

REGIONAL DISTRICT OF
EAST
KOOTENAY COMMUNITY
WILDFIRE PROTECTION
PLANS

RECOMMENDATIONS AND
IMPLEMENTATION PLAN

Electoral Areas A, B, C, E, F and G

Final Draft

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Introduction

In 2011 B.A. Blackwell & Associates Ltd. (B.A. Blackwell) were retained by the Regional District of East Kootenay (RDEK) to develop Community Wildfire Protection Plans (CWPPs) for 40 unincorporated communities in the following areas:

- Electoral Area 'A' (Hosmer, West Fernie, Fernie Alpine Resort, Corbin, and Upper and Lower Elk Valley Road);
- Electoral Area 'B' (Jaffray, Rosen Lake, Tie Lake, Baynes Lake, Lake Koocanusa, Galloway, Elko, Newgate, Grasmere and Roosville);
- Electoral Area 'C' (Wycliffe, West Hill, Westview Estates, Gold Creek, Green Bay, Moyie, Fort Steele, Bull River and Wardner);
- Electoral Area 'E' (Skookumchuck, Premier Lake, Ta Ta Creek, Wasa & Wasa Lake, Meadowbrook and St. Mary's Lake Road); and,
- Electoral Area 'F' (Juniper Heights, Toby Benches, Wilmer, Lake View, Windermere, Fairmont and Columbia Lake) and Electoral Area 'G' (Spillimacheen, Brisco, Edgewater and Dry Gulch).

'FireSmart – Protecting Your Community from Wildfire' (Partners in Protection 2004) was used to guide the protection planning process. Within the study areas, the assessment considered important elements of community wildfire protection including communication and education, structure protection, emergency response and vegetation management.

The social, economic and environmental losses associated with the 2003 and 2009 fire seasons emphasized the need for greater consideration and diligence in regard to fire risk in the wildland urban interface (WUI). In considering wildfire risk in the WUI, it is important to understand the specific risk profile of a given community, which can be defined by the probability and the associated consequence of wildfire to the community. The recent fire in Slave Lake, Alberta has demonstrated that the consequences of a WUI fire can be very significant in communities and that proper consideration and preplanning is vital to building community resilience to wildfire. In a recent hazard, risk and vulnerability study conducted for the RDEK, interface wildfire risk was assessed as the number 1 priority for the Regional District (Downey 2011).

The CWPPs will provide the communities with a framework that can be used to review and assess areas of identified high fire risk. Additionally, the information contained in this report should help to guide the development of emergency plans, emergency response, communication and education programs, bylaw development in areas of fire risk, and the management of forest lands adjacent to the community. Five plans have been developed; one each for Electoral Areas A, B, C and E, and one joint plan for Electoral Areas G and F.

The unincorporated community of Panorama has had a CWPP completed (Davies et al., 2010) therefore it was not included in the study area for this plan. The recommendations within its CWPP should also be prioritized for implementation as part of any Regional initiative to address wildfire risk.



The scope of this project included three distinct phases of work:

- **Phase I** –Assessment of fire risk and development of a Wildfire Risk Management System (WRMS) to spatially quantify the probability and consequence of fire.
- **Phase II** – Identification of hazardous fuel types.
- **Phase III** – Development of the Plan, which outlines measures to mitigate the identified risk through structure protection, emergency response, training, communication, and education.

Summary of Community Wildfire Risk

Table 1 lists the fire risk by community according to the predominant risk rating (low to high) within the developed portion of each community or fire protection area. The Fire Risk Matrix below shows how measures of consequence from and probability of wildfire occurrence were combined to determine risk. See individual CWPPs for a description of the wildfire risk assessment methods used for this project.

Fire Risk Matrix

		PROBABILITY>>>>			
		Low	Moderate	High	Extreme
CONSEQUENCE>>>>	Low	Low	Moderate	High	High
	Moderate	Low	Moderate	High	High
	High	Moderate	High	High	Extreme
	Extreme	High	High	Extreme	Extreme



Table 1. Fire risk within each community based on the GIS-based Wildfire Risk Management System outputs.

<p>Highest</p> <p>Lowest</p>	Dry Gulch	High
	Juniper Heights	High
	Lake View	High
	Premier Lake	High
	West Hill	High
	Westview Estates	High
	Baynes Lake	Moderate-High
	Brisco	Moderate-High
	Edgewater	Moderate-High
	Elko	Moderate-High
	Fairmont	Moderate-High
	Fort Steele	Moderate-High
	Galloway	Moderate-High
	Gold Creek	Moderate-High
	Grasmere	Moderate-High
	Green Bay	Moderate-High
	Jaffray	Moderate-High
	Lake Koocanusa	Moderate-High
	Meadowbrook	Moderate-High
	Moyie	Moderate-High
	Newgate	Moderate-High
	Spillimacheen	Moderate-High
	St Mary's Lake Road	Moderate-High
	Ta Ta Creek	Moderate-High
	Tie Lake	Moderate-High
	Toby Benches	Moderate-High
	Wasa & Wasa Lake	Moderate-High
	Bull River	Moderate
	Columbia Lake	Moderate
	Lower Elk Valley Road	Moderate
	Roosville	Moderate
	Rosen Lake	Moderate
	Skookumchuck	Moderate
	Upper Elk Valley Road	Moderate
	Wardner	Moderate
	Wilmer	Moderate
	Windermere	Moderate
	Wycliffe	Moderate
Corbin	Low-Moderate	
Fernie Alpine Resort	Low-Moderate	
Hosmer	Low-Moderate	
West Fernie	Low-Moderate	



Summary of Recommendations

Communication and Education

Recommendation 1: The RDEK should consider working together with unincorporated communities to develop a grassroots approach that supports the volunteer fire department and other community run groups in delivering enhanced education and communication initiatives. Public education programs could be enhanced by: 1) integrating a unit of “FireSmart” and wildfire safety into the elementary and high school curriculum for local children; 2) creating a “FireSmart” sticker program where Fire Department members attend residences and certify them as meeting “FireSmart” guidelines; 3) establishing local or sub-regional social media (e.g., Facebook and/or Twitter) accounts to communicate fire bans, high fire danger days, wildfire prevention initiatives and other relevant information in real-time; 4) producing and distributing fridge magnets that summarize FireSmart vegetation management and/or evacuation preparation kit lists; 5) delivering FireSmart education material at the time of issuing building permits; and, 6) providing current fire danger, wildfire prevention and reporting information at visitor centres and facilities that attract tourists.

Recommendation 2: The RDEK, in cooperation with volunteer fire departments, should consider employing a Fire Prevention Officer as a shared resource to deliver education programs to Electoral Area communities.

Recommendation 3: The RDEK, in cooperation with volunteer fire departments, should consider publishing regular wildfire safety news updates during the fire season, such as burn bans, FireSmart tips, fire safety reminders, local fire safety education events/news and website links, in local publications such as the Kootenay Advertiser, Fernie Free Press, the Invermere Valley Echo, the Columbia Valley Pioneer and the Cranbrook Daily Townsman.

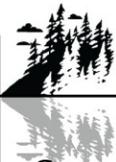
Recommendation 4: The RDEK should consider educating property owners who live outside Fire Protection Areas of their status and ensure they are informed of the ways in which they are and are not protected in the event of structural fire and/or wildfire. Where practical, residents should be encouraged to join existing Fire Protection Areas given the protection benefit this provides both to those residents from fighting structural fires and the greater population through preventing wildfire ignitions from structural fires. Where this is not practical, education should target where they can make improvements to improve fire prevention, structure protection and evacuation.



Recommendation 5: The RDEK should consider opportunities to educate or require resort/campsite owners to develop and implement fire safety plans for alerting and evacuating guests, particularly outside Fire Protection Areas.

Recommendation 6: Currently, no websites exist for the RDEK, Volunteer Fire Departments or individual communities that show fire danger and information related to wildfire and preventative measures. Combined with social media initiatives, the RDEK should consider hosting web-based wildfire prevention information linked to the individual community websites. During the fire season, the website should display or link real-time information on fire bans and high fire danger (<http://www.bcforestfireinfo.gov.bc.ca/>). Ideally, the website would include an outline of community fire risks, links to MFLNRO Wildfire Management Branch, FireSmart and real-time fire danger and fire bans.

Recommendation 7: The RDEK should consider locating new signs or updating existing fire danger signs at the entrance and exit of each community on the main access route or at other strategic locations such as park entrances. Signage should include the wildfire reporting numbers provided at <http://bcwildfire.ca/prevention/reporting.htm>.



Structure Protection

Recommendation 8: The RDEK should consider changes that would improve the FireSmart conditions and suppression access for interface areas. There are several ways in which this can be achieved through different bylaws and guidelines; however it is recommended that NFPA 1142 (Water Supplies for Suburban and Rural Fire Fighting) and 1144 (Protection of Life from Wildfire) standards be used to develop specifications. Examples of how such changes can be incorporated include:

Official Community Plans: These should include a statement of support for structure protection initiatives, Development Permit Exemptions, Wildfire Hazard Development Permit Area Guidelines (with checklists and requirements for a professional report assessing developments for FireSmart vegetation and access/egress [specifications from NFPA 1144]). The Rockyview Official Community Plan already in bylaw is a good example of an OCP that addresses interface fire issues in the RDEK.

Section 219 Covenants in Wildfire DP Areas. These may be used to control development or specify FireSmart construction principles.

Subdivision Servicing Specifications: These should specify fire flows/water delivery systems, fire protection water storage systems and access/egress routes. New subdivisions should be developed with multiple access points that are suitable for evacuation and the movement of emergency response equipment based on threshold densities of houses and vehicles within the subdivisions. Gated emergency access roads or trails may be alternatives to developing secondary public access roads where constrained. Consideration should be given to requiring roadways to be placed adjacent to forested lands (e.g., ring roads), rather than homes being adjacent to forest (specifications from NFPA 1144 and 1142).

Sprinkler Bylaw: Internal and/or external sprinklers for buildings.

Zoning Bylaws: These should indicate the proper siting of structures in Wildfire Hazard DP Areas (including critical infrastructure) (specifications from NFPA 1144).

Building Bylaws: These should specify the recommended roofing and building materials to be used in Wildfire Hazard DP Areas (specifications from NFPA 1144).

Recommendation 9: The RDEK should consider enhancing its existing fireworks bylaw to also ban setting off fireworks during open fire bans. Additionally, the RDEK should consider expanding this bylaw, or creating a new bylaw, to enable a Fire Chief to impose a total ban on campfires and open burning during periods of high fire danger when provincial bans are not already in place. The bylaw should consider effective and efficient enforcement measures and powers that extend to rural Fire Chiefs.

Recommendation 10: The RDEK should consider ensuring that building and subdivision plans within interface areas are being reviewed by the Fire Chiefs.



Recommendation 11: The RDEK should consider working with the Building Policy Branch to create a policy structure that would enable communities within the District to better address wildland urban interface protection considerations for buildings under the BC Building Code.

Emergency Response

Recommendation 12: The RDEK should consider ensuring, through fire chiefs reviewing plans, that new subdivision developments in interface areas will provide water systems with adequate fire flows or water storage for firefighting. **In areas with appropriate water sources, dry hydrants should be installed to enhance water supplies.** Where water supplies are inadequate and dry hydrants cannot be provided, consider the placement of water storage tanks. If these are to provide year round supplies then tanks will need to be installed below ground. If this cannot be achieved then above ground tanks could be filled for the summer months to enhance summer water supplies. Supporting these initiatives may also allow some fire departments to achieve Superior Tanker Shuttle Accreditation within all or parts of their service areas, which is equivalent to hydrant coverage for fire insurance grading purposes. The RDEK should consider supporting the Jaffray and Baynes Lake Fire Departments in pursuing Superior Tanker Shuttle Accreditation.

Recommendation 13: In areas outside Fire Protection Areas, the RDEK should consider identifying and, where possible, improving access to water sources that may be used by structural protection crews in the event of a major wildfire. This information should be accessible to Incident Command in the event of a wildfire.

Recommendation 14: The RDEK should consider supporting fire departments to undertake structural triage within high risk (as identified in this plan) portions of their communities. Structural triage enables the identification of homes that are likely to be unsafe for firefighters in the event of a wildfire, and therefore not likely to be saved. Factors that contribute to these assessments include proximity of vegetation, flammability of the house and access considerations. This information, while beneficial to a Fire Department's tactical response plan, can also be provided to homeowners in order to educate them about how to improve the FireSmart condition of their home. Software programs exist to aid in these assessments, or 'tactical' plans can be developed by independent consultants.



Recommendation 15: The RDEK should consider supporting local fire departments, the RCMP and BC Ambulance, in requiring residents to ensure that each house has safe access and a clear and legible address displayed to help emergency response and evacuation efforts during a wildfire event.

Recommendation 16: The RDEK should consider establishing an integrated 'Wildfire Suppression Group' that meets annually to discuss the compatibility of equipment, to identify opportunities for sharing resources, to establish equipment caches to fill gaps, to assess communication compatibility and information transfer, and to plan joint training exercises. This group should consist of representatives from each RDEK Volunteer Fire Department, municipal departments and the Wildfire Management Branch.

Recommendation 17: The RDEK should consider reviewing Evacuation Plans for the Central, Elk Valley, South Country and Columbia Valley areas to ensure that they identify:

- Evacuation routes.
- Safe zones, marshalling points and aerial evacuation locations.
- Traffic control and accident management requirements.
- Responsibilities and resources for coordinating and policing evacuation.
- Individuals requiring assistance.
- Evacuation plans for parks.
- The location of any large pets or livestock requiring evacuation and where they can be evacuated to.
- Potential locations of evacuation centres in adjacent communities, and where and how services would be provided to evacuees.
- Volunteers or volunteer organizations that can assist during and/or after evacuation.
- Education/communication strategies to deliver Evacuation Plan information to residents, such as phone-in lines and telephone trees.

Recommendation 18: The RDEK should consider improving access over the long-term in areas with 1-way in and out access. It is recognized that this will not always be possible due to remoteness and cost. However, where secondary routes could potentially be established as development grows or on existing right-of-ways, these opportunities should be further investigated. Gated secondary access for emergency responders may be an option in some areas. As new subdivisions are planned, multiple access points that are suitable for evacuation and the movement of emergency response equipment should be part of subdivision design. The RDEK should consider requiring roadways to be placed between the forested wildland and subdivisions (ring roads) to ensure separation of structures from the forest.



Recommendation 19: The RDEK should consider options to replace the wooden bridge on Rosen Lake Road with a more fireproof structure.

Recommendation 20: The RDEK should consider developing an annual or biannual communications system training program for volunteer fire departments to ensure that members know how to properly use the radio system during a major emergency situation.

Recommendation 21: The RDEK should consider supporting local fire departments in recruiting and retaining volunteer firefighters, and investigate means to facilitate this such as reductions in property taxes or other measures to compensate volunteers for the time they contribute and risks they face.

Recommendation 22: The RDEK should consider supporting volunteer fire departments in establishing a region-wide mutual aid agreement. In the event that Elko establishes a fire department, consideration should be given to extending the automatic aid agreement between Baynes Lake and Jaffray Fire Departments to include Elko.

Recommendation 23: The RDEK should consider supporting the Jaffray and Baynes Lake Fire Departments in either upgrading an existing truck to a CAF system or in including a CAF system in a future truck purchase. Preferably the CAF system would be installed on a 4x4 truck.

Recommendation 24: The RDEK should consider supporting local fire departments to obtain access keys to gated roads that access forested land and subdivisions.

Recommendation 25: Given that it is local government responsibility to take fire control actions, including actioning interface fires, the RDEK should consider supporting all local fire departments to maintain the following standard of interface firefighting training: 1) The S100 course training should be given on an annual basis; 2) The S215 course instruction should be given to Fire Chiefs and Deputies; and, 3) Incident Command System training should be given to Fire Chiefs and Deputies.



Recommendation 26: The RDEK should consider supporting volunteer fire departments to review their existing inventories of wildfire firefighting equipment to ensure that this equipment is functional and adequate to resource the interface area. Fire Department personnel should have correct personal protective equipment and wildland firefighting tools. Hoses, pumps and other equipment should be compatible with MFLNRO wildland firefighting equipment. To reduce the burden on each department to maintain a full complement of interface equipment, consideration should be given to establishing several mobile regional equipment caches that can be located strategically throughout the RDEK during periods of high fire danger. These caches would need to be maintained by departments with appropriate capacity and could be shared with municipal departments. Caches may or may not include Structural Protection Units. A number of Structural Protection Unit (SPU) resources are already maintained in volunteer fire departments and the deployment options, location and content of these resources should be known by emergency coordinators. Sprinkler kits should meet “Structural Protection Unit Inventory Specifications” listed at <http://www.ubcm.ca/EN/main/services/structural-protection-units.html>.

Recommendation 27: The RDEK should consider ensuring that all fire stations are equipped with a back-up power supply system that, at a minimum, maintains the communication systems in the event that the regular power supply is interrupted.

Recommendation 28: The RDEK should consider working with local water system managers and/or owners to ensure that critical pump stations have adequate back-up power generators to maintain function in the event that the regular power supply is interrupted.

Vegetation (Fuel) Management

Recommendation 29: The RDEK should consider periodically reviewing the hazardous fuels as part of a CWPP update cycle, to capture changes in fuel type, development, technology, access or ownership that could make these fuels strategically suitable and feasible for future fuel treatments. Funding program changes may also lead to new opportunities to address hazardous fuels under different tenures.



Recommendation 30: The RDEK, should investigate the potential for a fuel management program with an initial focus on the Priority Treatment Areas (Priority 1) identified in this plan (see Appendix 1). A review of ownership boundaries and overlapping jurisdictions should be undertaken before pursuing funding for fuel treatments on any areas. A qualified professional forester (RPF), with a sound understanding of fire behaviour and fire suppression, should develop the treatment prescription. Exact boundaries are likely to change subject to field review and prescription development. All resource values should be considered with the prescription development and other qualified professionals (e.g., Professional Geoscientist [P.Geo], Registered Professional Biologist [RPBio]) should be consulted as required.

Recommendation 31: Priority 1c Treatment Areas (see Appendix 1) should be considered for inclusion in a fuel management program in the event that constraints can be overcome. Priority 2 Treatment Areas (see Appendix 1) should be considered for inclusion in a program if development occurs in an area to make the fuel break more strategic.

Recommendation 32: The RDEK should consider working with the Rocky Mountain Trench Ecosystem Restoration Program to determine whether any of the Priority Treatment Areas may be suitable candidates for meeting dual objectives of ecosystem restoration and fuel treatment.

Recommendation 33: Throughout the Region, the majority of the hazardous fuel types identified in FireSmart Treatment Zones are found on private property. The RDEK should consider working with the private property owners to ensure that they understand the importance and principles of FireSmart (see recommendation 1).

Recommendation 34: The RDEK should consider ensuring that local stakeholder groups are consulted during fuel management prescription planning and implementation. This will maximize local community understanding of and support for fuel reduction treatments, and will ensure that those treatments are sensitive to locally important values at risk.

Recommendation 35: The RDEK should consider working with BC Hydro to ensure that: 1) transmission infrastructure can be maintained and managed during a wildfire event; and 2) the right-of-way vegetation management strategy considers maintaining low hazard fuel loading.



Recommendation 36: The RDEK should consider working with the Ministry of Transportation and Infrastructure (MOTI) to ensure that the edges of major access routes are mowed during the summer to reduce the risk of ignition and maintain safe travel corridors.

Recommendation 37: The RDEK should consider working with BC Parks and Parks Canada to maintain vegetation adjacent to roads, trails and campsites in a low fuel hazard condition (i.e., mowed, low surface fuel/shrub loads and low coniferous tree density).

Implementation Plan

The RDEK should consider forming a 'CWPP Implementation Team' composed of Regional District staff from relevant departments to develop and coordinate the implementation of recommendations contained within these CWPPs and the Panorama CWPP based on the recommendations that are adopted and supported by the Regional Board.

The Implementation Team's role should be to prioritise recommendations within each of the key elements of communication and education, structure protection, emergency response and vegetation (fuel) management. Specific implementation responsibilities should be delegated to individuals or smaller groups from relevant Regional Departments. Communication and education, and structure protection are a high priority across all communities within the Regional District. These two elements have the greatest emphasis in communities that are outside fire protection areas, or where there is moderate or greater wildfire risk and limited opportunity to implement publicly funded fuel treatments, because residents need to understand what they can and should do to reduce wildfire risk. Emergency response is a high priority for all communities within fire protection areas. Vegetation (fuel) management is a high priority in all communities with moderate or greater wildfire risk and with opportunities to implement Priority 1 fuel treatments.

The initiation of a fuel management program is a key outcome of the CWPP process for the RDEK. A fuel treatment program involves the selection of sites for treatment (i.e., from Priority 1 areas), the development of fuel management prescriptions, the implementation of the operational fuel treatment and then, in most cases, periodic fuel break maintenance. Funding sources available for this work may change over time but the current funding source for treatments on Crown and municipal land is administered by the Union of BC Municipalities (technical assessment of project merit is made by Wildfire Management Branch); therefore the implementation plan is targeted at this funding source. There are several steps in funding available from UBCM. The first step is gaining funding for CWPPs, which identify potential treatment or demonstration project areas. An approved CWPP is then needed to apply for prescription funding for identified priority treatment areas. An approved prescription is needed to apply for demonstration projects or operational fuel treatments. The remainder of this plan addresses the implementation of the fuel management program under the current UBCM administered funding structure.



Funding applications are relatively straight forward and do not have a substantial cost associated with preparation, though the cost of application preparation is not covered by UBCM. In our experience, the cost of a fuel treatment prescription ranges from \$10,000 to \$17,500 depending on the complexity of the site and, to some extent, the size. Completing prescriptions for multiple areas at one time can result in considerable cost savings due to economies of scale realised during consultation, information sharing and field work. Operational fuel treatment costs vary greatly depending on the method used and site complexity but range from \$6,000/ha to more than \$20,000/ha. Based on work B.A. Blackwell & Associates Ltd. has recently supervised in the Kootenays the average treatment cost is \$11,500/ha; however, this was for manual treatments (no machine work) so this cost is likely higher than could be expected on sites that can be treated using machines. The following steps are suggested for implementation of the fuel management program:

1. The CWPP Implementation Team, or their designate, should:

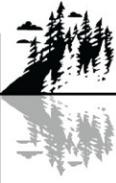
- Determine the annual number of fuel treatment prescriptions targeted for completion. Fuel treatment prescriptions are funded at 75%; the RDEK contribution for these would be expected to range from \$2,500 to \$4,375 per prescription based on the cost range estimated above.
- Determine the target number of treatment areas or total hectares to be treated annually based on available budgets or in-kind contribution funding sources.
 - For operational fuel treatments, UBCM funding will contribute 90% up to \$100,000 and 75% of \$101,000 - \$400,000 in funding per year. For example:
 - If the total treatment cost is estimated to be \$111,111.11, then UBCM will pay \$100,000 and the RDEK must pay \$11,111.11 either in cash or in-kind contributions.
 - If the total treatment cost is estimated to be \$250,000.00, then you would work out the funding as follows:
 - 90% of eligible costs for up to \$100,000 calculated as $\$100,000/0.9 = \$111,111.11$
 - Remainder is $\$250,000.00 - \$111,111.11 = 138,888.89$
 - 75% of eligible costs of the remaining amount calculated as $\$138,888.89 * 0.75 = \$104,166.67$
 - Therefore, $UBCM (\$204,166.67) + RDEK (\$45,833.33) = \$250,000$
 - Because the RDEK is a regional district, they may be eligible to apply for more than \$400,000 funding per calendar year.



- The RDEK contributions may include in-kind costs, cash or a combination of both. Eligible in-kind contributions can include monetized values for staff time, meeting spaces or other resources and administration costs. Funding from other grant programs can also be used as in-kind unless they are from the Forest Investment Account (Ministry of Forest, Lands and Natural Resource Operations). Revenue generated from merchantable timber removed incidentally during treatment can also form part or all of the in-kind contribution (revenue in excess of the community in-kind contribution is deducted from the net project cost and reduces the UBCM grant amount).
 - In the first year of the program, the RDEK should consider setting aside a cash amount (either from a grant or from Regional District funds) and estimating the value of staff time, meeting spaces or other resources to leverage the UBCM grant amount for operational fuel treatments. The prescriptions will estimate whether there is any potential revenue from the woody fuel removed and the operational treatment will realise that value if the market exists but, in the first year, it may be unwise to rely on timber revenue to leverage funding for treatments unless the market is proven. Results from the first year can be used to better estimate the combination of cash, in-kind and revenue generation that will actually be available to leverage funds for treatments in future years.
2. The Implementation Team should share the priority treatment area GIS data with the Rocky Mountain Trench Ecosystem Restoration Program to identify any polygons that may be treated under that program, or whether there are partnership opportunities. This same information should be shared with incorporated municipalities, as they may be planning fuel treatments outside their boundaries and there may be opportunities to share in-kind costs.
 3. The Implementation Team should contact the Wildfire Management Branch at the beginning of each year to determine whether there are any polygons on Crown land that their crews could treat or maintain if they are available. Given that availability of the crews is uncertain during the fire season, the polygons assigned to them for treatment should ideally be areas that are expanding on or maintaining completed treatment areas (i.e., so that priority treatment areas are not left partially treated).
 4. Once the Implementation Team has determined the number of fuel treatment prescriptions to be prepared for the current year, responsibility for preparing the UBCM funding applications for specific priority treatment areas should be assigned. Intake dates for funding submissions, guidelines and application forms are posted on <http://www.ubcm.ca/EN/main/funding/community-safety/strategic-wildfire-prevention.html>. Descriptions and maps of potential treatment areas can be sourced from the CWPPs but exact boundaries are likely to change subject to field review and prescription development.



5. Once prescription funding is secured, a qualified professional forester (RPF) with a sound understanding of fire behaviour and fire suppression should develop the treatment prescription. This individual will likely be a hired consultant unless the RDEK has such a resource available on staff. As part of the prescription development process:
 - All resource values should be considered with the prescription development and other qualified professionals (e.g., Professional Geoscientist [P.Geo], Registered Professional Biologist [RPBio]) should be consulted as required.
 - Information sharing should be initiated with First Nations and relevant government agencies.
 - Local stakeholder groups should be consulted during fuel management prescription planning.
 - Any treatment areas or portions thereof that are likely to be developed or harvested in the near term should be excluded from treatment.
 - Field work for prescriptions should ideally be undertaken during the snow free period so that surface fuel conditions can be adequately assessed and ecological, riparian, hydrological, terrain or other considerations can be properly assessed.
 - Estimates should be made of the volume, species and potential revenue from any merchantable timber that will be removed to meet fuel treatment objectives.
 - The proposed cost of fuel treatment activities should be estimated to aid in the preparation of the Operational Fuel Treatment funding application.
 - The treatment area should have lay out and traversing completed.
 - The expected schedule for fuel treatment maintenance should be specified (i.e., 5 years, 10 years etc.).
6. When the prescription is completed, the RDEK must submit it and a final report form within 30 days of project completion as outlined in the project approval letter.
7. Once the prescription is approved, the Implementation Team should assign responsibility to prepare the UBCM funding applications for the operational treatment phase. Intake dates for funding submissions, guidelines and application forms are posted on <http://www.ubcm.ca/EN/main/funding/community-safety/strategic-wildfire-prevention.html>. Treatment costs should be estimated during the prescription phase and these costs should be used in the application. Some cost estimates should also be included to enable the prescribing forester, or another suitably qualified RPF, to participate in any further public consultation and



periodically check the fuel treatment work and communicate with the fuel treatment contractor to ensure that the outcomes meet the intent of the prescription.

8. When implementation funding has been secured, the fuel treatment work should be put out to tender. Preferably, operations should occur in the period from snowmelt up until snowfall but timing may be subject to site-specific conditions. Past experience in fuel treatment work should be scored highly in the selection criteria because the outcomes expected from a fuel treatment prescription and the public profile of the treatment vary from a typical timber harvest scenario. Public information signage should be posted and notifications should be delivered to local residences adjacent to treatment areas.
9. When the operational fuel treatment is completed, the RDEK must submit a final report form and supporting information within 30 days of project completion as outlined in the project approval letter.
10. This process should continue annually to address priority treatment areas identified in current CWPPs, or that are prioritized in the future. Maintenance of completed treatments should also be built in to the long-term schedule. Opportunities to reduce the financial burden of this work should be reassessed annually to take advantage of new funding schemes, bioenergy markets or other options as they become available. The priority fuel treatment areas should be reviewed periodically (5 – 10 years) as CWPPs are updated because values at risk, hazardous fuels, funding structures and tenures will change over time and priorities will shift.

References

- Davies, J.; Coulthard, M.; Zukanovic, N. 2010. Resort Wildfire Protection Plan, Panorama Mountain Resort. Contract report completed for Reg Nolander, Ministry of Tourism, Culture and Arts.
- Downey, P. 2011. Hazard, Risk & Vulnerability Assessment. Contract report prepared for the Regional District of East Kootenay.



Appendix 1 - Priority Treatment Units

Electoral Area	Unit Label	Priority	Location	Ownership	Area (ha)	Comments
A	ElkV1	1	Elk Valley Road	Crown	11.1	Good candidate for FireSmart structure protection treatment.
B	Bay1	1	Baynes Lake	Crown	19.7	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
B				Other	2.6	
B	Bay2	1	Baynes Lake	Crown	19.7	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
B	Bay3	1	Baynes Lake	Crown	35.8	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
B				Other	1.7	
B	Elk1	1	Elko	Crown	199.2	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
B	Elk5	1	Elko	Crown	1.4	Good candidate for FireSmart structure protection treatment.
B	Elk7	1	Elko	Crown	22.9	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
B	Gal1	1	Galloway	Crown	78.7	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
B	Gra2	1	Grasmere	Crown	171.3	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
B	Gra3	1	Grasmere	Crown	54.4	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
B	Jaf5	1	Jaffray	Crown	16.3	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.



Electoral Area	Unit Label	Priority	Location	Ownership	Area (ha)	Comments
B	New2	1	Newgate	Crown	32.6	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
B	Tie1	1	Tie Lake	Crown	51.6	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
B				Other	6.1	
B	Tie3	1	Tie Lake	Crown	31.5	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	For1	1	Fort Steele	Crown	10.3	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	Gol2	1	Gold Creek	Crown	62.3	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	Gol3	1	Gold Creek	Crown	162.1	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	Gol5	1	Gold Creek	Crown	105.4	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	Gre2	1	Green Bay	Crown	33.2	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	Gre3	1	Green Bay	Crown	89.0	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	Moy1	1	Moyie	Crown	92.4	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	Moy2	1	Moyie	Crown	31.2	Good candidate for fuel break to create fuel discontinuity.



Electoral Area	Unit Label	Priority	Location	Ownership	Area (ha)	Comments
C				Other	12.8	Treatment area can be netted down to meet fuel break objectives.
C	Moy3	1	Moyie	Crown	20.6	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	WestH3	1	West Hill	Crown	118.9	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	WestH4	1	West Hill	Crown	180.4	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	Westv1	1	Westview Estates	Crown	67.8	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	Wyc1	1	Wycliffe Sth	Crown	441.3	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	Wyc2	1	Wycliffe	Crown	129.9	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
C	Bul1	1c	Bull River	Crown	79.4	May be good candidate for fuel break if some adjacent private land also treated to create fuel discontinuity near structures.
C	For2	1c	Fort Steele	Crown	108.0	May be good candidate to reduce spotting potential into Fort Steele but very large unit with difficult access. Separated from interface.
E	Mea1	1	Meadowbrook	Crown	54.5	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
E	Mea3	1	Meadowbrook	Crown	29.3	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.



Electoral Area	Unit Label	Priority	Location	Ownership	Area (ha)	Comments
E	Mea5	1	Meadowbrook	Crown	23.8	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
E	Pre1	1	Premier Lake	Crown	14.8	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
E	Pre4	1	Premier Lake	Crown	135.0	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
E	Sko1	1	Skookumchuk rural	Crown	18.6	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
E	StM2	1	St. Mary's Lake Road	Crown	95.3	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
E	Ta2	1	Ta Ta Creek	Crown	30.2	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
E	Was2	1	Wasa	Crown	79.5	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
E	Was4	1	Wasa	Crown	43.4	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
E	Was5	1	Wasa	Crown	28.2	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
E	Mea4	1c	Meadowbrook	Crown	5.9	Good candidate for treatment but access difficult. Private land fuel hazard exists between unit and structures.
E	StM1	1c	St. Mary's Lake Road	Crown	32.2	Good candidate for fuel break if fuels between road and treatment unit could also be treated.



Electoral Area	Unit Label	Priority	Location	Ownership	Area (ha)	Comments
E	Was1	1c	Wasa	Crown	43.0	Good candidate for fuel break if fuels between road and treatment unit could also be treated.
FG	Col3	1	Columbia Lake	Crown	27.6	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
FG	Dry1	1	Dry Gulch	Other	94.5	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
FG	Dry2	1	Dry Gulch	Crown	7.8	Good candidate for fuel break to create fuel discontinuity
FG	Fair4	1	Fairmont rural	Crown	42.9	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
FG	Jun1	1	Juniper Heights	Crown	44.8	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
FG	Jun2	1	Juniper Heights	Crown	17.4	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
FG	Jun3	1	Juniper Heights	Crown	22.6	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
FG	Rad1	1	Radium	Crown	5.6	Good candidate for FireSmart structure protection treatment.
FG	Rad2	1	Radium	Crown	66.6	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
FG	Tob1	1	Toby Benches	Crown	38.6	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
FG	Tob2	1	Toby Benches	Crown	44.3	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.



Electoral Area	Unit Label	Priority	Location	Ownership	Area (ha)	Comments
FG	Tob3	1	Toby Benches	Crown	52.5	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
FG	Tob4	1	Toby Benches	Crown	29.5	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
FG	Tob5	1	Toby Benches	Crown	24.6	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
FG				Other	1.1	
FG	Tob6	1	Toby Benches	Crown	16.9	Good candidate for fuel break to create fuel discontinuity. Treatment area can be netted down to meet fuel break objectives.
FG	Bri4	1c	South of Brisco	Crown	5.8	Good candidate for treatment if break could be widened to encompass trails and surround structures on private land.
FG	Bri5	1c	South of Brisco	Crown	7.3	Good candidate for treatment if private land to the west could be treated and anchored to the highway. Slope is quite steep.
FG	Col2	1c	Columbia Lake	Crown	9.7	Good candidate for treatment if private land to the east could be treated and anchored to the roadways.
FG	LakV1	1c	Lake View	Other	3.9	Good candidate for FireSmart structure protection treatment.
FG	Rad3	1c	Radium	Crown	2.1	Candidate for treatment if private land to the west treated along roadway and around structures.
FG				Other	0.2	
FG	Wil1	1c	Wilmer	Crown	16.5	Candidate for treatment if private land to the east treated along roadway and around structures.
	Total Priority 1				3718.5	
B	Bay4	2	Baynes Lake	Crown	57.6	Meets WUI threat worksheet criteria but further from interface. Private land fuel hazard exists between unit and structures.
B	Elk2	2	Elko	Crown	55.5	Meets WUI threat worksheet criteria but few structures. Private land fuel hazard exists between unit and structures.



Electoral Area	Unit Label	Priority	Location	Ownership	Area (ha)	Comments
B	Elk3	2	Elko	Crown	24.3	Meets WUI threat worksheet criteria but few structures.
B	Elk4	2	Elko	Crown	14.5	Meets WUI threat worksheet criteria but few structures. Private land fuel hazard exists between unit and structures.
B	Elk6	2	Elko	Crown	3.6	Meets WUI threat worksheet criteria but few structures adjacent and fuels already discontinuous.
B	Elk8	2	Elko	Crown	24.3	Meets WUI threat worksheet criteria but few structures. Adjacent private land fuel hazard between unit and sawmill.
B	Gal2	2	Galloway	Crown	104.1	Meets WUI threat worksheet criteria and would reduce spotting potential to sawmill but very large unit with limited access.
B	Gra1	2	Grasmere	Crown	68.3	Meets WUI threat worksheet criteria but few structures. Private land fuel hazard exists between unit and structures.
B	Jaf1	2	Jaffray	Crown	27.7	Meets WUI threat worksheet criteria but few structures.
B	Jaf2	2	Jaffray	Crown	51.7	Meets WUI threat worksheet criteria but further from interface. Private land fuel hazard exists between unit and structures.
B	Jaf3	2	Jaffray	Crown	36.0	Meets WUI threat worksheet criteria but further from interface and discontinuous fuels between unit and structures.
B	Jaf4	2	Jaffray	Crown	5.3	Meets WUI threat worksheet criteria but further from interface. Private land fuel hazard exists between unit and structures.
B	Lak1	2	Lake Koochanusa	Crown	74.4	Meets WUI threat worksheet criteria but few structures. Private land fuel hazard exists between unit and structures.
B	Lak2	2	Lake Koochanusa	Crown	27.4	Meets WUI threat worksheet criteria but further from interface and discontinuous fuels between unit and structures.
B	New1	2	Newgate	Crown	27.8	Meets WUI threat worksheet criteria but few structures. Private land fuel hazard exists between unit and structures.



Electoral Area	Unit Label	Priority	Location	Ownership	Area (ha)	Comments
B	Tie2	2	Tie Lake	Crown	11.2	Meets WUI threat worksheet criteria but further from interface. Private land fuel hazard exists between unit and structures.
C	Gol1	2	Gold Creek	Crown	181.5	Meets WUI threat worksheet criteria but further from interface. Private land fuel hazard exists between unit and structures.
C	Gol4	2	Gold Creek	Crown	37.2	Meets WUI threat worksheet criteria but further from interface and discontinuous fuels between unit and structures.
C	Gre1	2	Green Bay	Crown	9.6	Meets WUI threat worksheet criteria but few structures. Private land fuel hazard exists between unit and structures.
C	Gre4	2	Green Bay	Crown	7.4	Meets WUI threat worksheet criteria but few structures. Private land fuel hazard exists between unit and structures.
C	War1	2	Wardner	Crown	16.8	Meets WUI threat worksheet criteria but further from interface. Private land fuel hazard exists between unit and structures.
C	WestH1	2	West Hill	Crown	93.9	Meets WUI threat worksheet criteria but further from interface. Private land fuel hazard exists between unit and structures.
C	WestH2	2	West Hill	Crown	31.7	Meets WUI threat worksheet criteria but further from interface. Private land fuel hazard exists between unit and structures.
C	WestV2	2	Westview Estates	Crown	123.2	Meets WUI threat worksheet criteria but few structures.
E	Mea2	2	Meadowbrook	Crown	32.4	Meets WUI threat worksheet criteria but difficult access and few structures. Private land fuel hazard exists between unit and structures.
E	Pre2	2	Premier Lake	Crown	59.6	Meets WUI threat worksheet criteria but difficult terrain and further from interface. Private land fuel hazard exists between unit and structures.



Electoral Area	Unit Label	Priority	Location	Ownership	Area (ha)	Comments
E	Pre3	2	Premier Lake	Crown	40.0	Meets WUI threat worksheet criteria but difficult terrain, access and few structures. Private land fuel hazard exists between unit and structures.
E	StM3	2	St. Mary's Lake Road	Crown	55.3	Meets WUI threat worksheet criteria but difficult terrain and further from interface. Private land fuel hazard exists between unit and structures.
E	Ta1	2	Ta Ta Creek	Crown	10.9	Meets WUI threat worksheet criteria but difficult access, few structures and wildland fuels already discontinuous.
E	Ta3	2	Ta Ta Creek	Crown	53.3	Meets WUI threat worksheet criteria but further from interface. Private land fuel hazard exists between unit and structures.
E	Was3	2	Wasa	Crown	293.2	Meets WUI threat worksheet criteria but difficult terrain, access and few structures. Private land fuel hazard exists between unit and structures.
FG	Bri1	2	Brisco	Crown	27.4	Meets WUI threat worksheet criteria but hazardous fuels on private land between structures and treatment unit limit its strategic value.
FG	Bri2	2	Brisco Rural	Crown	22.1	Meets WUI threat worksheet criteria but few structures.
FG	Bri3	2	Brisco Rural	Crown	40.0	Meets WUI threat worksheet criteria but few structures.
FG	Col1	2	Columbia Lake	Other	2.4	Potential FireSmart structure protection treatment but unit size is of limited value and looks likely to become subdivision access.
FG	Fair1	2	Fairmont Hot Springs	Crown	115.9	Meets WUI threat worksheet criteria but difficult terrain and further from interface.
FG	Fair2	2	Fairmont Hot Springs	Crown	30.3	Meets WUI threat worksheet criteria but difficult terrain and further from interface. Private land fuel hazard exists between unit and structures.
FG	Fair3	2	Fairmont Hot Springs	Crown	58.6	Meets WUI threat worksheet criteria but difficult terrain and further from interface. Private land fuel hazard exists between unit and structures.



Electoral Area	Unit Label	Priority	Location	Ownership	Area (ha)	Comments
FG	Jun4	2	Juniper Heights	Crown	8.4	Meets WUI threat worksheet criteria but difficult to access and relatively few structures.
FG	Rad4	2	Radium	Other	32.3	Meet WUI threat worksheet criteria but difficult terrain and further from interface. Private land fuel hazard exists between unit and structures.
FG				Crown	20.5	
FG	Win1	2	Windermere	Crown	14.1	May have value as a FireSmart structure protection treatment if cleared area is developed.
Total Priority 2					2031.8	