Faulder/Meadow Valley

FIRESMART COMMUNITY ASSESSMENT REPORT

Prepared for

REGIONAL DISTRICT OF OKANAGAN-SIMILKAMEEN

&

FAULDER/MEADOW VALLEY FIRESMART BOARD

Andy Low, RPF

DWM WILDFIRE MANAGEMENT INC. | 11510 UPPER SUMMIT DRIVE, COLDSTREAM BC V1B 2B4

Acknowledgments

A number of Faulder/Meadow Valley residents have contributed a significant amount of time and energy to this FireSmart project. The author thanks all the residents who participated in the community FireSmart event, as well as the guest speakers from the RDOS, RCMP, Bartlett Tree Experts and First Response who provided their time and expertise to make the event a success. Mark Woods, Community Services Manager with the RDOS, has been a strong supporter of wildfire management initiatives in the region and his efforts on behalf of residents are greatly appreciated. Brandy Maslowski, Emergency Services Supervisor with the RDOS has supported the FireSmart projects through a busy 2017. Special thanks go to Judy Gibson at Camp Boyle for providing the perfect venue for the FireSmart event. Special acknowledgement goes to the following Faulder/Meadow Valley residents for their commitment and effort to helping to make their neighbourhood a FireSmart Community:

Bonnie Milton

Cindy Boehm

Dave Boehm

Kathi Penny

Doug Penny

Ian Christensen

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1.0 Introduction

The FireSmart Canada Community Recognition Program is designed to provide an effective management approach for preserving wildland living aesthetics while reducing community ignition potential during a wildland-urban interface (WUI) fire. The program can be tailored for adoption by any community and/or neighborhood association that is committed to ensuring its citizens maximum preparation for wildland fire. The following Community Assessment Report (CAR) is intended to be a resource for residents of Faulder and Meadow Valley for carrying out the recommendations and actions contained in the Faulder/Meadow Valley FireSmart Community Plan (FCP).

Both the CAR and FCP have been developed by a trained Local FireSmart Representative (LFR), in conjunction with the Faulder/Meadow Valley FireSmart Board. Funding for the Faulder/Meadow Valley FireSmart project was provided by the Union of BC Municipalities (UBCM) Strategic Wildfire Prevention Initiative in the form of a FireSmart Planning Grant to the Regional District of Okanagan-Similkameen (RDOS). The grant enabled the RDOS to retain the services of Davies Wildfire Management Inc. to manage the project, in collaboration with the RDOS.

FIGURE 1 Faulder and Meadow Valley are unincorporated communities north west of Summerland.

Originally, this project was intended to focus solely on Faulder. However, there was such a good turnout for the initial community meeting from residents of both areas that the decision was made to broaden the scope and encourage as much interest as possible. As chance would have it, both communities were impacted by the Finlay Creek wildfire in early September 2017 with evacuation orders and alerts implemented for Meadow Valley and Faulder.

Community assessments were carried out in June and October 2017 by Andrew Low, RPF

2.0 Definition of the Ignition Zone

Faulder and Meadow Valley are situated in a wildfire environment. The wildland areas surrounding the community are typical of ecosystems that have developed with historically frequent low intensity fires. With the advent of modern forest protection policies, the typical fire cycle has been interrupted, contributing to a host of cascading ecological effects, including a buildup of forest fuels.

Wildfires have and will continue to occur in the Okanagan region – attempting to eradicate fire has proven to be an impossible strategy. The variables in a wildfire scenario are when the fire will occur, and where. This assessment report addresses the wildfire- related characteristics of Faulder/Meadow Valley and examines the area's exposure to wildfire as it relates to home ignition potential. The assessment does not focus on specific homes, but examines the entire community.

A house ignites during a wildfire because of its relationship with everything in its surrounding ignition zone - the house and its immediate surroundings. To avoid a home ignition, a homeowner must eliminate the wildfire's potential relationship with their house. This can be accomplished by interrupting the natural path a fire takes. Changing a fire's path by clearing the ignition zone is an action that can prevent home loss. To accomplish this, flammable items such as excessive vegetation and flammable debris must be removed from the area immediately around the structure to prevent direct flame contact with the house. Reducing the volume of live and dead vegetation will affect the intensity of the wildfire as it nears the home.

Included in this assessment are observations made while visiting Faulder/Meadow Valley. The assessment addresses the ease with which home ignitions can occur under severe wildfire conditions and how these ignitions might be avoided within the ignition zones of affected residents. Faulder/Meadow Valley residents can reduce the risk of structure loss during a wildfire by taking actions within their ignition zones. This zone principally determines the potential for home ignitions during a wildland fire; it includes a house and its immediate surroundings within 100 m (Figure 2). Given the extent of this zone, the ignition zones of several homes sometimes overlap, and often spill over onto adjacent public or community land.

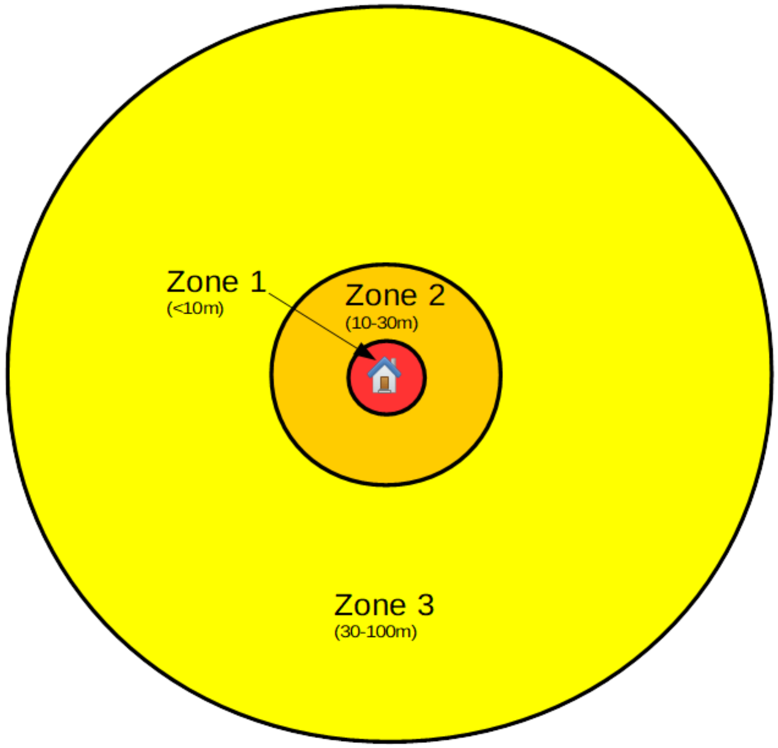


FIGURE 2 FireSmart Canada utilizes the concept of three priority zones surrounding a home to help residents prioritize their hazard reduction efforts. A home's immediate surroundings (Zone 1) is of immediate concern to the homeowner and should targeted aggressively to reduce ignition hazards to the home.

The results of the assessment indicate that wildfire behaviour and subsequent losses will be dominated by the residential characteristics of this area. The good news is that residents will be able to substantially reduce their exposure to loss by addressing neighbourhood vulnerabilities. Relatively small investments of time and effort will reap great rewards in wildfire safety.

3.0 Description of the Fire Environment

Wildland fire behaviour is influenced by the interaction of three broad environmental factors: fuel, weather and topography. Collectively, these factors describe the fire environment and determine the intensity and rate of spread of a wildland fire. A working knowledge of the factors that characterize the fire environment is helpful to building an awareness of hazard mitigation at the site level.

3.1 Fuels

In the context of wildland fire, fuel refers to the organic matter involved in combustion. When referring to the wildland-urban interface, structures, vehicles and other improvements become a component of the fuel complex. An awareness of the fuel conditions around the home will help residents properly assess and mitigate fuel hazards.

In Canada, wildland fuels are classified into 16 fuel types within the Canadian Forest Fire Behaviour Prediction (FBP) System. The FBP system is informed by the Canadian Forest Fire Danger Rating System (CFFDRS), which is the primary tool to obtain predictive wildfire management intelligence used by agencies across Canada.

3.1.1 Fuel layers

The structure and arrangement of fuels are described in terms of their horizontal and vertical continuity within three broad layers of the fuel complex – ground fuels, surface fuels and canopy (or aerial) fuels (Figure 3). Ground fuels occupy the *duff layer* and the uppermost portions of the soil mineral horizon. In general terms, the duff layer is comprised of decomposing organic material and is found beneath the litter layer and above the uppermost soil mineral horizon (A-horizon). The constituents of the duff layer lack identifiable form due to decomposition (as opposed to the *litter layer*, which is composed of identifiable material).

The surface fuel layer begins above the duff layer and extends 2 m vertically. Surface fuels are characterized by the litter layer (leaves, needles, twigs, cones etc.) as well as plants and dead woody material up to a height of 2 m. In some cases, surface fuels may act as *ladder fuels* that can carry fire from the surface fuel layer into the canopy layer.

Canopy fuels are the portions of shrubs and trees that extend from 2 m above the duff layer, upwards to the top of the fuel complex. Certain tree species, such as several spruce species (*Picea sp.)* are characterized by branches extending down to the forest floor, whereby these lower branches act as ladder fuels. Other species, particularly those found in drier, fire-maintained ecosystems, such as Ponderosa pine, lack these ladder fuels and form a distinct separation between the surface fuel layer and canopy fuel layer.

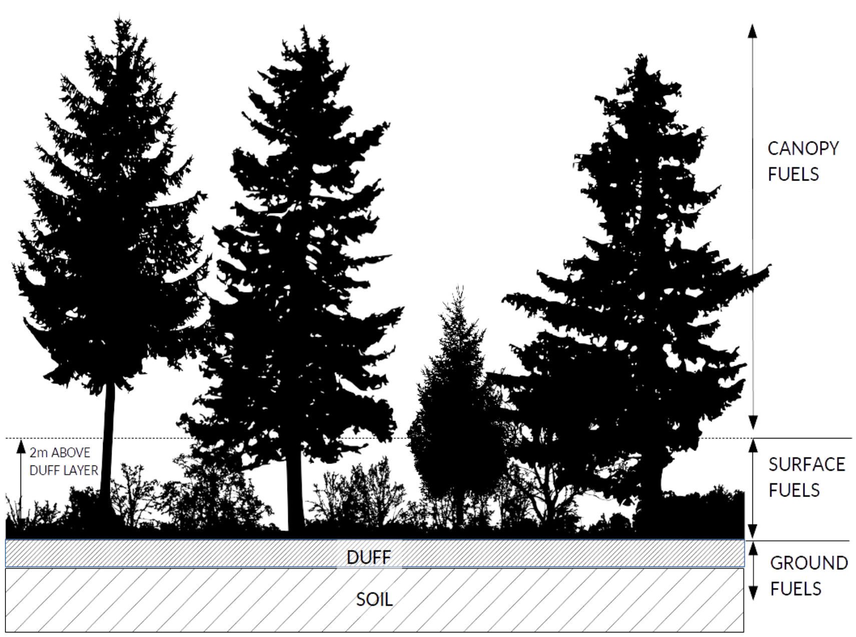


FIGURE 3 Wildland fuels can be described within three broad fuel layers: Ground fuels, surface fuels (to a height of 2 m above the duff layer), and canopy fuels. Canopy fuels are also referred to as aerial fuels.

3.1.2 Fuel size

Wildland fuel can be further described in terms of relative size – so called *fine fuels* and *coarse* or heavy fuels. Fine fuels include leaves and conifer needles, grasses, herbs, bark flakes, lichen, twigs etc. Large branches, downed logs and other large woody material are considered coarse or heavy fuels. Fine fuels have a higher surface area/volume ratio than coarse fuels, and this characteristic influences the rate of drying and ease of ignition.

With a higher surface area/volume ratio than coarse fuels, fine fuels are more readily influenced by changes in environmental conditions (e.g. relative humidity, wind, precipitation etc.). Dead fine fuels react to changes in environmental conditions at a relatively faster rate than green (i.e. live) fine fuels.

When available to burn, fine fuels ignite more easily and spread fire faster than coarser fuels. This characteristic makes fine fuels particularly susceptible to ignition from embers. For any given fuel, the more there is and the more continuous it is, the faster the fire spreads and the higher the intensities. Finally, fine fuels take a shorter time to burn out than coarser fuels.

3.2 Weather

Weather conditions affect the moisture content of wildland fuels and influence the rate of spread and intensity of a wildland fire. Weather is the most dynamic element of the fire environment and the most challenging to assess and forecast.

3.2.1 Wind

Wind speed and direction influences the rate and direction of spread of a wildland fire. The application of wind on open flame has the effect of tilting the flame away from the wind, and, in the case of wildland fire, placing the flame into closer proximity (or contact) with downwind fuels, and contributing to fire spread. Wind can also contribute to a preheating effect on fuels immediately downwind from open flame.

Wind can also hasten the drying process of exposed fuel, with the rate of drying being a function of the surface area/volume ratio. Having a relatively higher surface area/volume ratio, fine fuel moisture content is affected to a greater degree by wind when compared to coarse fuel.

3.2.2 Precipitation and relative humidity

The effect of moisture, in the form of precipitation or atmospheric moisture, on wildland fuel is dependent on the size and state of the fuel. The moisture content of dead fine fuel is highly reactive to changes in relative humidity, precipitation and wind. Fine fuels require less precipitation to reach saturation than do coarse fuels, and in turn dry out at a faster rate.

The moisture content of wildland fuel is constantly seeking to equalize with the moisture content of the surrounding air. This effect is most pronounced with dead fuel. When the relative humidity is high, dead fine fuels will readily absorb moisture *from* the air and conversely, when the relative humidity is low, dead fine fuels will readily give up moisture *to* the air.

3.3 Topography

In the context of the fire environment, topography refers to the shape and features of the landscape. Of primary importance for an understanding of fire behaviour is slope. When all other factors are equal, a fire will spread faster up a slope than it would across flat ground. When a fire burns on a slope, the upslope fuel particles are closer to the flame compared to the downslope fuels. As well, hot air rising along the slope tilts the flame uphill, further increasing the ease of ignition of upslope fuels. A pre-heating effect on upslope fuels also contributes to faster upslope fire spread.

Topography influences fire behavior principally by the steepness of the slope. However, the configuration of the terrain such as narrow draws, saddles and so forth can also influence fire spread and intensity. Slope aspect (i.e. the cardinal direction that a slope faces) determines the amount and quality of solar radiation that a slope will receive, which in turn influences plant growing conditions and drying rates.

3.4 Faulder/Meadow Valley Fire Environment

Faulder/Meadow Valley is situated in a fire environment characterized by fuel, weather and topographical factors that are conducive to the type of fire behaviour that could lead to home losses in the event of a WUI fire. An awareness of these conditions is key to focusing on the critical elements of hazard mitigation at the site level.

3.4.1 C7 Fuel type

In Faulder/Meadow Valley, the predominant FBP fuel type is C7 – Ponderosa Pine – Douglas-fir. The C7 fuel type is characterized by relatively open (<50% canopy closure), uneven-aged stands of Ponderosa pine (*Pinus ponderosa)* and Douglas-fir (*Pseudotsuga menziesii).* Generally, surface fuels are characterized by perennial grasses, herbs, and scattered shrubs. In the absence of periodic fire (or other maintenance), needle litter tends to build up and persist for some time. Duff layers are relatively shallow – typically less than 3 cm.

3.4.2 Climate and weather

The climatic conditions of the southern interior of British Columbia are broadly characterized by warm, dry summers and cool winters. The Okanagan is classified as a cold semi-arid climate. Not surprisingly, July - August is the period with lowest average relative humidity and highest daily average temperatures. What may be surprising to people not familiar with the southern interior climate is that June is normally the month with the highest average precipitation amounts (Figure 4).

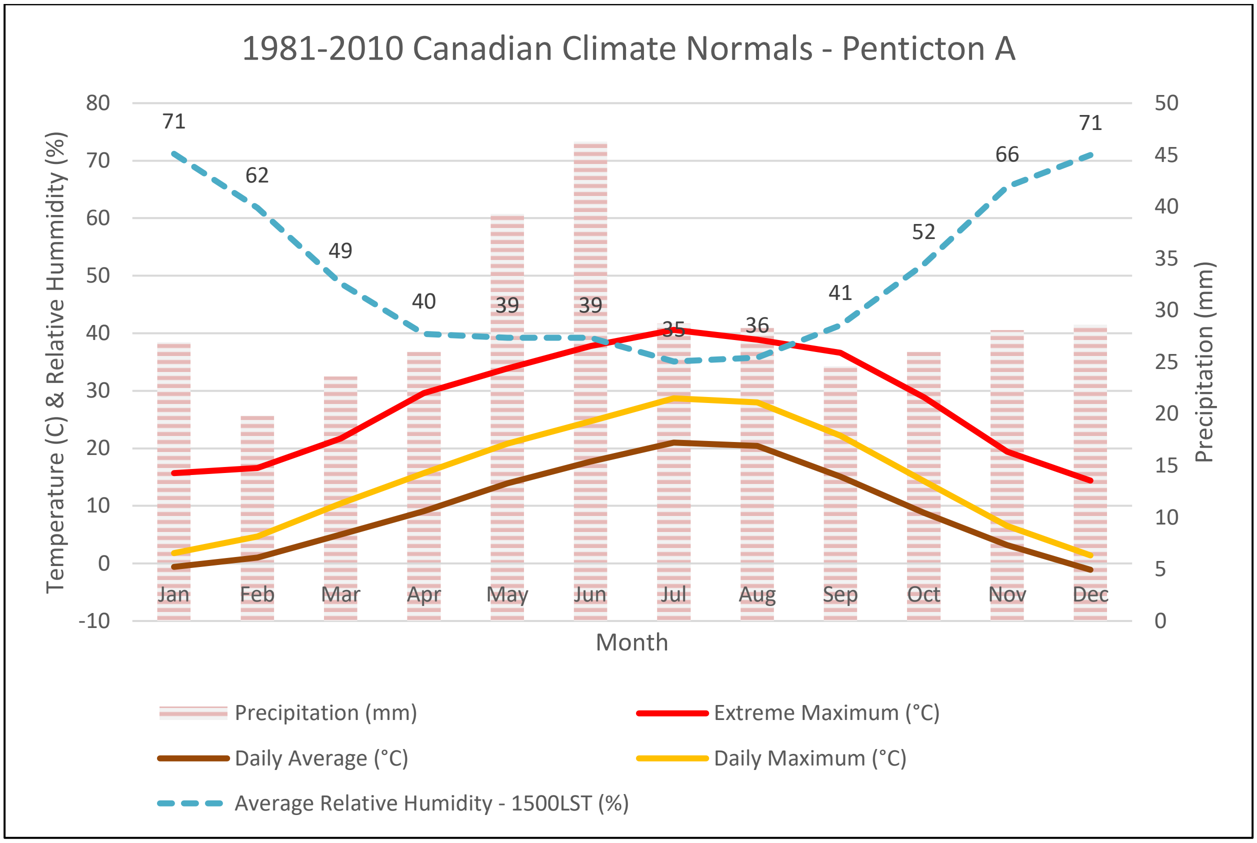


FIGURE 4 Canadian climate normals (1981-2010) for the Environment Canada Penticton 'A' weather station at the Penticton regional airport. July and August experience the lowest average relative humidity and highest temperatures. Important to note that the Okanagan routinely experiences relative humidity values well below the average values, on a diurnal pattern. NOTE: Penticton is the closest EC weather station with precipitation and RH normals data, and is therefore used in this report.

The term 'climate normals' refers to a 30-year average of climatological observations, updated every 10 years. Not every weather station has the required amount of observations to calculate climate normals, as is the case with certain variables in the Summerland climate station dataset. Therefore, temperature, precipitation and relative humidity data for Penticton is referred to in this report (Figure 4), as well as the wind variable for Summerland (Table 1).

As illustrated in Figure 4, the information presented for relative humidity is the average daily observation taken at 3:00 pm, local standard time. The published climate normals data does not include extreme minimum observations of relative humidity and it is important to bear in mind that summer minimum relative humidity observations occasionally fall below the average, sometimes to extremely low percentages. Relative humidity in the teens or even lower do occur in the Okanagan during the peak fire season. Occasions when the temperature value is higher than the relative humidity value are critical fire weather conditions that can lead to fast-spreading, intense wildfire behaviour. For example, an ambient air temperature of 30°C and a relative humidity of 25% (an example of a condition known as *cross-over*) can contribute to a greater ease of ignition in fine fuels, faster rate of spread and higher fire intensity.

The most frequent wind direction at the Summerland weather station is from the west (Table 1). Local topography will influence wind direction and speed at the microscale, and therefore Table 1 data is provided for information only.

TABLE 1 Wind station data (1981-2010) for the Environment Canada Summerland CS weather station. For the purposes of characterizing the Faulder/Meadow Valley fire environment, of interest is the predominant wind direction (blowing from the West) during fire season.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mean of hourly wind speed (km/h)	8.2	8	9.3	9	8.4	8.2	8.5	8.6	8.5	9.3	9.7	8.5
Most frequent direction	W	W	W	W	W	W	W	W	W	W	W	W
Maximum hourly speed (km/h)	56	57	56	52	43	39	41	43	41	52	57	52
Direction of maximum hourly wind speed	S	S	S	S	SE	S	S	NE	S	SE	S	S

3.4.3 Topography

Faulder is roughly situated at the confluence of Darke Creek and Trout Creek. The majority of residences are located either in the small valley formed by the lower reach of Darke Creek, or above the confluence along the Princeton-Summerland Road as it switchbacks up to the west. Up Darke Creek from Faulder, to the north, the terrain opens to form Meadow Valley, which is predominantly farmland.

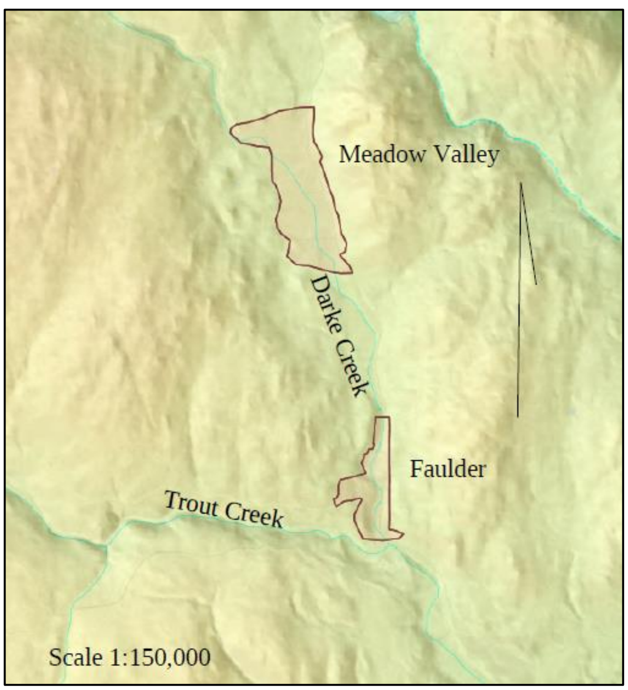


FIGURE 5 Hillshade map of the Faulder/Meadow Valley area.

4.0 Site Description

FireSmart projects are not wholly dependent on the establishment of strict boundaries. Instead, the area of interest is often approximately delineated, mainly for the purposes of characterizing the size and density of the area. The Faulder/Meadow Valley area is not like a classic interface area typical of suburban areas. Rather, the area is more aptly described as an intermix area, where home sites are distinctly separate from each other and scattered throughout an area. It is recognized that there are homes that lie beyond the identified 'boundaries' of the project, but this does not imply that these residences are excluded from taking part in this FireSmart initiative. Quite simply, if you live in Faulder or Meadow Valley and you want to be involved in your FireSmart community, you are more than welcome, regardless of what is depicted on the maps in Figures 6 and 7.

The Faulder portion of the project encompasses approximately 90 ha, while Meadow Valley consists of approximately 230 ha, most of which is farmland. The number of homes in each area was estimated from air photos, and for the purposes of this report an approximate estimate is sufficient. Within the Faulder portion are approximately 77 homes, while Meadow Valley was estimated as having 25. The home density for each area is roughly 0.9 homes/ha in Faulder and 0.1 homes/ha in Meadow Valley.

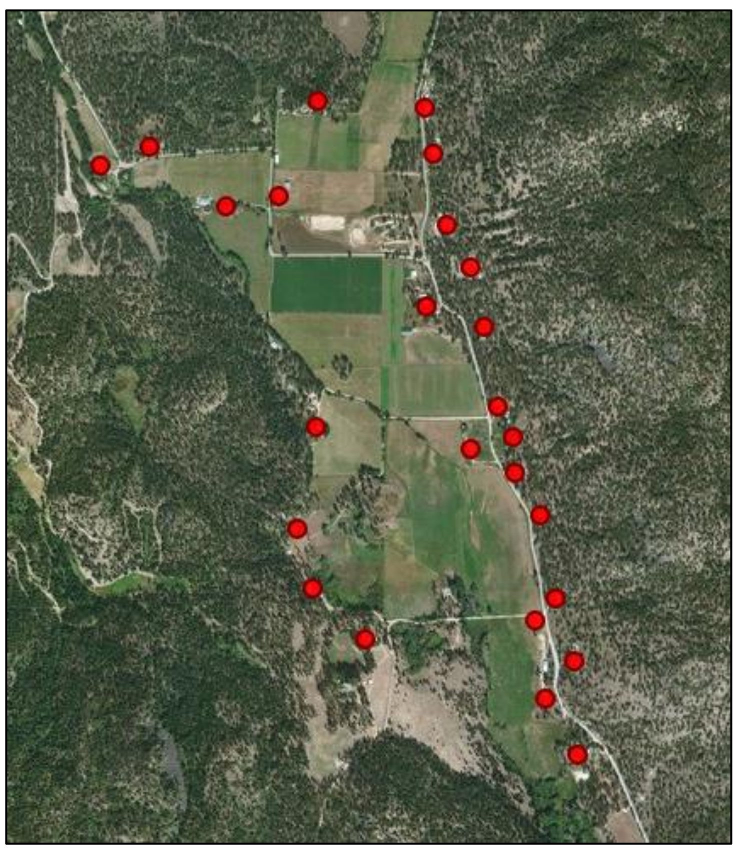


FIGURE 6 The approximate distribution of homes in Meadow Valley is roughly along the edge of treed areas at the toe of slopes to the valley bottom, with farmland occupying the valley floor. Home locations were estimated from air photos and may not be accurate.

FIGURE 7 When compared to Meadow Valley, Faulder has a higher home density and the home distribution is primarily linear along access roads.

4.1 Ecology

The ecological classification of the area is defined as the Ponderosa Pine biogeoclimatic zone, specifically the Okanagan Very Hot Dry Ponderosa Pine Variant (PPxh1). The natural disturbance pattern of the PPxh1 and adjacent Interior Douglas-Fir zone (See Appendix 3) has been characterized by historically *frequent stand maintaining fires* prior to the fire-return interval being interrupted by contemporary forest management and fire suppression policies. Stand maintaining fires are typically low intensity surface burns that consume understory fuels while retaining a healthy green overstory. These frequent fires kept ladder fuels to a minimum and typically resulted in an open, park-like stand structure.

In the absence of periodic low intensity fire through Ponderosa pine stands in the area, small trees that would have typically been fire-killed have become established, forming thickets and creating ladder fuels and resulting in relatively higher tree densities. Fine fuels, most notably dead Ponderosa pine needles, have accumulated at the base of mature trees, resulting in higher fine fuel loading that could produce fire intensity great enough to result in lethal scorching of trees whose thick bark would have otherwise protected the vital phloem and cambial tissues.

4.2 Fire History

Fire history data from the provincial government indicates that the Faulder/Meadow Valley area has been visited by fire numerous times since modern fire record-keeping began in the early 1900s. Before this time, the area experienced frequent low-intensity natural and anthropogenic fires prior to modern fire suppression policies. Higher elevations, characterized by relatively higher tree densities and fuel loading, historically had less frequent but higher intensity wildfires. At the landscape scale, several large fires have occurred in the surrounding area and are reflected in the modern record, the most recently significant being the 2017 Finlay Creek fire. (Figure 8).

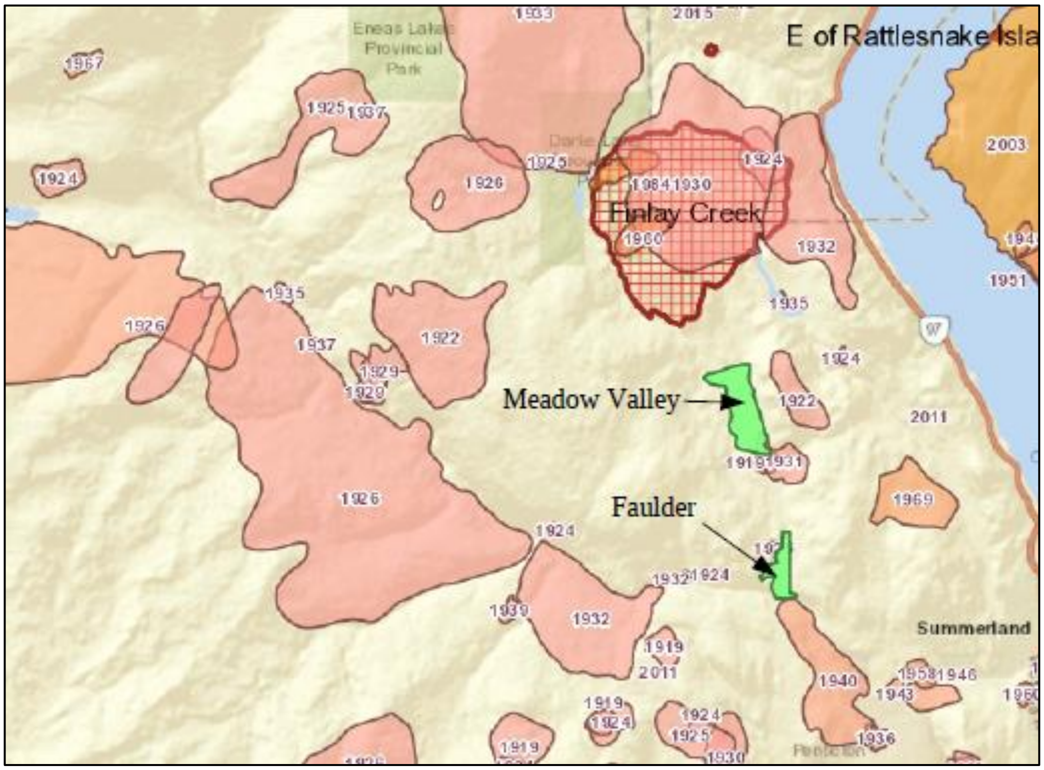


FIGURE 8 Historic fire perimeters (greater than 3ha) dating back to the early 1900s, as recorded in the BC Wildfire Service fire history database. The most recently significant fire was the 2017 Finlay Creek fire to the north of Meadow Valley. Historical fires are labelled by year. See Appendix 3.

4.2.1 Past wildfires near Faulder/Meadow Valley

The modern provincial dataset for *detailed* fire information, including fire cause, dates to the 1950s. This dataset shows a total of 90 wildfires occurring within two kilometers of the approximate Faulder/Meadow Valley project area between 1951 and 2017 (Figure 9). Of these fires, 34 are recorded as lightning-caused and 56 as person-caused. An approximate average for the period of just over one fire per year occurs within this two-kilometer area, with the most fires in a single year (3 lightning and 2 person-caused fires) occurring in 1985 (Figure 10).

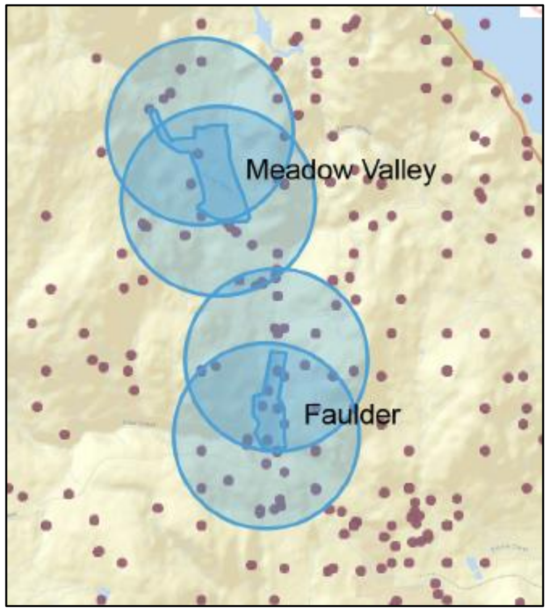


Figure 9 Wildfire points since the 1950s were analyzed; within approximately 2 km from the communities of Faulder and Meadow Valley, 90 wildfires have occurred in this period. See Appendix 3 for map image.

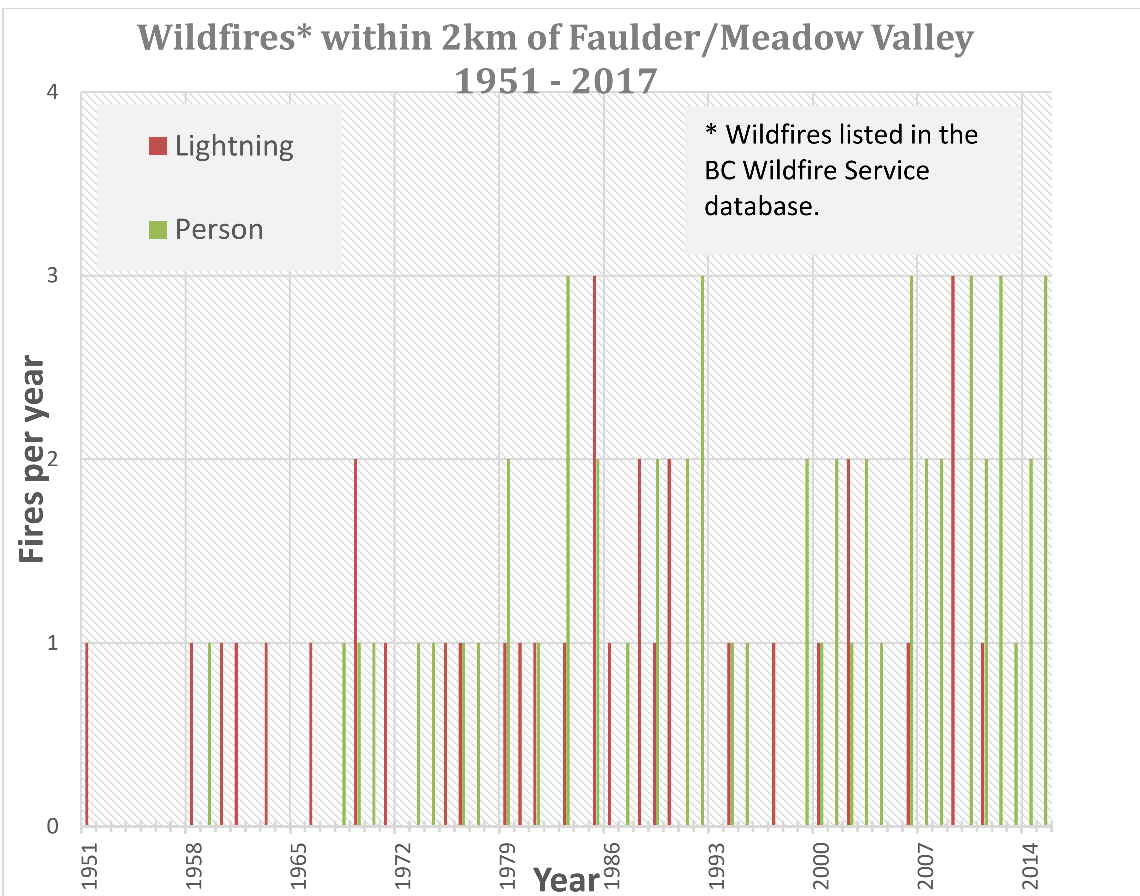


FIGURE 10 Wildfires that have occurred within 2 km of Faulder/Meadow Valley, from 1951 to 2017, as recorded in the BC Wildfire Service fire history database. During this period, the occurrence of person-caused fires shows an increasing trend.

4.2.2 Finlay Creek fire, 2017

The most recent scare for residents of Faulder/Meadow Valley came on September 2, 2017 with the Finlay Creek fire. This fire triggered an Evacuation Order for areas including Meadow Valley and an Evacuation Alert for Faulder (as well as other areas). The fire grew to a size of 2,224 ha and was declared contained by September 13, 2017. Although no homes were destroyed in the course of this wildfire, it did serve as a reminder that the area is situated in a wildfire-prone environment, reinforcing the importance of taking steps to reducing hazards on private property and increasing the survivability of homes.

During the initial stages of the Finlay Creek fire, water consumption in the area spiked due to residents watering their properties. This had the effect of reducing domestic water supply almost completely and forcing the RDOS to request conservation. Reducing fuel hazards on property well in advance of a fire scare reduces the reliance on outside assistance and resources (including water resources). Although sprinkler systems can be very effective in protecting homes, running them too soon or when they aren't required can deplete supplies and reduce the amount available for more threatened locations.

5.0 Assessment Process

An initial reconnaissance of the project area was conducted May 1, 2017 by the author to gain familiarity with the community in the context of FireSmart guidelines. The assessment process follows the three-phased approach of the FireSmart Canada Community Recognition Program (FCCRP).

A letter was mailed out to all addresses in the Faulder/Meadow Valley project area, inviting them to the initial FireSmart community meeting, held on June 28, 2017 at Camp Boyle. The meeting was an opportunity to learn about the FireSmart Communities Program and explain the community recognition process. The meeting was extremely well-attended by approximately 40 residents (Figure 11). After the meeting, the Faulder/Meadow Valley FireSmart Board was formed and the decision was made to hold a FireSmart event in the early fall.

FIGURE 11 The initial community FireSmart meeting was held on June 28 at Camp Boyle. The meeting was extremely well-attended, with approximately 40 residents taking part.

The Faulder/Meadow Valley FireSmart event was held on October 15, 2017 at Camp Boyle. The event was similarly well-attended by over 40 people, with experts from the RDOS, RCMP, a professional arborist and a fire extinguisher supplier. A demonstration of the Structure and Site Hazard Assessment was also conducted on one of the Camp Boyle buildings to teach residents how to conduct their own assessments at home.

A more in-depth landscape assessment was conducted in October, in advance of the FireSmart event and forms the basis for this report.

6.0 Observations and Issues

The following observations were noted during the community wildfire hazard assessment. In a rural setting with large lots, characteristic of Faulder and especially Meadow Valley, it can be difficult (and in some cases impossible) to view homes from the public road. See Appendix 1 to view the entire community wildfire hazard assessment form and notations.

6.1 Roof assemblies

A home's roof is the largest surface most exposed to embers during a wildfire. Homes with a flammable wood shake roof have a much higher probability of igniting during a wildfire compared to non-wood roofing systems. In Faulder/Meadow Valley, a mix of roofing materials are in use, the most common being composite shingles (i.e. asphalt shingles), while a smaller percentage have metal roofs. Several homes were noted as having a wood shake roof. A wood shake roof is not recommended in a WUI area as the likelihood of ember ignition is significant.

Several roofs observed had some amount of Ponderosa pine needle litter accumulation on the roof surface. The fire-resistant properties of a rated roof are reduced when flammable accumulations are present. Areas dominated by a Ponderosa pine overstory will likely always have some amount of needle litter present on roofs, especially after periodic wind events. The key problem areas that should be attended to are accumulations that occur at a roof to wall joint (e.g. where a dormer meets the roof), in the rain gutters or in or near any opening in the roof (vent, skylight etc.). Inspecting and cleaning debris accumulations in the spring, prior to the start of the summer fire season is a recommended practice. See Figure 12.

FIGURE 12 Ponderosa pine cast a considerable amount of needle litter that can accumulate on roofs and in rain gutters. The risk here is of ember ignition of the needle litter and subsequent ignition of the roof. Periodic removal is recommended to keep these hazardous fuel accumulations to a minimum.

6.2 Building exteriors

Risk factors associated with the exterior surface of a structure are less dependent on the characteristics of the exterior cladding system (e.g. stucco vs. cement board vs. vinyl siding etc.) and more dependent on the likelihood of direct flame contact and/or ember accumulation on the structure. Accumulated fuel along an exterior wall can negate the fire-resistant advantages that any particular exterior cladding system provides, should the fuel ignite.

This is especially important when assessing features that are attached to a home, such as decks and porches. Decks are often used for dry storage of a variety of materials, including firewood, building materials, outdoor furniture etc. Should these stored materials ignite, the deck above is likely to ignite as well, most likely leading to the ignition and subsequent destruction of the home.

Decks that extend out over a slope require careful assessment. A fuel-laden slope leading up towards a deck could result in direct flame contact or ember accumulation on the deck or stored material under the deck. The underside of the deck may also trap heat from a fire coming upslope towards the structure, further contributing to increased ease of ignition.

FIGURE 13 Combustible decks need to be assessed for ember accumulation features, such as flammable patio furniture and other combustible items stored on or underneath. Decks that extend out over a slope require careful assessment of the fuel conditions downslope. A deck overhang can concentrate heat from a fire coming up the slope and lead to an increased probability of ignition.

When boards are used for the decking surface, any gaps between boards should be viewed as avenues for organic debris to fall through and accumulate underneath the deck. These gaps can also permit embers to fall through and ignite accumulated debris under the deck, likely resulting in the ignition of the deck and the house.

If combustible material is going to be stored under a deck, this area should be sheathed in 12 mm exterior-grade plywood or screened with 3 mm non-corrosive metal screening to prevent embers from entering the space and igniting the stored material. Areas underneath deck boards should be assessed for debris accumulations and cleaned out as needed. When a deck extends out over a slope, fuel mitigation efforts need to be extended further down the slope. FireSmart Canada has developed a guideline for expanding the treatment area on slopes below a structure, as illustrated in Figure 14.

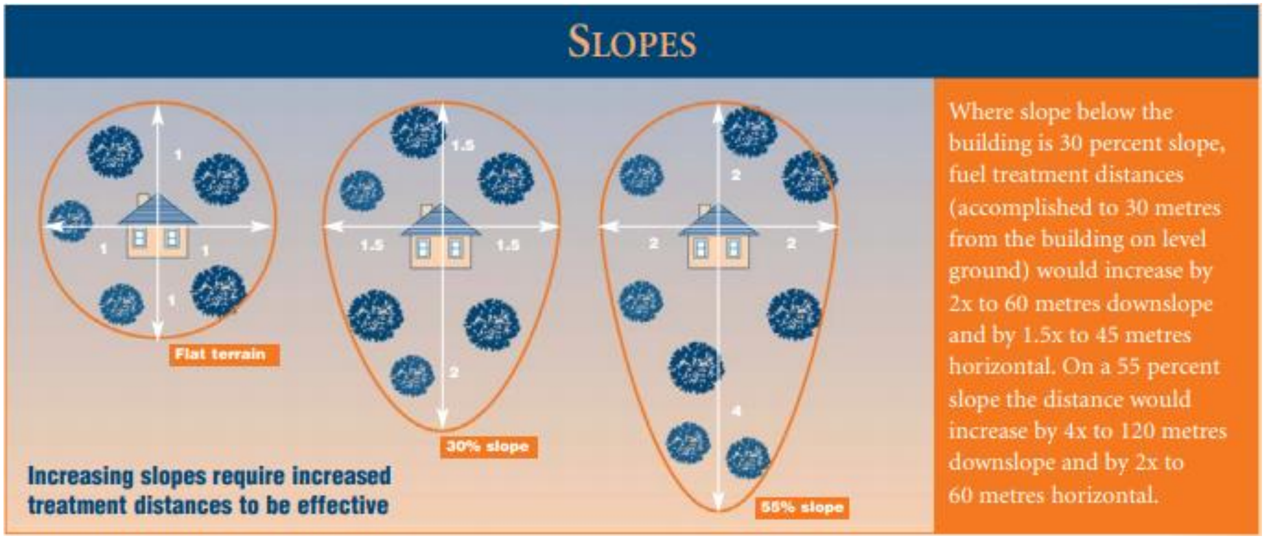


FIGURE 14 FireSmart Canada recommends expanding the treatment areas downslope from a home to account for the increased rate of spread and associated fire intensity of a fire spreading upslope towards the house (Figure reproduced from the Protecting Your Community from Wildfire manual published by FireSmart Canada and Partners in Protection).

6.3 Vegetation

Vegetation is assessed in three concentric zones around a home (Figure 2), with Zone 1 being the area occupying the first 10 m around the structure. The quantity and condition of canopy, ladder and surface fuels are the key factors assessed.

In Faulder/Meadow Valley, Ponderosa pine and Douglas-fir are the dominant canopy fuels across all zones. Most homes observed had one or more mature Ponderosa pines established within Zone 1 or at least Zone 2. Separated or continuous conifer trees within Zone 1 represent a hazard, when assessed using the Structure and Site Hazard Assessment form from FireSmart Canada. In this case the author disagrees with the assessment form when assessing *occasional well-spaced and pruned Ponderosa pines* occupying Zone 1.

It is recognized that the structure and site hazard assessment form is a national assessment tool that can't possibly consider all variations in overstory composition and tree morphology that could be found across all WUI areas in Canada, while still being a simple and accessible tool for homeowners to use. One drawback of this simplified approach to conifers in Zone 1 is that homeowners may feel obligated to remove one or more well-spaced and pruned conifers (as are common with Ponderosa pines in Faulder/Meadow Valley) because this factor contributes 30 points to their overall hazard rating, which places the structure into the 'High' hazard level even if all other factors score zero. This type of tree removal most often requires a tree service provider, at considerable expense.

A more nuanced view of well-spaced and pruned conifers in Zone 1 is taken by the author, in the hope that the hazard mitigation efforts (and expense) of homeowners can be better targeted towards more prescient hazard factors (Figure 15).

FIGURE 15 Mature well-spaced and pruned conifers occupying limited portions of Zone 1, such as this Ponderosa pine, that have little chance of candling, are likely not the most pressing issue to address. In this example, the juniper beside the house and elsewhere present a far greater fuel hazard.

To be clear, *this proviso applies only to well-spaced and pruned conifers that won't readily support torching* (i.e. a tree burning completely from bottom to top). Conifers with ladder fuels that connect surface fuels with canopy fuels, such as various ornamental and native spruce, *present a very real hazard when occupying space in Zone 1 and should be considered for removal*. It should also be reiterated that mature Ponderosa pine can produce a considerable amount of needle litter, and this characteristic may in fact be a more significant hazard (fortunately, one that is easier and significantly less costly to mitigate).

One vegetation feature that is very popular and pervasive in landscaping is the use of arborvitaes (cedar) and juniper shrubs and hedges. The presence of these conifers in Zone 1 needs to be carefully considered, as they are extremely volatile from a fire behaviour standpoint. Having a cedar or juniper shrub growing up against a house could very well be the source of a home ignition in the very likely event that these plants combust during a wildfire. A long cedar hedge that leads up to a house can be viewed as a veritable wick of fuel waiting for a wildfire to light it.

Another popular, low maintenance landscaping strategy that unfortunately presents a home ignition hazard is the use of bark mulch as a ground cover. During the hot summer months, bark mulch will dry out and become extremely receptive to ember ignition and conducive to persistent surface fire spread. Bark mulch should be viewed as a fuel bed that can effectively transport fire throughout its extent. Homeowners should consider any flammable connections between a bark mulch bed and the house (e.g. wood siding, wood stairs etc.) as a pathway for direct flame contact that could result in the ignition of the home.

Beyond Zone 1, Zones 2 and 3 trend towards the natural vegetation community of the PPxh1, as it's described in section 4.1. However, in some cases, one home's Zone 2 or 3 may be an adjacent home's Zone 1. This common characteristic of WUI areas reinforces the view that many individual FireSmart efforts can increase the overall wildfire resilience of the entire neighbourhood.

6.4 Nearby combustibles

In the context of the structure and site hazard assessment, *nearby combustibles* refer to non-vegetative fuel, such as firewood, wood fences, sheds etc. In Faulder/Meadow Valley, the most commonly observed fuels in this category were firewood stacked within 10 m (or directly adjacent to) of the structure and wood fences. Firewood stacked against the house, in a carport or under an open deck space, during the summer, is a bad combination. A stack of firewood has ample gaps and surface area where embers could deposit and ignite, and if the stack is situated too close to the house, ignition of the structure is likely. Avoid this possibility during the summer by storing firewood well away from the home (a minimum of 10 m), so that if the firewood stack does ignite during a wildfire, the house won't follow suit. If firewood is stored in a woodshed within 10 m of the house, and the shed can't be relocated further away from the house, the woodshed should be retrofitted to prevent embers from entering the shed and igniting the firewood. This retrofit can be accomplished through a combination of 12 mm exterior-grade plywood sheathing and 3 mm non-corrosive screening, and still provide adequate airflow to season the stored firewood.

FIGURE 16 Decked logs for firewood should be located well away from any structures. The minimum recommendation for a stack of firewood is a 10-m separation from the home. However, a log deck such as this would require greater distance to account for the prolonged and intense radiant heat that would be produced in the event of ignition.

Wood fences, particularly those that attach to the house, can provide a pathway for fire to potentially ignite the house. Where a wood fence is within 10 m of a house, the entire fence should be assessed for locations where the fence intersects any fine fuel beds, such as bark mulch, natural grasses etc. For example, a wood fence with a bark mulch bed up against it is susceptible to embers igniting the bark mulch and in turn igniting the fence. As well, a wood fence that backs onto natural grasses could ignite from a low-intensity surface fire moving through the grass. In either case, the length of the fence could burn, including the portion where the fence attaches to the house, potentially leading to ignition of the structure. One strategy that can help to maintain the privacy of a wood fence while also lowering the chance of a connected fence from igniting the house, is to install a metal gate at or near the fence-house junction.

Even innocuous items commonly found around the outside of a home may act as combustibles that could ignite the structure. Flammable patio furniture (particularly seat cushions), sisal doormats and rugs, or even a corn broom leaning against the house are all potential fuels that could ignite from ember accumulation.

6.5 Wildfire Preparedness

Rural areas often have a strong sense of self-reliance as they are beyond the reach of certain services that urban dwellers take for granted. Fire protection is one such service that isn't available to Faulder/Meadow Valley. Several residents have organized themselves and some equipment to enable a local unofficial firefighting capability to come to the aid of their neighbours in the event of a fire start. During the 2017 fire season, water-filled plastic drums were strategically located throughout the area to provide an initial supply of water that could be used to knock down a small grassfire. A phone list was already in existence, and subsequently updated by the FireSmart Board in course of this project. These initiatives all help to limit the potential impact of a wildfire occurrence and can buy time until provincial wildfire resources arrive.

7.0 Recommendations

The FireSmart Canada Community Recognition Program seeks to create a resilient balance between residential safety and the natural aesthetics that are attractive to living in the WUI. Homeowners already balance their decisions about fire protection measures against their desire for certain flammable components on their properties. It is important for them to understand the implications of the choices they are making. These choices directly relate to the ignition potential of their home ignition zones during a wildfire.

Homeowners, and the community, must focus attention on the home and surrounding area and eliminate a wildfire's potential relationship with the house. This can be accomplished by disconnecting the house from high and/or low-intensity fire that could occur around it, and by being conscious of the devastating effects of wind-driven embers.

The following recommendations are intended to guide homeowners in focusing their efforts to reduce fuel hazards on their property and reduce the likelihood of a home ignition:

- Substantially reduce or eliminate the amount of cedar and juniper shrubs and hedges in yards, especially within 10 m of a structure. A cedar or juniper shrub/hedge should never be grown directly against the home.

- Replace bark mulch with a non-flammable ground cover where it adjoins the home or intersects with a wood structure attached to the home.
- Remove flammable material from under deck spaces. If the space under a deck is to be unsheathed or unscreened, the space must be free of any material that could ignite via ember or direct flame contact.
- Remove accumulated debris from the roof and gutters prior to the start of fire season each spring, at minimum. Remove accumulated debris from decks, porches and stairs.
- Place firewood and other combustibles a minimum of 10 m from the home, or store these in such a way as to eliminate the chance of embers igniting them.
- Carefully assess the ignition potential of wood fences, especially those that are connected to the house. Consider a metal gate or fence panel to eliminate connectivity between the house and a susceptible wood fence.

8.0 Successful FireSmart Mitigations

When adequately prepared according to FireSmart guidelines a house can likely withstand a wildfire without the intervention of the fire service. Furthermore, a house and its surrounding community can be both FireSmart and compatible with the area's ecosystem. The FireSmart Communities Program is designed to enable communities to achieve a high level of protection against wildfire loss while maintaining a sustainable ecosystem balance.

Other than the replacement of an unrated wood roof or replacing a flammable deck, most FireSmart hazard mitigations around the home are inexpensive and straightforward. In many ways, hazard mitigation and spring yardwork go together and can be scheduled as such. Most often it is the little things that a homeowner attends to that can make a big difference in whether their home will survive during a WUI fire. The following are good examples of small steps that homeowners in Faulder/Meadow Valley have put in place to make their neighbourhood more resilient to wildfire:

8.1 Fire-Resistant Roofing

Replacing a roof is one of the single-most expensive FireSmart improvements. Faulder/Meadow Valley has a mix of roofing systems, including rated roofs that offer a specific rating of fire-resistance, as illustrated in Figure 17. The combination of a rated roof that is free of fuel accumulations is a big step to improving the survivability of a home during a wildfire event.

FIGURE 17 A rated roofing system, such as this composite shingle roof, provides fire-resistance to embers. Any modern roofing system that has a fire-resistance rating can provide this protection.

8.2 Landscaping

Residents of Faulder/Meadow Valley can look to several examples where their neighbours have established less-flammable vegetation and landscaping solutions in their respective Zone 1 areas. A green lawn, no flammable vegetation directly up against the house and a combination of driveway and patio space combine to lower the hazard around the home depicted in Figure 18.

FIGURE 18 The combination of paved or gravel surfaces, rock ground cover, green lawn and rated roof all contribute to the fire resilience of this home.

8.3 Community Involvement

Faulder/Meadow Valley is good example of a community that is willing to get involved in identifying and reducing the risks posed to them by wildfire. From the outset of this FireSmart project, there was no shortage of people willing to volunteer their time to the effort. The Faulder/Meadow Valley FireSmart Board has become active in meeting regularly and posting information on community message boards. The Board has developed a contact list to facilitate communication amongst neighbours and this will continue to benefit the neighbourhood in maintaining community momentum behind the FireSmart program.

FIGURE 19 Faulder/Meadow Valley is a prime example of a community with residents who are willing to volunteer their time to pursue the FireSmart project, as exemplified in this photo from the October 15 FireSmart event held at Camp Boyle.

9.0 Next Steps

The Faulder/Meadow Valley FireSmart Board was established at the beginning of this project and the goal from the outset has been to pursue FireSmart Community recognition status. As the Local FireSmart Representative retained to complete this project on behalf of the neighbourhood and the RDOS, the author has prepared all deliverables needed for application.

In addition to this assessment report, the author has drafted the initial FireSmart Community Plan for Faulder/Meadow Valley. This plan is intended to be the first iteration of the annual operating plan for the Faulder/Meadow Valley FireSmart Board as they strive to maintain their community recognition. Subsequent annual FireSmart Community Plans will be drafted by the Faulder/Meadow Valley FireSmart Board, with the initial template providing a solid starting point.

To ensure initial and ongoing community recognition, the following standards have been incorporated into the Faulder/Meadow Valley FireSmart Community Plan:

- Support the Faulder/Meadow Valley FireSmart Board in their goal to maintain the Faulder/Meadow Valley FireSmart Community Plan and ongoing recognition status.
- Continue the work of the Local FireSmart Representative or enlist the assistance of a WUI specialist to complete an annual FireSmart Community Plan which identifies agreed-upon, achievable local solutions.
- Invest a minimum of $2.00 annually per capita in its local FireSmart Events and activities (work done by municipal employees or volunteers, using municipal or other equipment, can be included, as can provincial grants dedicated to that purpose).
- Hold a FireSmart Event (e.g. FireSmart Day) each year that is dedicated to a local FireSmart project.
- Submit an application form or annual renewal application form with supporting information to FireSmart Canada. This application or renewal process documents continuing participation in the FireSmart Communities Program with respect to the above criteria.

10.0 Signature of Local FireSmart Representative

Signed:	Date: 01/26/2018
Andrew K. Low, RPF Davies Wildfire Management Inc. andy@davieswildfire.com	

APPENDIX 1:

Community Wildfire Hazard Assessment Form for Faulder/Meadow Valley, October 4, 2017

This Community Wildfire Hazard Assessment form provides a written evaluation of the overall community wildfire hazard – the prevailing condition of structures, adjacent vegetation and other factors affecting the FireSmart status of a small community or neighbourhood. This hazard is based on the **hazard factors** and **FireSmart recommended guidelines** found in **FireSmart: Protecting Your Community from Wildfire** (Partners in Protection, 2003) and will assist the Local FireSmart Representative in preparing the FireSmart Community Assessment Report. **NOTE: Mitigation comments refer to the degree to which the overall community complies or fails to comply with FireSmart recommended guidelines with respect to each hazard factor**

Community Name: Faulder/Meadow Valley (RDOS)		**Date: 10/04/2017**
Assessor Name: Andy Low, RPF		**Accompanying Community Member(s):**
Hazard Factor	**Ref**	**Mitigation Comments**
1. Roof Assemblies		
a. Type of roofs ULC rated (metal, tile, asphalt, rated wood shakes) unrated (unrated wood shakes)	2-5 3-21	Faulder/Meadow Valley has a mix of roofing materials in use. Roofing materials observed include ULC rated materials (metal and asphalt) as well as a small percentage of unrated wood shake roofs. Although one of the most expensive methods of mitigating home ignition potential, the use of unrated roofing materials present one of the most significant risks to the survivability of a home.
b. Roof cleanliness and condition * *Debris accumulation on roofs/in gutters; curled damaged or missing roofing material; or any gaps that will allow ember entry or fire impingement beneath the roof covering*	2-6	Several roofs had some amount of accumulated combustible debris, primarily consisting of Ponderosa pine (*Pinus Ponderosa*) needle litter. The fire resistance of most roofing materials is reduced when accumulated debris burns on the roof surface. Gutter accumulations were not able to be observed, but given the presence of debris on roofs, there is an assumption that some amount of combustible debris accumulation exists within gutters.
2. Building Exteriors		
2.1 Materials		
a. Siding, deck and eaves	2-7 2-8 2-9	A broad range of siding materials were observed. Several homes have wood decks that extend out over the slope. These stilted decks can allow fire to get under overhangs and ignite the building. This risk is further increased if there is an accumulation of combustible debris or material under the deck and immediately downslope from the deck. Eave conditions were not observed.
b. Window and door glazing (single pane, sealed double pane)	2-10	Window construction can be difficult to assess at the community level. However, given the age and characteristics of the homes in the community, it can be assumed that most windows are tempered or double pane, which provide at least moderate protection. Regarding windows, focus vegetation management or removal within 10m of windows and glass doors, paying particular attention to fuels that could impinge on large picture windows.
c. Ember Accumulator Features (scarce to abundant) * *Structural features such as open eaves, gutters, unscreened soffits and vents, roof valleys and unsheathed crawlspaces and under-deck areas*		Moderate to abundant. Most exposure is attributed to under-deck areas. For under-deck areas, remove combustible accumulations that could that could be ignited by embers. If able to do so, enclose or at minimum screen, ember accumulator features. Screening should consist of corrosion-resistant, 3mm non-combustible wire mesh.
d. Nearby Combustibles – firewood, fences, outbuildings	2-11	Various examples of nearby combustibles such as firewood and wood fences. During fire season, store firewood at least 10m from the building. If firewood pile is downslope from the building, increase the distance away from the building. When choosing fencing options that adjoin the building, consider the flammability of the fencing.

Hazard Factor	Ref	Mitigation Comments
3. Vegetation		
3.1 **PZ-1:** Vegetation - 0 - 10m from structure **Page Reference 3-5**		
a. Overstory forest vegetation (treated vs. untreated)	2-14	Overstory in the PZ-1 is primarily Ponderosa pine with a Douglas-fir component.
b. Ladder fuels (treated vs untreated)	2-17	Majority of ladder fuels are attributed to immature Douglas-fir in the understory. Scattered examples of dense pockets of immature Douglas-fir were observed.
c. Surface fuels - includes landscaping mulches and flammable plants (treated vs untreated)	2-16	Bark mulch is being used on some properties for landscaping ground cover; in some cases, immediately adjacent to buildings. Coniferous ornamental plants (e.g. juniper; cedar; and cypress) are also in place, occasionally found immediately adjacent to buildings. Bark mulch is a receptive fuel bed for ember ignition, when available to burn. In general, ornamental conifers are highly flammable, due to volatile compounds, as well as a form and structure conducive to ignition and flaming combustion.
3.2 **PZ-2:** Vegetation - 10 - 30m from structures **Page Reference 3-9**		
a. Forest vegetation (overstory) treated vs untreated	2-14	Primarily Ponderosa pine with a Douglas-fir component.
b. Ladder fuels treated vs untreated	2-17	Majority of ladder fuels are attributed to immature Douglas-fir in the understory. Scattered examples of dense pockets of immature Douglas-fir were observed.
c. Surface fuels treated vs untreated	2-16	PZ-2 transitions to native plants (e.g. Bluebunch wheatgrass, pinegrass, and arrow-leaved balsamroot). Ponderosa pine needle litter accumulations present. Examples of landscaping extending from PZ-1 to PZ-2.
3.3 **PZ-3:** Vegetation - 30 - 100m from structures **Page Reference 3-13** Provide mitigation comments on the prevailing PZ3 fuel type		
a. Light fuel - deciduous – grass, shrubs	2-16	PZ-2 transitions to native plants (e.g. Bluebunch wheatgrass, pinegrass, and arrow-leaved balsamroot). Ponderosa pine needle litter accumulations present.

Hazard Factor	Ref	Mitigation Comments
b. Moderate fuel - mixed wood – light to moderate surface and ladder fuels, shrubs	2-17	Scattered. Mainly understory Douglas-fir and occasional deciduous shrubs, such as Douglas maple and saskatoon.
c. Heavy fuel - coniferous - moderate to heavy surface and ladder fuels, shrubs	2-14	The fuel type in the Faulder/Meadow Valley PZ-3 is generally not characterized by heavy fuel accumulations. C7 fuel types tend to be characterized by an open stand structure.
d. Logging slash, dead/down fuel accumulations	2-16	No slash or significant dead/down fuel accumulations observed.
e. Diseased forest – without foliage vs with foliage		No significant forest health factors observed.
f. Fuel islands within community - treated vs untreated		Faulder/Meadow Valley can be described as an intermix area, and thus portions of the PZ-3 could be described as fuel islands.
4. Topography		
4.1 Slope (within 100m of structures)		
a. Slope - Flat or < 10 %, 10 – 30% or >30%	2-19	In some cases, buildings are located slopes >30%. Majority of homes are located at the bottom or bottom 1/3 of slopes.
4.2 Buildings setback on slopes >30 %, position on slope. Provide mitigation comments on items a – c as applicable		
a. Setback from top of slope > 10m, or bottom of slope – valley bottom. b. Buildings located mid-slope c. Setback from top of slope <10m, or upper slope	2-12	Setbacks vary with some being <10m and some >10m. Some homes on the Princeton-Summerland Rd switchbacks are mid-slope, with similar setbacks.

Hazard Factor	Ref	Mitigation Comments
5. Infrastructure – Access / Egress, Roads, Driveways and Signage		
5.1 Access Routes – Road Layout To FireSmart Recommended Guideline?		
a. Single Road or Looped Road	3-28	Faulder/Meadow Valley is accessed by a single paved road (Fish Lake Road). Princeton-Summerland Rd continues west of Faulder as a well-travelled gravel road.
5.2 Roads- width, grade, curves, bridges and turnarounds		
a. To FireSmart Recommended Guideline?	3-30	Faulder/Meadow Valley roads are paved. Cul-de-sac turnarounds are appropriate. Road widths and curves are appropriate.
5.4 Fire Service Access / Driveways - Grade, Width/Length, Turnarounds		
a. To FireSmart Recommended Guideline?	3-30	Most driveways are 10-30m in length from the paved road to the building. Several properties have considerably longer driveways of 100-250m in length, with tight turnarounds.
5.5 Street Signs / House Numbers		
a. To FireSmart Recommended Guideline?	3-30	All streets have signage.
6. Fire Suppression - Water Supply, Fire Service, Homeowner Capability		
6.1 Water Supply		
a. Fire Service water supply – hydrants, static source, tender or no water supply	3-32	Faulder/Meadow Valley is not serviced with hydrants. Locally placed water barrels are used in fire season for local unofficial initial attack.
6.2 Fire Service		
a. Fire Service < 10 minutes or > 10 minutes, no fire service	2-25	No fire protection. Wildfire service response by road is from Penticton Primary Attack Base.
6.3 Homeowners Suppression Equipment		
a. Shovel, grubbing tool, water supply, sprinklers, roof-top access ladder	3-28	A small water tender and other equipment is provided by a group of residents.

Hazard Factor	Ref	Mitigation Comments
7. Fire Ignition and Prevention – Utilities, Chimneys, Burn Barrel / Fire Pit, Ignition Potential		
7.1 Utilities		
a. To FireSmart Recommended Guideline?	2-24	Overhead powerlines on wood poles service the area. Vegetation clearance appears to be adequate.
7.2 Chimneys, Burn Barrel / Fire Pit		
a. To FireSmart Recommended Guideline?	2-22	Not assessed.
7.3 Ignition Potential - Provide mitigation comments on items a – d as applicable		
a. Topographic features adversely affect fire behaviour b. Elevated probability of human or natural ignitions c. Periodic exposure to extreme fire weather or winds d. Other	2-21	a. Most homes are situated at bottom or bottom 1/3 of slope. b. Areas are used for recreation. Non-resident users could benefit from WUI awareness. c. Lower elevation areas of the South Okanagan experience elevated fire weather conditions through much of the summer. The rural Penticton area also experiences a spring grass fire window prior to green-up. Hot and windy conditions are characteristic of the region during fire season and have influenced past WUI fire incidents in the past in the region.
General Comments: • **There are some good examples of proactive steps that have already been taken to reduce home ignition probability (e.g. fire resistive landscaping and vegetation management).** • **Moderate to vigorous surface fire with occasional torching is likely in this fuel type.**		

APPENDIX 2:

Structure and Site Hazard Assessment Form

STRUCTURE AND SITE HAZARD ASSESSMENT FORM

Factor	Page reference	Characteristics and point ratings					Score
1 **Roofing material**	2-5	Metal, tile, asphalt, ULC-rated shakes or non-combustible material			Unrated wood shakes		
		0			30		
2 **Roof cleanliness**	2-5	No combustible material	Scattered combustible material, <1 cm in depth		Clogged gutter, combustible material ≥1 cm in depth		
		0	2		3		
3 **Building exterior**	2-7	Non-combustible stucco or metal siding	Log, heavy timbers		Wood or vinyl siding or wood shake		
		0	1		6		
4 **Eaves, vents and openings**	2-8	Closed eaves, vents screened with 3 mm mesh and accessible	Closed eaves, vents not screened with 3 mm mesh		Open eaves, vents not screened, debris accumulation		
		0	1		6		
5 **Balcony, deck or porch**	2-9	None, or fire-resistant material sheathed in	Combustible material, sheathed in		Combustible material, not sheathed in		
		0	2		6		
6 **Window and door glazing**	2-10	Tempered	Double Pane		Single Pane		
			Small/medium	Large	Small/medium	Large	
		0	1	2	2	4	
7 **Location of nearby combustibles**	2-11	None or >10 metres from structure			<10 metres from structure		
		0			5		
8 **Setback from edge of slope**	2-12	Adequate			Inadequate		
		0			5		
9 **Forest vegetation (overstory)**	2-14	Deciduous	Mixed wood		Coniferous		
					Separated	Continuous	
<10 metres		0	30		30	30	
10 - 30 metres		0	10		10	30	
10 **Surface vegetation**	2-15	Lawn or non-combustible material	Wild grass or shrubs		Dead and down woody material		
					Scattered	Abundant	
<10 metres		0	30		30	30	
10 - 30 metres		0	5		5	30	
11 **Ladder fuels**	2-17	Absent	Scattered		Abundant		
10 - 30 metres		0	5		10		
					Total Score for Factors 1 – 11		
					Structure and Site Hazard Level		

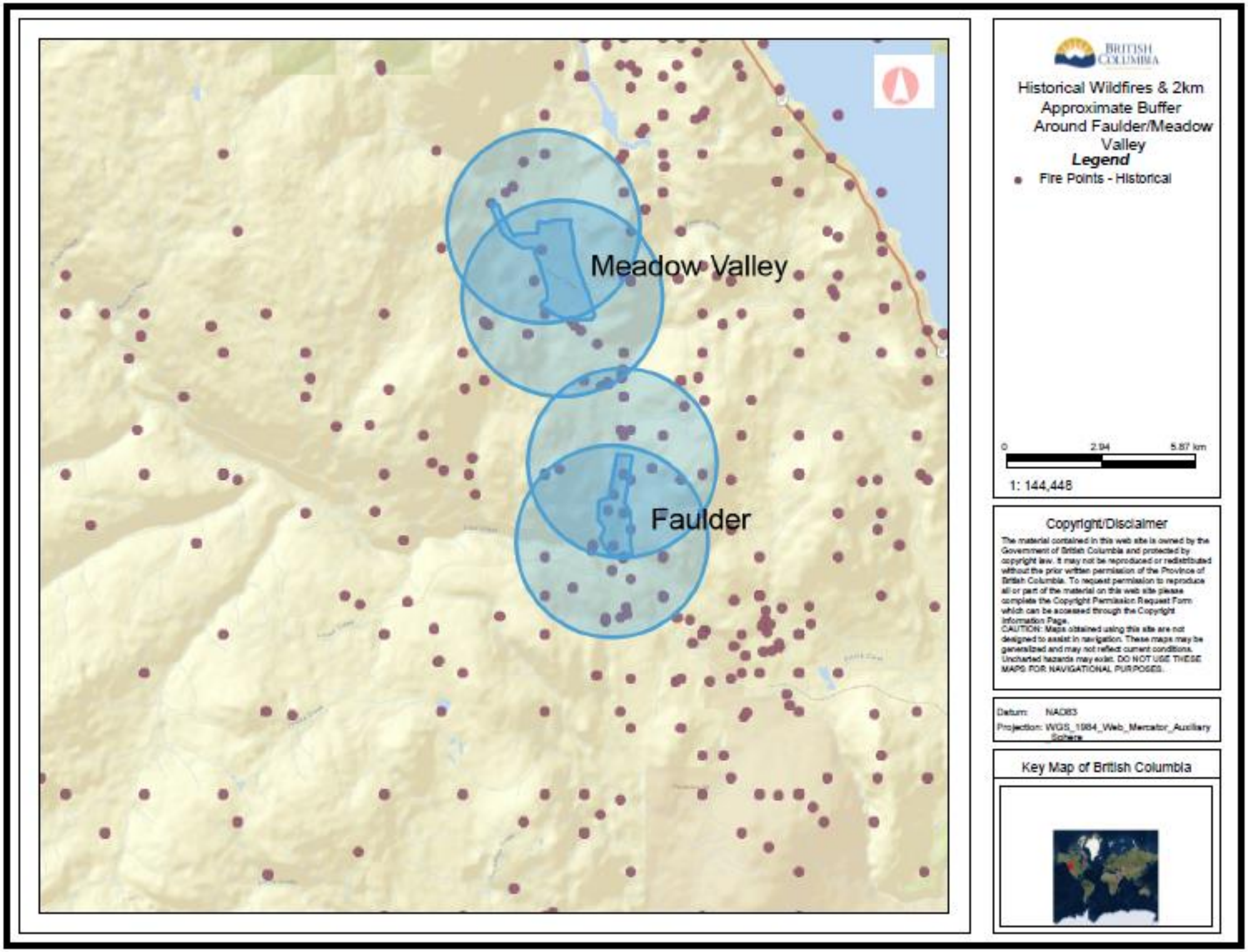
Hazard Level Low <21 points Moderate 21-29 points High 30-35 points Extreme >35 points

PARTNERS IN PROTECTION

APPENDIX 3:

Selected project maps


Meadow Valley
Okanagan Lake
Faulder
Summerland
Scale 1:100,000


Meadow Valley
Faulder
BRITISH COLUMBIA
Historical Wildfires & 2km Approximate Buffer Around Faulder/Meadow Valley
Legend
Fire Points - Historical
0
2.94
5.87 km
1: 144,448
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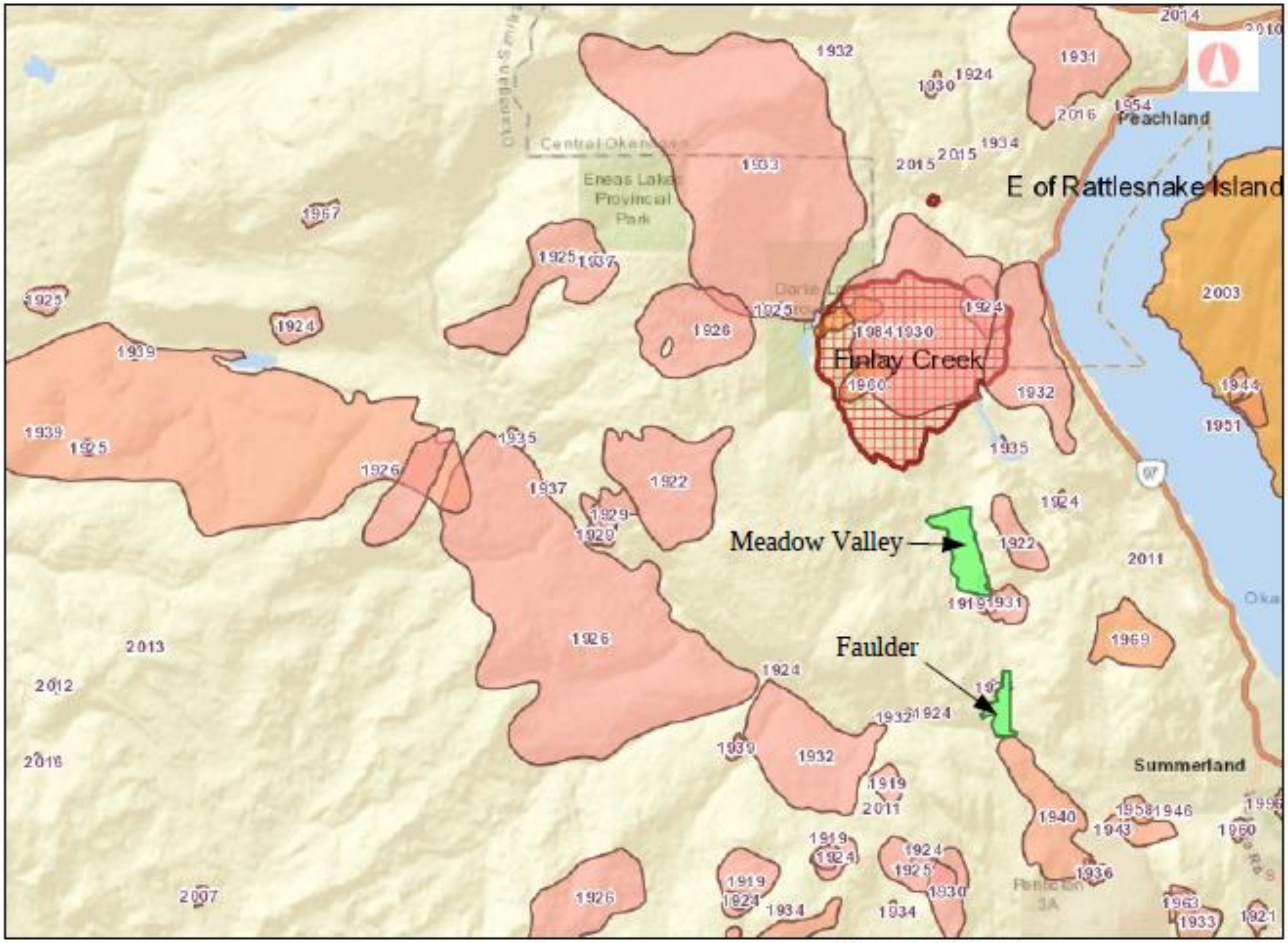
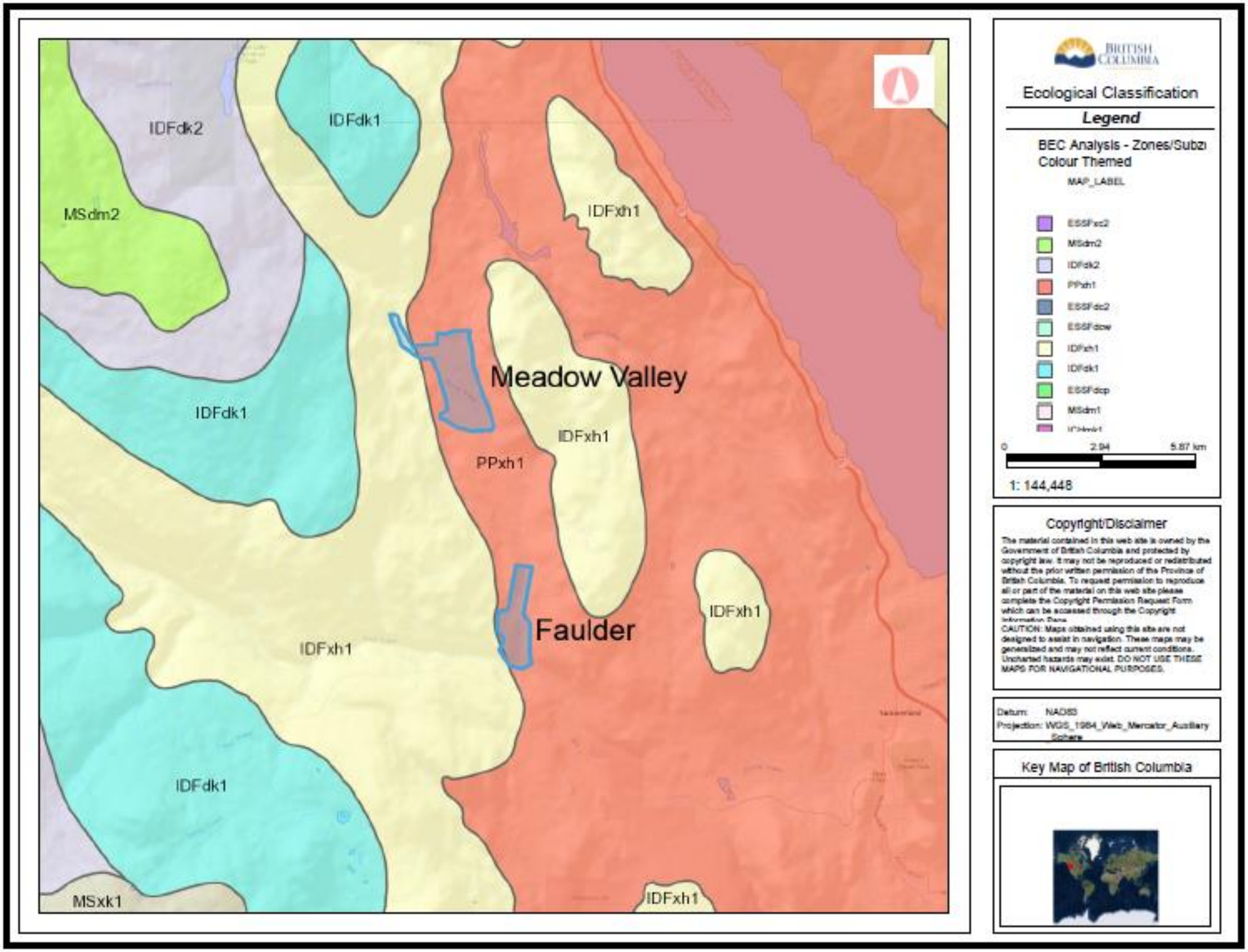
CAUTION: Maps obtained using this site are not designed to assist in navigation. These maps may be generalized and may not reflect current conditions. Uncharted hazards may exist. DO NOT USE THESE MAPS FOR NAVIGATIONAL PURPOSES.
Datum: NAD83
Projection: WGS_1984_Web_Mercator_Auxiliary_Sphere
Key Map of British Columbia



Scale 1:250,000


IDFdk2
IDFdk1
MSdm2
IDFxh1
Meadow Valley
IDFdk1
IDFxh1
PPxh1
Faulder
IDFxh1
IDFxh1
IDFdk1
MSxk1
IDFxh1
BRITISH COLUMBIA
Ecological Classification
Legend
BEC Analysis - Zones/Subzı
Colour Themed
MAP_LABEL
ESSFxc2
MSdm2
IDFdk2
PPxh1
ESSFdc2
ESSFdcw
IDFxh1
IDFdk1
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0
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1: 144,448
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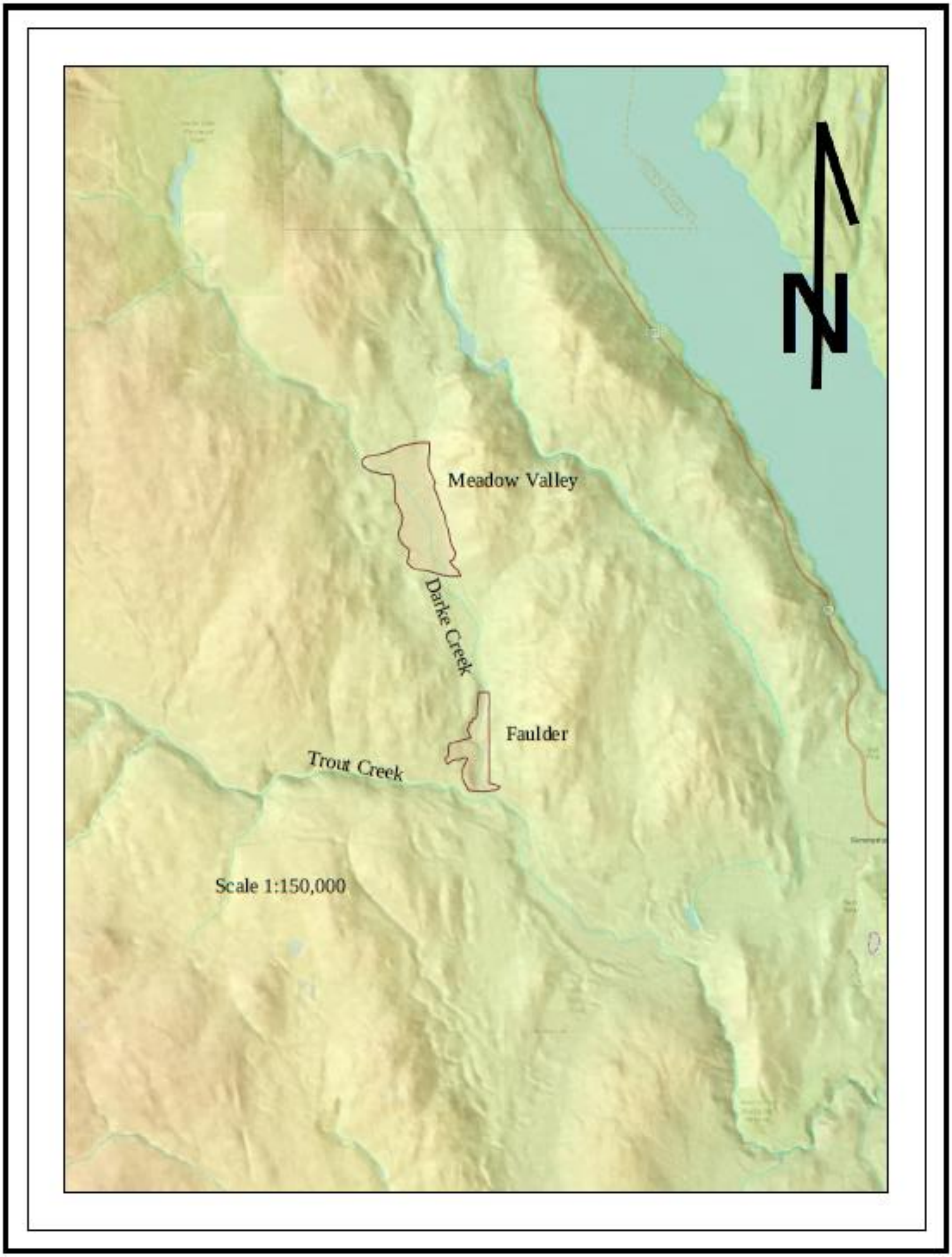
Datum: NAD83
Projection: WGS_1984_Web_Mercator_Auxiliary_Sphere
Key Map of British Columbia


Meadow Valley
Darke Creek
Faulder
Trout Creek
Scale 1:150,000
N