton. Have you seen this draft? If so, please send it on to me as soon as possible. If not, I will go to Ian Meier directly for it.

I understand that this is not the long-awaited report into the fire cause itself but am worried that it will be confused with that report and will stir up lots of emotions in Lytton.

The sooner we sort this out the better, thanks.

Dave Peterson
Assistant Deputy Minister
Recovery and Funding Projects
Emergency Management BC