

FireSmart Plan

Prepared for: Beaver Hills Initiative

August 2018



Charette Pell Poscente

Executive Summary

The Beaver Hills Initiative (BHI) was set up to address unprecedented pressures from rapid growth and increased economic activity in and around the Cooking Lake moraine. The Beaver Hills Biosphere is a distinct and biologically diverse area located just east of Edmonton that was recognized by UNESCO as a Biosphere in 2016.

BHI consists of over twenty organizations includes five local governments: Beaver County, Camrose County, Leduc County, Strathcona County, and Lamont County. In addition, the provincial and federal governments, local residents, indigenous organizations, NGOs, and academia comprise the list of member organizations.

These groups work together to create a sustainable region through shared initiatives and collaborative actions. Through regional collaboration, Beaver Hills is a resilient landscape that is capable of sustaining natural and cultural resources for current and future generations and where people live, work, and play in harmony with nature (Beaver Hills Initiative, 2018).

This FireSmart Plan was initiated in response to a gap identified by the BHI Board of Directors and the BHI Research and Monitoring Working Group (RMWG). The focus of the RMWG is to identify, promote, and support relevant research within the Beaver Hills Biosphere that is consistent with the overall objectives of the BHI. CPP Environmental worked directly with Brian Eaton of the BHI RMWG in the execution of the project and with the FireSmart committee in development of the FireSmart Plan.

The identified project stakeholders for the FireSmart Plan included Strathcona County, Beaver County, Leduc County, Camrose County, and Elk Island National Park, and Alberta Environment and Parks. After direct consultation, Lamont County chose not to participate in this project. As such, Lamont County is only represented on the broad BHI landscape level.

The BHI's FireSmart Plan includes the following components:

- 1. Wildfire Hazards and Risk Assessment
- 2. Wildfire Mitigation Strategies
- 3. Prometheus Fire Model



Acknowledgments

The development of this FireSmart Plan was made possible through the collaboration of the Beaver Hills Initiative (BHI) partners: Beaver County, Camrose County, Leduc County, Strathcona County, Elk Island National Park, and Alberta Environment and Parks. The FireSmart Plan was developed with involvement of key stakeholders via a FireSmart Committee and outside the committee through project support as needed.

Beaver County

Mike Hoffman, Regional Emergency Manager

Bob Beck, Chief Administrative Officer

Michael Simpson, Chief Administrative Officer, Village of Ryley

Leduc County Brad Gurmin, Regional Fire Marshal

Elk Island National Park James Cook, Fire and Visitor Safety Coordinator

Dale Kirkland, Superintendent

Alberta Agriculture and Forestry Kristofer Heemerych, Wildfire Prevention Officer Camrose County, No. 22 Mike Kuzio, Protective Services Manager

Vern Kovac, Fire Chief for Round Hill

Strathcona County Gordon George, BA Community Safety Education Coordinator, Local FireSmart Representative

Alberta Environment and Parks Ksenija Vujnovic, Parks Ecologist

Terry N. Krause, Land and Resource Management Coordinator

The *Guidebook for Community Protection* (Alberta Environment and Sustainable Resource Development, 2013), and *FireSmart: Protecting your Community from Wildfire* (Partners in Protection, 2013) were utilized in the development and writing of this document.



Beaver Hills Initiative FireSmart Plan, August 2018













Alberta



Charette Pell Poscente



Beaver Hills Initiative FireSmart Plan, August 2018

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1. Introduction

The Beaver Hills Initiative (BHI) FireSmart Plan encompasses a portion of the Beaver Hills sub-watershed and portions of:

- Beaver County
- Camrose County
- Leduc County
- Strathcona County
- Lamont County
- Elk Island National Park
- Alberta Environment and Parks
 - o Beaverhill Lake Heritage Rangeland, Natural Area
 - o Cooking Lake-Blackfoot Provincial Recreational Area
 - o Ministik Bird Sanctuary

Since Lamont County chose not participate and as such, no section has been included in this plan. Strathcona County had an in-depth FireSmart Plan developed in 2016 and as such, this plan only includes an update to weather and wildfire incidents.

Portions of the City of Edmonton, the City of Fort Saskatchewan and Sturgeon County are excluded. See **Table 1** and **Figure 1**.

Table 1: BHI study area breakdown by entity

Site Name	Ar	ea	Percentage of BHI
one Mame	Ac	На	Study Area (%)
Lamont County	191,396	77,455	20.4
Beaver County	288,648	116,812	30.7
Camrose County	67,979	27,510	7.2
Leduc County	33,403	13,518	3.6
Strathcona County	310,070	125,481	33.0
Elk Island National Park	47,551	19,243	5.1
Cooking Lake-Blackfoot Provincial Recreation Area	24,445	9,893	2.6
Beaverhill Lake Heritage Rangeland Natural Area	43,257	17,506	4.6
Ministik Lake Game Bird Sanctuary	18,132	7,338	1.9
Beaver Hills Initiative Study Area	939,257	380,104	100.0

The approach and methodology utilized in developing BHI FireSmart Plan followed the processes within the Alberta Government *FireSmart Guidebook for Community Protection (2013)* and included innovative and adapted approaches to meet the needs of the different planning areas and project stakeholders. The



Redwater 38 45 Bon Accord Gibbons Bruderheim - 1 29) Lamont Fort Saskatch wan Lamont 21 County 15) Elk Island Mundare National Strathcona Park nton County 14 Cooking Lake-Blackfoot Provincial **Recreation Area** Beaverhill 5 Lake Heritage Tofield Rangeland Natural Area Beaumont Ministik Lake educ County Game Bird Sanctuary **Beaver County** Camrose County 21)

objective of the FireSmart Plan is to develop FireSmart mitigation strategies and actions to manage wildfire risk, and support health, sustainability, and resiliency of ecological systems within the Beaver Hills Biosphere.

Figure 1. Beaver Hills Initiative Study Area



FireSmart Committee

A FireSmart Committee was established as part of the project. The committee was comprised of key stakeholders who were directly affected by the FireSmart Plan for the Beaver Hills Biosphere. FireSmart committee meetings were set up to provide an opportunity for stakeholders to voice concerns, and provide input and feedback throughout the development of the FireSmart Plan. Involvement of the committee and other stakeholders throughout the planning process was key in developing a plan that was tailored to the people, landscape, and culture of the BHI. Meetings were held both in larger groups comprised of all or most of the FireSmart committee members, and in smaller, focused groups comprised of specific stakeholders.

The FireSmart committee comprised of the following representatives:

- Bob Beck (Beaver County),
- Brad Gurmin (Leduc County),
- Gordon George (Strathcona County),
- James Cook (Elk Island National Park),
- Ksenija Vujnovic (Alberta Environment and Parks),
- Mike Hoffman (Beaver County), and
- Mike Kuzio (Camrose County).

The FireSmart Committee and CPP Environmental met on two different occasions as a group. The objectives of these two meetings were to:

- Communicate the project scope, goals, and objectives of the FireSmart Plan
- Clarify member roles and participation
- Obtain input prior to field assessments
- Communicate questions and concerns, as well as discuss any feedback on the project

FireSmart Committee Meetings	Date	Location	Agenda Topics
Meeting One	12-Oct-17	Strathcona County Hall	 Project Overview - Project scope/goals/objectives Review BHI FireSmart committee member roles and participation Review identified communities (subdivisions, villages, and hamlets) per County and get inputs from each County on target areas Identify the Alberta Governments properties Review samples of County site assessment results so far Set meeting #2 date to present and discuss the findings of the Hazard and Risk assessments, obtain feedback from the risk assessment results, and gather input into the development of the Wildfire Mitigation Strategies

Table 2: Group FireSmart Committee Meetings



FireSmart Committee Meetings	Date	Location	Agenda Topics
Meeting Two	16-Jan-18	Strathcona County Hall	 Review objectives of FireSmart Committee Meeting #2 Review of the minutes of FireSmart Committee Meeting #1 Review completed work to date Schedule updates Review Wildfire Hazard and Risk Assessment results Review Wildfire Mitigation Strategies Public engagement discussions Next steps

Meetings with individual stakeholders were completed to provide opportunities for focused feedback on the overall FireSmart Plan and the particular section that was applicable to each stakeholder.

Date Planning Area Representative		Representative		
May 1 st , 2018	Beaver County	Mike Hoffman (Regional Emergency Manager)		
May 1 st , 2018 Leduc County Bi		Brad Gurmin (Regional Fire Marshal)		
May 2 nd , 2018Camrose CountyMike Kuzio (Protective Services Manager)		Mike Kuzio (Protective Services Manager)		
May 4 th , 2018	AEP and Parks	Ksenija Vujnovic (Parks Ecologist) and Kristofer Heemerych (Wildfire Prevention Officer)		

Table 3: Meetings with individual stakeholder to review the FireSmart Plan

Public Engagement

Development of the FireSmart Plan included public engagement sessions which provided opportunities to engage with the general public within the three counties. Public engagement sessions were held in association with local community events, specifically the local markets and/or Farmers Market.

At each public session, a booth was set up to provide information on the status of the FireSmart project and how the project fit into the goals of sustainability and resiliency of the Beaver Hills Biosphere. FireSmart Committee members were encouraged to attend. CPP Environmental coordinated and facilitated the public engagement sessions, including documentation of feedback and booth attendance records.

The public engagement events provided an opportunity to obtain public inputs into the preliminary findings of the draft FireSmart Plan. The events also provided an opportunity to explain the risks of wildfire to the public in a personal (private property), a local (community), and a regional level (BHI). Along with the draft FireSmart Plan and supporting maps on display, the booth also had educational FireSmart pamphlets that were available for the public to review and take home.



Table 4: Public Engagement Sessions

Stakeholder	Date	Location	Number of General Public Attendees	Stakeholder Attendees	Stakeholder Inputs
Beaver County	May 25 th , 2018	Tofield Farmer's Market	8	-	No concerns were brought forward
Beaver County	March 1 st , 2018	Ryley Market	24	-	No concerns were brought forward
Camrose County	May 26 th , 2018	Camrose Farmer's Market	12	-	No concerns were brought forward
Leduc County	May 24 th , 2018	Leduc County Farmer's Market	10	Brian Oliver (Fire Inspector) and Leduc County Fire Services	No concerns were brought forward

2. Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies

The major components of the FireSmart Plan are the individual Wildfire Hazard and Risk Assessments (WHRA) and Wildfire Mitigation Strategies (WMS) for each planning area.

This section contains the separate Wildfire Hazard and Risk Assessments and Mitigation Strategies for Beaver County, Camrose County, and Leduc County. The Alberta Environment and Parks section consists of a general assessment of Beaverhill Lake Heritage Rangeland Natural Area, Cooking Lake-Blackfoot Provincial Recreational Area, and Ministik Lake Game Bird Sanctuary. The Elk Island National Park section consists of only an Executive Summary that was developed under the guidance of Elk Island National Park representatives.

Wildfire Hazard and Risk Assessment

The Wildfire Hazard and Risk Assessment focuses on the wildfire threat regarding rural subdivisions, villages, and hamlets within the study area. Rural settings often have an abundance of vegetated (forested) lands adjacent to, or intermixed with, a community. This intermixing of community and forest is referred to as the Wildland Urban Interface. Communities within the Wildland Urban Interface may be at risk from wildfire.

The assessment is meant to determine the hazards and risks of a wildfire threatening the Wildland Urban Interfaces within the study area. The Wildfire Hazard and Risk assessment used five main categories to evaluate hazards and risk:



- 1. Values at Risk
- 2. Community Risk Assessment (Inherent Risk Score)
- 3. Wildfire Behaviour Potential (Vegetation fuel types, Fire season weather, Fire weather indices, Topography, and Wildfire behavior analysis)
- 4. Wildfire Incidence
- 5. Firefighting Capabilities

These hazards and risks are also known as wildfire threat. Wildfire threat is determined by analyzing Values at Risk, Wildfire Behaviour Potential, wildfire incidence, and Fire Department capabilities.

To assist in determining the wildfire threat, field assessments were completed within Beaver County, Camrose County, and Leduc County. No field assessments were completed in Lamont County, Strathcona County, Elk Island National Park, or the lands under AEP.

Community Wildfire Risk Assessment

The Community Wildfire Risk Assessment is used to assess risks on subdivisions, villages and hamlets within the BHI study area. The Community Wildfire Risk Assessment is a unique tool developed to compare wildfire risk between rural communities relative to one another. Each rural community is unique and contains different factors that influence the risk in the event of a wildfire.

Categories incorporated in the risk matrix are based on:

- 1. Likelihood of Occurrence focuses on variable such as: fuel types, slope, ignition sources, residential burning types allowed, and crossover days.
- 2. **Defensibility of Community** focuses on variable such as: structure density, fire spread barriers, forest fuel size, maintenance, access, and suppression capability.

The Community Risk Assessment process includes both inherent and residual risk rankings; these are the amount of risk that exists in the absence of controls and the amount of risk that remains after controls are accounted for, respectively. When used, the tool illustrates the reduction of risk if a certain measures are undertaken.

Wildfire Mitigation Strategies

Wildfire Mitigation Strategies are recommended actions that can alter the potential or behavior of a wildfire that could ultimately reduce potential impacts of a wildfire event. Mitigation strategies may include vegetation management, development opportunities, educational sessions, and community engagement activities. Although mitigation strategies are suggested for counties, it is recommended that all rural subdivisions, villages, and hamlets participate in the mitigation strategies. At this time, no formal vegetation prescriptions were developed in this document. Mitigation strategies for the study area have been compiled and are identified in **Table 5**.

Recommendations are based on Wildland Urban Interface disciplines while considering Values at Risk, Wildfire Behaviour Potential, wildfire incidence, and firefighting capabilities. The Wildland Urban Interface seven disciplines are detailed in the *FireSmart Guidebook for Community Protection* (2013):



- 1. Education enhances awareness and opportunities for prevention and mitigation.
- 2. **Development -** land use factors to enhance community protection.
- 3. **Vegetation Management** removal, reduction, and conservation of hazardous fuels including ecological and environmental consideration.
- 4. Legislation Fire bylaw, Land use bylaw, restricted covenants, etc.
- 5. **Inter-agency Cooperation** mutual aid agreements, required for managing all stages of a wildfire emergency.
- 6. **Cross-Training** required for seamless teamwork during a wildfire emergency, with mutual aid partners.
- 7. **Emergency Planning** ensures human life is preserved as priority on in wildfire emergencies with Emergency Response Plans.



Table 5: Overview of Wildfire Mitigation Strategies for the BHI Study Area

Recommendations	Beaver County	Camrose County	Leduc County	Beaverhill Lake Heritage Rangeland Natural Area	Cooking Lake – Blackfoot Provincial Recreation Area	Ministik Lake Game Bird Sanctuary
1. Education						
1a. Educate and encourage community member involvement in FireSmart activities.	×	×	×			
1b. Distribute information regarding FireSmart priority zones.	×	×	×			
1c. Distribute and/or post information regarding FireSmart and wildfire prevention at strategic locations such as public buildings, kiosks, and trail heads.				×	×	×
1d. Promote residences to use the "Alberta Emergency Alert" App for up to date information on wildfire emergencies.	×	×	×			
2. Development						
2a. Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services.	×	×	×	×	×	×
2b. Ensure that the primary and secondary power lines are maintained.	×	×	×	×	×	×
2c. Consult with the Regional Water Services Commission to improve water distribution through the planning area.	×					
2d. Obtain Superior Tanker Shuttle Service (STSS) accreditation.	×					
3. Vegetation Management						
3a. Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1.	×	×	×			
3b. Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities.	×	×	×			
4. Legislation						
4a. Update the fire permit requirements to include procedures for addressing holdover fires during the winter season.	×					



Recommendations	Beaver County	Camrose County	Leduc County	Beaverhill Lake Heritage Rangeland Natural Area	Cooking Lake – Blackfoot Provincial Recreation Area	Ministik Lake Game Bird Sanctuary
4b. Develop a land use bylaw that incorporates FireSmart principles.	×	×				
4c. Adjust the issuing of fire permits as a year round requirement.		×	×			
4d. Continue to limit development within the planning area.						×
5. Inter-Agency Cooperation						
5a. Coordinate a pre-fire season meeting with other agencies to discuss the upcoming wildfire season.	×	×	×			
6. Cross-Training						
6a. Create desktop scenarios to test out and understand protocols during wildfire emergencies.	×	×	×			
6b. Participate in joint wildfire exercises with Alberta Agriculture and Forestry.	×	×	×			
7. Emergency Planning						
7a . Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies.	×	×	×			
7b. Create Wildfire Preparedness Guides for communities.	×	×	×			

Section A. Beaver County





Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies Beaver County

Prepared for: Beaver Hills Initiative

August 2018



Charette Pell Poscente

Executive Summary

The Wildfire Hazard and Risk Assessment and the Wildfire Mitigation Strategies for Beaver County was developed as part of the overall FireSmart Plan for the Beaver Hills Initiative (BHI). The Wildfire Hazard and Risk Assessment was used to identify the landscape wildfire risk in communities within the planning area.

As part of the Wildfire Hazard and Risk Assessment, 36 rural subdivisions and one village were assessed individually for wildfire risk using the Community Wildfire Risk Assessment tool. The assessment allows Beaver County to compare the wildfire risk of rural communities relative to each other. Communities could then be ranked and prioritized for implementation of mitigation as needed.

The *Guidebook for Community Protection* (Alberta Environment and Sustainable Resource Development, 2013), and *FireSmart: Protecting your Community from Wildfire* (Partners in Protection, 2013), were essential followed in the development of this section of the plan.

The Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies section was prepared in collaboration with Beaver County representatives.

- Bob Beck (Chief Administrative Officer)
- Mike Hoffman (Regional Emergency Manager)

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- Spring
- Summer
- Fall

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1 Planning Area and Stakeholders

The planning area for Beaver County focuses on the Village of Ryley and 36 subdivisions along the west section of Beaver County (**Table 1**). The Wildfire Hazard and Risk Assessment includes a two kilometer buffer surrounding the selected planning areas which takes into account wildfire entering and/or leaving the community.

1.1 Planning Area

Only the western portion of Beaver County falls inside the Beaver Hills Initiative study area. The planning area (Beaver County) is located approximately 57 kilometers southeast of Edmonton, Alberta (**Figure 1**). The planning area is outside of the Forest Protection Area of Alberta. The land uses within the planning area include: agriculture (crop, hay, and pasture), rural residences, and subdivisions. Forest fuels are fragmented on the landscape. See **Appendix A1** for Overview and Topography map.

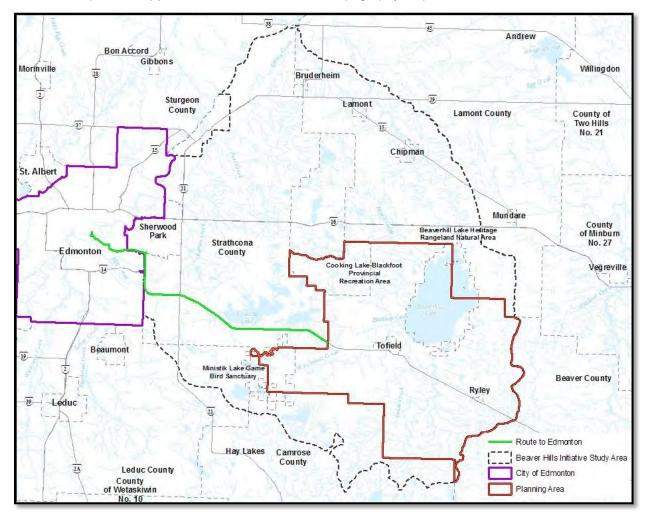


Figure 1. General location of Beaver County within the Beaver Hills Initiative boundary.

Name	Legal Land Description	Name	Legal Land Descri
Aspen Estates	NE 30-51-19-W4M	Jade Estates	SE 8-50-20-W4M
Beaver Meadows	NE 9-50-20-W4M	Joyland Estates	SE 8-50-20-W4M
Beaver Creek Estates 7822987	SE 34-50-20-W4M	Kingsway Estates	SE 12-50-20-W4M
Beaver Creek Estates 7822988	NE 27-50-20-W4M	Lori Estates	NE 15-50-20-W4M
Beaver Creek Estates 8622084	NW 27-50-20-W4M	Lindbrook Estates	NE-12-051-20-W4M NW-07-051-19-W4M SE-12-051-20-W4M
Beaver Hills Estates	SE 36-51-20-W4M	Meadowbrook Estates	SW 12-51-20-W4M
Birch Grove Estates	NW 12-51-20-W4M	Miquelon Estates	SW 10-50-20-W4M
Carey Ridge Estates	SE 18-50-20-W4M	Park Glen Estates	NE 35-52-19-W4M
Cinnamon Ridge Estates	NW 9-50-20-W4M	Rolling Glory	SE 28-50-20-W4M
Country Squire Estates	NW 21-51-19-W4M	Royal Glen	SE 28-50-20-W4M
Cultural Point Lindbrook	E½ 12-51-20-W4M	Sherwood Forest Estates	SW 35-51-20-W4M
Desert Estates	SE 17-50-20-W4M	Twin Lakes	SW 23-52-19-W4M
El-Greco Estates	SE 15-52-19-W4M	Unnamed Subdivision 1	SE 16-50-20-W4M
Forest Glen	W½ 17-51-19-W4M	Unnamed Subdivision 2	SW 12-50-20-W4M
Hillhurst Estates	SE 13-50-21-W4M	Unnamed Subdivision 3	S ¹ ⁄ ₂ 31-51-19-W4M
Hunter Estates	SW 15-50-20-W4M	Whispering Hills	NE 19-51-19-W4M
Huntington Estates	SE 9-50-20-W4M	Willow Lake Estates	E ¹ ⁄ ₂ 26-50-20-W4M
Islet Lake Estates	NW 36, NE 35-51-20- W4M	Village of Ryley	N½ 4 and SE 9-50-1 W4M

Table 1. List of Subdivisions and Municipalities in Beaver County that were assessed as part of the BHI Study area.

1.2 Stakeholders

Beaver County focuses mainly on the west section of the county, but does not include the Village of Ryley. To gain insight about the planning area, key stakeholders were involved in the process.

How do we get to a FireSmart landscape? Get the right people to participate. (Partners in Protection, 2003)

Table 2. List of stakeholders and their respective responsibilities in the development of the Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies.

Stakeholders	Responsibilities		
Beaver Hills Initiative	 Development and implementation of the project Provide resources to complete the project Provide funding for the project Contract administration 		
Beaver County	Provide local knowledge and inputs into the planReview and approval of the plan		

2 Wildfire Hazard and Risk Assessment

The Wildfire Hazard and Risk Assessment analyzes Values at Risk, Wildfire Behavior Potential, wildfire incidences, and firefighting capabilities.

Table 3: Results for the Wildfire Hazard and Risk for Beaver County planning area

SPRING	SUMMER	FALL
MODERATE	LOW	MODERATE

2.1 Values at Risk

Values at Risk include aspects within a community, man-made or natural, which have measurable or intrinsic worth, and have the potential to be negatively altered by fire (Alberta Agriculture and Forestry, 2011). Values at Risk encompass four broad types of values (Partners in Protection, 2003):

- Standard Values homes and other common structures found in communities
- **Critical Values** infrastructure that is vital to the wellbeing of those who reside in the planning area (e.g. major roads, power lines, etc.)
- Dangerous Goods Values anything which may pose a safety threat to emergency responders or the public
- Special Values areas that have natural, cultural, historical, or emotional importance to a community

Table 4: Values at Risk within and surrounding the subdivisions and village in the planning area.

Value Type	Description	
Standard	Multiple houses and associated structures within the identified	
Stanuaru	communities in Beaver County.	

Value Type	Description			
	Beaver County Office			
	Communication Tower (3)			
	Fire Hall, Lindbrook Community Hall			
	 Post Office, Ryley Community Centre 			
Critical *	Ryley School			
Critical	Senior Citizen Centre			
	Spilstead Community Hall			
	 Village of Ryley Administration Office 			
	Water Filling Station			
	Water Treatment Facility			
	Tempo Gas Station			
	Propane Tank			
	Waste Transfer Station (2)			
	Propane Tank (6)			
Dangerous Goods	Private Industrial Lot			
	Natural Gas Facility			
	Gas Station			
	Crops Production Services			
	Landfill			
	 Lindbrook Star Gazer Campground and RV Park 			
	Conservation Habitat (2)			
	Ryley Cemetery			
	Mennonite Cemetery			
	Conservation Habitat			
Special	Campground			
	Total Life Christian Church			
	Centennial Park			
	Good News Community Church			
	Bethel Lutheran Church			
	Seventh Day Adventist Church			

* Pipelines, railways, and transmission lines are identified on Linear Disturbance and Water Sources maps (see **Appendix A8**).

2.2 Community Risk Assessment

The Community Wildfire Risk Assessment is a unique tool developed by CPP Environmental to compare wildfire risk between rural communities relative to one another. Each rural community is unique and contains different factors that influence the risk in the event of a wildfire.

Categories incorporated in the risk matrix are based on:

- 1. **Likelihood of Occurrence** focuses on variable such as: fuel types, slope, ignition sources, residential burning types allowed, and crossover days.
- 2. **Defensibility of Community** focuses on variable such as: structure density, fire spread barriers, forest fuel size, maintenance, access, and suppression capability.

2.2.1 Inherent Risk Score

The inherent risk encompasses finer community details and identifies the natural or man-made fuel breaks, and fragmented fuels due to agriculture and rural road networks. Factors such as fuel breaks and fragmented fuels can affect how potential wildfires spread across the landscape. The matrix takes into account conditions within and adjacent to the community. Each section of the matrix is weighted differently and assists in determining the overall threat for that community. Once calculated, the risk scores were ranked from highest to lowest to assist in prioritization communities (**Table 5**). See **Appendix A3** for the Inherent Risk Map and Community Risk Assessment Results.

Risk Score Ranking Matrix			
1350-2520	Wildfire Hazard Rating: Extreme		
702-1349	Wildfire Hazard Rating: High		
300-701	00-701 Wildfire Hazard Rating: Moderate		
0-299	Wildfire Hazard Rating: Low		

Table 5. Inherent Risk Score for Community Risk Assessment.

Community	Inherent Risk Score
Cultural Point Lindbrook	646
Beaver Creek Estates 8622084	630
Hunter Estates	612
Aspen Estates	594
Beaver Creek Estates 7822988	578
Beaver Creek Estates 7822987	576
Desert Estates	576
Joyland Estates	561
Unnamed Subdivision 1	560
Hillhurst Estates	555
Lori Estates	555
Whispering Hills	546
Cinnamon Ridge Estates	544
Rolling Glory	544
Huntington Estates	540
Islet Lake Estates	527
Royal Glen	525
Lindbrook Estates	512
Jade Estates	510
Unnamed Subdivision 2	504
Beaver Hill Estates	496

Community	Inherent Risk Score
EI-Greco Estates	494
Park Glen Estates	480
Meadowbrook Estates	476
Kingsway Estates	450
Unnamed Subdivision 3	448
Willow Lake Estates	442
Village of Ryley	435
Miquelon Estates	429
Beaver Meadows	420
Twin Lakes	403
Country Squire Estates	396
Forest Glen	384
Birch Grove Estates	378
Sherwood Forest Estates	378
Carey Ridge Estates	360

2.3 Wildfire Behavior Potential

Wildfire behavior is defined as "the manner in which fuel ignites, flame develops, and fire spreads and exhibits other related phenomena as determined by the interaction of fuels, weather, and topography" (Canadian Interagency Forest Fire Centre, 2002).

To better understand seasonal wildfire potential within the planning areas, the fuels data, historical weather data, and fire weather indices were analyzed. The analysis included: vegetation types, temperature, relative humidity, precipitation, wind speed and wind direction, Fire Weather Index (FWI), Fine Fuel Moisture Code (FFMC), and Initial Spread Index (ISI).

2.3.1 Vegetation Fuel Types

Beaver County is located within the central parkland and the dry mixedwood sub-regions of Alberta. Forests within these sub-regions are characterized by trembling aspen (*Populus tremuloides*), white spruce (*Picea glauca*), balsam poplar (*Populus balsamifera*), black spruce (*Picea mariana*), and white birch (*Betula papyrifera*). The area is part of the Cooking Lake Moraine, which is comprised of hummocky "knob and kettle" terrain that creates variable fuel types and a large quantity of pothole waterbodies.

Fuel types within the planning area consist of small patches of deciduous forests. Agricultural land is common on the landscape and makes up most of the vegetated non fuel grass fuel types. Grass vegetation is common throughout the planning area including: all utility corridors, open fields, right-of-ways, water course channels, and ditches. Grass fuels throughout the county are in various states of maintenance. Vegetation fuel data was acquired from the Alberta Agriculture and Forestry (AAF) FireWeb website. Since fuel data for Beaver County is outside of the Forest Protection Area, field assessments, satellite imagery, and Google Earth were used to verify the provincial vegetation fuel data.

See Appendix A4 for fuel maps.

Table 6. Canadian Forest Fire Danger Rating System Fire Behavior Prediction (CFFDRS FBP) System Fuel Types within the Beaver County planning area.

CFFDRS FBP System	Common Language	Fuel Coverage in Planning Area		
Fuel Types	Equivalent	ha	%	
D1/D2	Aspen	20,582	17.6	
M1/M2	Boreal Mixedwood	1,617	1.4	
01	Grass	44,102	37.9	
C1/C2	Spruce-Lichen and Boreal Spruce	859	0.7	
Vegetated Non-Fuel Vegetated Non-Fuel		36,267	31.1	
Non-fuel Non-Fuel		13,390	11.5	

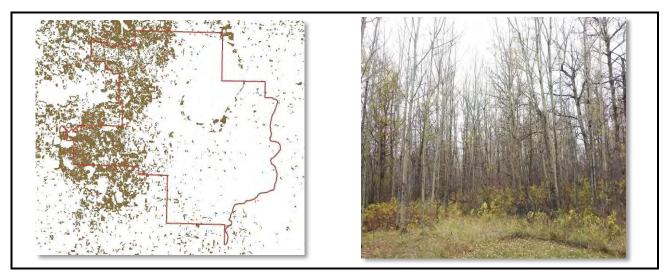


Figure 2: D1/D2 Fuel Distribution and Vegetation example

Deciduous stands consisting of aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*) are most likely to burn prior to green-up in the spring due to the resin in the buds being highly flammable or during the fall after the leaves drop. The wildfire intensity in deciduous stands is lower compared to coniferous stands, as deciduous stands are unlikely to have a crown fire due to the lack of ladder fuels. Instead, a vigorous surface fire is most likely to be experienced due to the grasses and forbs that make up the composition of the ground vegetation. Within the planning area, deciduous stands vary in size and are concentrated along the west section of the planning area. The D1/ D2 fuel types consist of approximately 17.6% of the planning area.



Figure 3: M1/M2 fuel Distribution and Vegetation example

Mixedwood stands are comprised of a mixture of deciduous and coniferous vegetation. Coniferous trees are associated with being volatile fuels and have a higher probability of ignition than deciduous trees. The presence of conifers in a mixedwood stand increases the potential for spotting as well as crown fire due to an increased presence of ladder fuels. Consequently, a wildfire in a mixedwood stand may have a higher degree of difficulty in controlling. Within the planning area, mixedwood stands comprise a small portion of the landscape and are often located as isolated patches. The M1/ M2 fuel types consist of approximately 1.4% of the planning area.

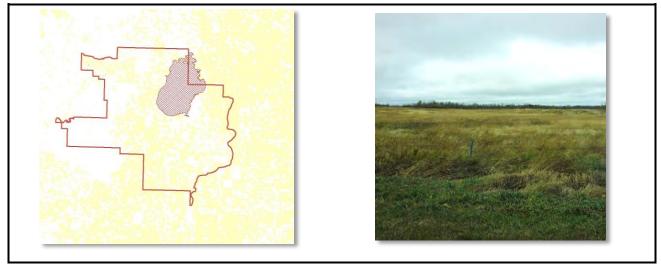


Figure 4: O1 Fuel Distribution and Vegetation example

A concern for the planning area is the ignition risks for grass fires. Grass fuels are a concern in the spring and fall when grass is dead and dry (cured fine fuel conditions). During these times, ignition becomes very easy and Rate of Spread (ROS, m/ min) is high. The O1 fuel type make up the largest percentage, consisting of approximately 37.9% of the planning area (the cross-hatched is considered an O1 fuel, but is not included in the 37.9%).

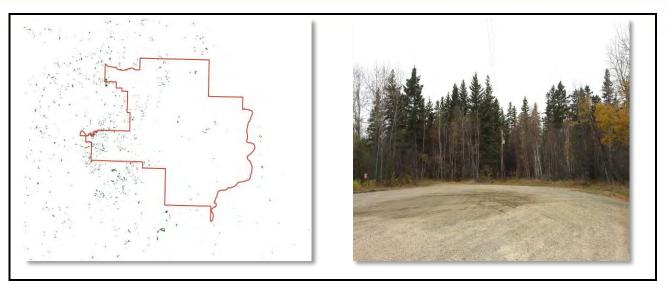


Figure 5: C1/C2 Fuel Distribution and Vegetation example

Coniferous species such as white spruce (*Picea glauca*) and black spruce (*Picea mariana*) are considered volatile fuels. Conifer fuels are considered a high risk due to: the ability to burn throughout the fire season, the likelihood and high potential for spotting, and the likelihood and high potential for crown fires. The C1/C2 fuel types consist of approximately 0.7% of the planning area.

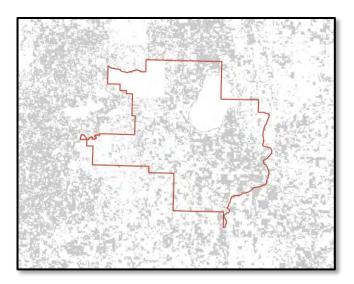


Figure 6: Vegetated Non-Fuel Distribution

Vegetated non-fuels include areas of maintained grass and managed agriculture land. Vegetated non-fuels make up the second largest percentage and cover approximately 31.1% of the planning area

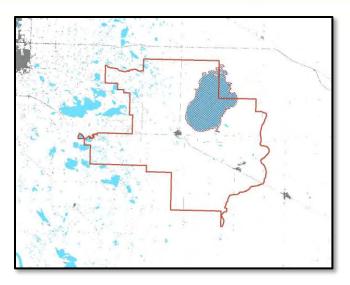


Figure 7. Non-Fuel Distribution

Non-fuels include road networks, waterbodies, and anthropogenic features. Non-fuels cover approximately 11.5% of the planning area (the cross-hatched area is now considered an O1 fuel type).

2.3.2 Fire Season Weather

The analysis of the historical weather included: temperature, relative humidity, precipitation, wind speed, and wind direction.

Crossover days were used to identify periods of high fire concern. Crossover is wildfire term that identifies days when the minimum daily relative humidity (RH) becomes lower than the ambient temperature. As RH lowers, fuels dry at a quicker rate. The combination of low RH and higher temperatures reduces the moisture content of fine fuels (grasses, needles, herbaceous vegetation) which can impact the Rate of Spread (ROS) of fires. Standard units utilized for the rate of spread variable is usually indicated as meters per minute (m/min). Crossover days are easily identifiable by Emergency Services personnel when monitoring weather conditions during the fire season. The majority of crossover days occur in May during the spring fire season. This will be a period of high concern for wildfire as dead fine fuels are dry and the new vegetation has yet to mature. The second season of concern is September when vegetation begins to die, the temperature is still high, and the RH drops significantly during the day. Burning periods in the fall decrease as the days get shorter although the low RH and higher temperatures amplify the wildfire risk.

Using daily noon actuals, the temperature, relative humidity, precipitation, and wind speed were averaged. The data reflects the fire season weather by using data from 2009 to 2017 during the months of March to October. Temperature, relative humidity, precipitation, and wind speed were calculated by averaging the monthly totals.

See Table 7 and Appendix A5.

	Weather Stations: Camrose, Holden AGDM, Mundare AGDM March 1, 2009 - October 31, 2017								
Month	Average Temp. (°C)	Average Relative Humidity (%)	Average Wind Speed (km/hr)	Average Precip. (mm)	Average Crossover days/year	Average 90 th Percentile FWI (days/yr)	Average 90 th Percentile FFMC (days/yr)	Average 90 th Percentile ISI (days/yr)	
March	-5	79	14	12	0	N/A	N/A	N/A	
April	3	69	16	26	3	1	2	4	
May	11	59	15	41	1	5	8	7	
June	15	69	14	70	0	3	2	2	
July	17	76	12	84	0	0	1	0	
August	16	74	11	42	2	1	1	1	
September	11	69	13	24	0	7	6	5	
October	4	76	14	17	0	4	0	2	

Table 7. Summary of data from three Weather Stations for the planning area

*FWI/Daily data for April-October only due to snow cover

**Temp/RH/WS/Precip data based on hourly data

Wind roses depict the distribution of wind speed and direction. **Figure 8** illustrates the proportion of wind direction and speed for the days associated with the FWI 90th percentiles per season. The seasons represent the following months: spring (March to May), summer (June to August), and fall (September and October).

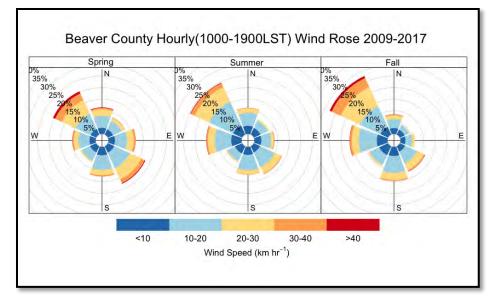


Figure 8: Beaver County Hourly (1000-1900) Wind rose (2009-2017) for spring, summer, and fall

Spring: Winds are predominately from the northwest and southeast. Wind speeds are generally greater than 20 km/hr and gusts may reach upwards of 40 km/hr. Southerly winds are often referred to as drying winds as

moisture can be easily removed from fine fuels. The stronger the wind, the faster a fire will spreads due to more oxygen being supplied for combustion and drier surface fuels. Stronger wind speeds may result in spotting.

Summer: Winds are predominately from the northwest. Gusts may reach upwards of 30 to 40 km/hr.

Fall: Wind events are predominately from the northwest. Wind speeds are usually greater than 20 km/hr and gusts may reach upwards of 40 km/hr. Strong wind speeds may result in spotting.



Figure 9. Illustration of spotting during a wildfire (Adopted from <u>http://www.firewise.org</u>). Spotting occurs when embers from burning material gets transported by the wind which has the potential to start new secondary fires.

2.3.3 Fire Weather Indices

Being outside of the Forest Protection Area, there is limited access to fire weather indices. Three measures provided further insight to wildfire risk: Fire Weather Index (FWI), Fine Fuels Moisture Code (FFMC), and the Initial Spread Index (ISI).

The FWI is used as a general index of fire danger throughout forested areas in Canada (Natural Resources Canada, 2016). The daily FWI is calculated using temperature, relative humidity, wind speed, and precipitation at a specific time index (13:00). The 90th percentile FWI was calculated to better understand what months are at a higher risk of sustaining a wildfire in the planning area. **Appendix A5** illustrates the distribution of days that are within the FWI 90th percentile.

The FFMC was also analyzed since grass fires have historically been a large concern for local fire departments. The FFMC considers the dryness of small and fine forest fuels such as grass. Daily FFMC is calculated using temperature, relative humidity, wind speed, and precipitation based on the previous day's weather information. The planning area is located within the central parkland and the dry mixedwood natural sub-region where standing or matted grass vegetation is common. **Appendix A5** shows the distribution of days that are within the FFMC 90th percentile.

The ISI is a key component in fire behavior in regards to the Canadian Forest fires Danger Rating System (CFFDRS). The ISI integrates fuel moisture for fine dead fuels and surface wind speed to estimate a spread potential. ISI is a key input for fire behavior predictions in the FBP system. The rate of spread predicts the

speed of the fire and takes into account of the potential for spotting and crowning fires. **Appendix A5** shows the distribution of days that are within the ISI 90th percentile.

Table 8: 90th Percentile FWI, FFMC, and ISI rating results for the Beaver County planning area based on Weather Stations: Camrose, Holden AGDM, and Mundare AGDM (March 1, 2009 - October 31, 2017).

	FWI	FFMC	ISI
Hazard Rating	34.8	92	16
	(Extreme)	(Extreme)	(Extreme)

2.3.4 Topography

Topography influences fire behaviour similar to wind where the degree of slopes directly impacts the rate of spread of a fire.

The topography in the planning area consists mainly of gentle slopes and flat terrain except near the northwest boundary where slightly greater slopes are present. The rate of spread of a wildfire could change in areas with the slightly steeper slopes. The subtle elevation changes throughout the remaining area will have little effect on fire behaviour. The coniferous fuels as well as the dead and down woody debris present on the steep slopes may further increase the rat of wildfire spread, increasing the overall risk in these areas.

See Appendix A1 for the Overview and Topography maps.

2.4 Wildfire Behavior Analysis

Fire weather predictions are based on the analysis of fuels, weather, and topography. Three methods were utilized to predict fire behavior: Wildfire Behaviour Potential, Wildfire Threat Rating, and the Prometheus Wildfire Model.

2.4.1 Wildfire Behaviour Potential and Wildfire Threat Rating

Wildfire Behaviour Potential and Wildfire Threat Rating maps were acquired from the Alberta FireWeb (AAF). The Alberta FireWeb is a spatial tool that allows wildfire planners to better understand wildfire threat in an area. Wildfire Threat Rating and Fire Behaviour Potential maps for spring, summer and fall from FireWeb were analyzed.

It is important to note that Wildfire Threat Rating calculations were not intended to be used outside the Forest Protection Area. The rating calculations do not account for the municipal firefighting resources and the potential for quick response times from the fire halls

The Fire Behaviour Potential varies seasonally within the planning area. The Fire Behavior Potential for spring is <u>moderate</u>, while the summer and fall season ranges from <u>low to moderate</u>. During the summer season, Fire Behaviour Potential is reduced as the fuels are no longer cured/dried.

Wildfire Hazard and Risk ratings depict seasonal ranges in the Wildfire Threat Rating. The Wildfire Threat Rating is predominately <u>moderate</u> with individual areas ranging from low to high during spring. In the summer and fall season, <u>low to moderate</u> threat rating are present. As the planning area is outside of the Forest Protection Area, the overall risk could decrease thus, lowering the Wildfire Threat Rating.

See Appendix A6 and A7 for Wildfire Threat Rating and Fire Behaviour Potential maps.

2.4.2 Prometheus Wildfire Model

Prometheus runs were completed at a landscape scale that included the entire BHI study area. Historical fire season weather was modelled and the 90th FWI percentile was used to identify burning days. Ignition points were selected based on dominate wind direction, continuity of fuels, and the potential to impact communities within the study area. The Prometheus models are discussed in further detail in Section 3 of the BHI FireSmart Plan.

3 Wildfire Incidents

Beaver County's documented wildfire incidents are mainly a result of anthropogenic activities, ranging from agriculture to transportation and electrical utilities to recreation. Fire response statistics (2015 – 2017) were analyzed to determine: when the wildfire initiated, the liable party involved, cause of ignition, and the time until extinguished. Six fire stations (Tofield, Ryley, Holden, Bruce, Viking, and Kinsella) are available to assist in wildfire suppression. **Table 9** summarizes how the wildfires were started, the stakeholder involved, and the level of difficulty in extinguishing the fire which is identified through the time taken to suppress it.

Beaver County Wildfire Incidences between 2015-2017						
Station	Month	Stakeholder Cause		Hours to Extinguish		
Tofield	May,2015	Fortis Alberta Inc.	Arching Power Line	1hr 30 min		
	June, 2015	Landowner	Controlled burn re-ignited	3hr 17 min		
	June, 2015	Landowner	Fire pit got away	1hr 45min		
	June, 2015	Landowner	Mower sparks started grass fire	2hr 8min		
	July,2015	CN Rail	Train started grass fire	1hr		
	July, 2015	Landowner	Unknown	2hr		
	December, 2015	Fortis Alberta Inc.	Powerline	1hr		
	December, 2015	Fortis Alberta Inc.	Powerline	45min		
	January, 2016 Wawanesa Insurance Combine started fire		Combine started fire	1hr 40min		
	June, 2016	CN Rail	Train started grass fire	1hr 40 min		
	August, 2016	Fortis Alberta Inc.	Powerline	1hr 40min		
	August, 2016	Landowner	Cigarette lighter	3hr 45min		
	Jun, 2017	Fortis Alberta Inc.	Grass fire in ditch	1hr		
	October, 2017	Landowner	Started by baler	6hr 18min		
	October, 2017	Fortis Alberta Inc.	Grass fire in ditch	2hr		
	October, 2017	Fortis Alberta Inc.	Grass fire in ditch	15min		
	October, 2017	Landowner	Grass fire started by combine	1hr 20min		
Ryley	January, 2016	Fortis Alberta Inc.	Powerline	2hr 35min		
	June, 2016	County of Minburn #27	Controlled burn caught by wind	2hr		

Table 9. Beaver County Wildfire Incidence Statistics

Beaver Co	unty Wildfire Inciden	ces between 2015-201	7	
Station	Month	Stakeholder	Cause	Hours to Extinguish
	June, 2016	County of Camrose	Unknown	3hr 20min
	June, 2017	CN Rail	Brush on fire along train tracks	50min
	August, 2017	Landowner	Burn barrel caught field on fire	2hr 18min
Holden	June, 2015	Landowner	Fire pit got away	3hr
	June, 2015	Landowner	Controlled burn reignited	2hr
	June, 2015	Corner View Land & Saddle LTD.	Controlled burn re-ignited	3hr
	June, 2015	Landowner	Old brush piles reignited	3hr
	February, 2016	Landowner	Combine fire	2hr
	June, 2016	CN Rail	Brush along train tracks caught on fire	2hr
	June, 2016	CN Rail	Brush along train tracks caught on fire	1hr
	July, 2016	CN Rail	Brush along train tracks caught on fire	1hr
	Dec, 2016	Landowner	Baler caught field on fire	2hr
	August, 2017	CN Rail	CN grinding tracks	1hr
	August, 2017	CN Rail	CN grinding tracks	1hr 14min
Bruce	August, 2016	CN Rail	Brush along train tracks caught on fire	1hr
	August, 2016	Fortis Alberta Inc.	Powerline	20 min
Viking	May, 2015	CN Rail	Brush along train tracks caught on fire	1hr
	May, 2015	CN Rail	Brush along train tracks caught on fire	45min
	May, 2015	Landowner	Burning bin caught bales on fire	2hr
	July, 2015	CN Rail	Brush along train tracks caught on fire	1hr
	June, 2016	County of Minburn #27	Unknown	2hr
	July, 2016	Fortis Alberta	Lighting	3hr
	July, 2016	Landowner	Baler on fire	3hr 30min
	December, 2016	Landowner	Fire pit ignited field and building	3hr 30min
	May, 2017	CN Rail	Fire caused by fire	33 min
	June, 2017	Lefsrud Seed and Processor	Controlled burn spread by wind	2hr
	October, 2017	Fortis Alberta Inc.	Powerline	15min
Kinsella	May, 2015	CN Rail	Brush along train tracks caught on fire	1hr 30min

Beaver County Wildfire Incidences between 2015-2017					
Station	Month	Stakeholder	Cause	Hours to Extinguish	
	July, 2015	CN Rail	Brush along train tracks caught on fire	50min	
	June, 2017	CN Rail	Brush along train tracks caught on fire	1hr	
	August, 2017	Landowner	Fire from Baler	2hr	
	August, 2017	CN Rail	Brush along train tracks caught on fire	2hr	
	September, 2017	Fortis Alberta Inc.	Power line	43 min	

4 **Firefighting Capabilities**

Firefighting capabilities within the planning area are adequate and are able to respond to wildfire events that occur in the county. Mutual aid agreements exist between neighbouring counties including: Strathcona County, Lamont County, Flagstaff County, Minburn County, and the M.D of Wainwright. If county resources are dedicated to other incidents, Beaver County can request assistance through mutual aid agreements.

Along with mutual aid agreements, Beaver County has a standard inventory of firefighting resources at its disposal. **Table 10** details the available equipment at fire stations based out of Beaver County.

Table 10. Beaver County Fire Department Resources

Fire Stations	Equipment Type	Quantity
	Pumpers	2
Tofield	Mini-Pumpers (Brush Truck)	2
	Tanker	1
Dulau	Pumper	1
Ryley	Mini-Pumper (Brush Truck)	2
	Pumper	1
Holden	Mini-Pumper (Brush Truck)	1
	Tanker	1
Bruce	Pumper	1
	Pumpers	2
Viking	Mini- Pumper (Brush Truck)	1
	Tanker	1
Kinaalla	Pumper	1
Kinsella	Mini-Pumper (Brush Truck)	1

5 Wildfire Mitigation Strategies

5.1 Education

Recommendation 1a:	Educate and encourage community member involvement in FireSmart activities.		
Recommendation 1b: Distribute information regarding FireSmart priority zones.			
Recommendation 1d:	Promote residences to use the "Alberta Emergency Alert" App for up to date information on wildfire emergencies.		

Education of local residents will assist in mitigating wildfires occurrences within the County. Through platforms such as social media, open houses, rural newsletters, and local school presentations/events, FireSmart objectives can be highlighted, explained and/or demonstrated. These platforms will encourage engagement with surrounding residents on issues revolving around those tasks and methods. It is recommended that Beaver County develops an educational program that focuses on fire prevention and fire safety when conducting operations such as slash burning.

Information distributed should focus and highlight Non-combustible Zone and Priority Zone 1. These areas should have priority. Information should also include, but not be limited to, fuel removal, fuel reduction, and conversion of the property.

Encouraging the download and use of the Alberta Emergency Alert app allows for a simple way for residents to have access to, and stay updated with, necessary information during potential emergencies.

5.2 Development

Beaver County's Public Works and Study Development Department oversees functions related to road maintenance and other land use planning matters. Infrastructure affects a community's resilience to wildfire. Current aspects to consider for possible improvements to further mitigate wildfire risks include:

- Access
- Water availability
- Signage
- Utilities
- Staging Areas

5.2.1 Access

Recommendation 2a:

Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services.

There are multiple means of ingress/egress to allow for safe movement of traffic during an emergency within and surrounding Beaver County. The main means of egress is Hwy 14 that runs northwest and southeast

through the middle of the planning area, along with secondary Hwy 630, 833, and 834 running north and south. A network of township and range roads are also available to people as a means of ingress/egress during an emergency. The roads are designed to accommodate two-way traffic and are wide enough to allow for evacuating vehicles to pass responding emergency personnel and equipment.

Road maintenance is required during spring melt and for newly constructed roads suffering from deep ruts, large puddles, or a washboard surface. It is recommended that Beaver County develops and implements Best Management Practices for road construction to ensure suitable access for emergency services. Best Management Practices may include:

- enhancement of driving surface widths
- · improvement of ditch slopes to improve driving surface stability
- installment of "No Parking" signage on roads critical for evacuation
- installment of designated evacuation route signs

5.2.2 Utilities

Recommendation 2b: Ensure that the primary and secondary power lines are maintained.

Single, secondary, and three phase power lines are present within Beaver County. Fortis Alberta owns and oversees the maintenance along the distribution right of ways. The majority of the lines have been maintained, but in certain locations vegetation management will required. Secondary lines are prominent in the rural subdivisions and although these lines conduct less voltage in comparison to the other distribution lines, wildfires can result from these lines under the right conditions.

5.2.3 Water Availability

Recommendation 2c:	Consult with the Regional Water Services Commission to improve water distribution through the planning area.
Recommendation 2d:	Obtain Superior Tanker Shuttle Service (STSS) accreditation.

The subdivisions concentrated along west section of the county do not have fire hydrants within the community. Instead, a water truck fill station has been constructed west of the intersection of Hwy 14 and secondary Hwy 833 which would be available for firefighting purposes. The truck fill station is located in the NE 35-2-50-19-W4M and has an output of 60,000 gallons. The municipal water distribution system is operated by the "Highway 14 Regional Water Services Commission", an entity comprised of representatives from nearby municipalities and the county. Considerations have been identified to extend the regional waterline from Strathcona County further into Beaver County.

5.2.4 Staging Areas

Staging areas are for the purpose of the Fire Department to setup and run operations. They are determined on a case by case basis and consider key elements such as fire location and direction of burn. Possible staging areas have been identified in **Appendix A9**. Criteria for selecting possible staging area locations

included adequate space to marshal equipment and equipment turn arounds, solid surfaces capable of supporting the fire trucks, and are close or within the community. Emergency Services may also utilize the County office or other facilities present in the Town of Tofield or the Village of Ryley.

5.3 Vegetation Management

Recommendation 3a: Regular maintenance of vegetation in the FireSmart Non-combus Zone and Zone 1.		
Recommendation 3b:	Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities.	

Vegetation management has four FireSmart priority zones: Non-combustible Zone and Priority Zones 1, 2, and 3. Application of vegetation management within the four priority zones will reduce hazards and improve the defensibility of a structure. <u>Vegetation should not be modified, reduced, or removed if considered within the riparian zone, or other sensitive areas.</u>

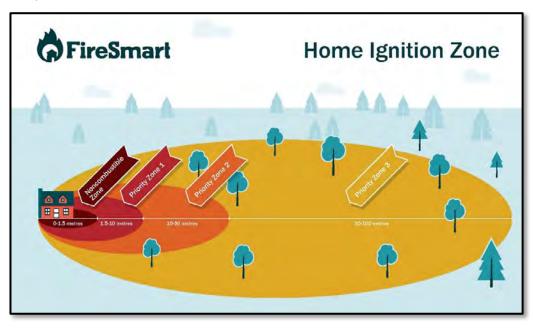


Figure 10: FireSmart Zones (http://www.firesmartcanada.ca/resources-library/firesmart-home-ignition-zone-graphic).

Non-combustible Zone is the area 0 to 1.5 meters immediately around a structure and is considered the most critical area. This zone prevents flammable fuels from doing immediate damage to the structure.

Priority Zone 1 has a radius of 1.5 to 10 meters around the structure. Keeping this area clear of flammable vegetation and debris can reduce the risk of the structure igniting during a wildfire and increases the defensibility of the structure.

Priority Zone 2 has a radius of 10 to 30 meter around the structure. Maintenance of Priority Zone 2 aids in lowering the intensity and the rate of spread of a wildfire.

Priority Zone 3 extends out from 30 meters. Priority Zone 3 modification may be necessary if there are high threat levels due to heavy continuous vegetation and steep topography that could not be sufficiently reduced by fuel management in Priority Zone 2. Fuel management options for Zone 2 and 3 are most effective when conifer trees are present.

Within the Beaver County planning area, the need for fuel treatment within Priority Zone 3 may be required, but should be conducted on a case by case basis for mitigating wildfire threat to Values at Risk on the landscape.

Priority Zone	Fuel Management Option				
Non-combustible	Mow grass (10 centimeters or less)				
Zone and Zone 1	Remove ground litter and downed trees				
	Remove over mature, dead and dying trees				
	Plant fire resistant vegetation				
	Thin and/or prune existing vegetation				
	Remove piled debris				
Zono 2 and 2	Thinning understory				
Zone 2 and 3	Pruning lower branches (within two meters from the ground)				

Table 11: FireSmart Priority Zones Fuel Management options to improve defensibility of structures in the event of wildfire.

5.4 Legislation

Bylaws are an important aspect of a community. The purpose of bylaws are that "they are understandable, enforceable, and accomplish the council's desired goal" (Municipal Affairs, 2013). The review of the Bylaws included current regulations and an investigation of recommendations that could be undertaken to address specific issues to aid in meeting FireSmart goals.

5.4.1 Burning Bylaws

Recommendation 4a:

Update the fire permit requirements to include procedures for addressing holdover fires during the winter season.

During the plan development, Beaver County representatives identified holdover fires from residents burning brush piles as a wildfire risk in the county. The risk could be mitigated through updating the fire permit procedures and requirements that are related to Fire Permit Bylaw 04–2013.

5.4.2 Land Use Bylaws

Recommendation 4b: Develop a land use bylaw that incorporates FireSmart principles.

Incorporating FireSmart principals into the development process will ensure that the community grows in a manner that will facilitate mitigating wildfire risk within the community. The bylaw should also consider FireSmart practices as per Chapter 3 of Partners in Protection's *FireSmart: Protecting Your Community from Wildfire* (2003). Inclusion of FireSmart assessments prior to building a structure or developing an area will identify the hazards and risks for the sites. Based on the assessments, recommendations on setbacks from top of slopes, landscaping, and driveway or road development would be important to identify prior to development.

5.5 Inter-Agency Cooperation

Recommendation 5a:

Coordinate a pre-fire season meeting with other agencies to discuss the upcoming wildfire season.

Wildfires around rural communities can exceed the capabilities of local emergency responders. When Fire Service Agreements are in place, additional resources of personnel, equipment, and specialized equipment are made available. Currently, Beaver County has mutual aid agreements in place with Lamont County, Strathcona County, Flagstaff County, Camrose County, Wainwright County, and Minburn Fire Department along with AAF. It is recommended that Beaver County continue to maintain current mutual aid agreements. Beaver County Emergency Services should conduct an annual pre-season meeting with mutual aid agreement holders to discuss interagency cooperation during a wildfire incident.

5.6 Cross-Training

Recommendation 6a:	Create desktop scenarios to test out and understand protocols during wildfire emergencies.	
Recommendation 6b:	Participate in joint wildfire exercises with Alberta Agriculture and Forestry.	

It is recommended that the Fire Department execute desktop scenarios as part of their training regime. Desktop scenarios will help firefighters to work through relevant scenarios relating to Beaver County, and to test out and understand protocols during emergencies.

Beaver County Fire Department should participate in joint exercises with the AAF Wildfire Management Branch in the Rocky Mountain House District. These exercises should emphasize mutual aid scenarios. Having multiple agencies participate in these training exercises will benefit all parties by illustrating key differences in strategies, tactics, and equipment.

5.7 Emergency Planning

Recommendation 7a: Draft and/or update and test out the Emergency Response Plan in to wildfire emergencies.	
Recommendation 7b:	Create Wildfire Preparedness Guides for communities.

Beaver County has an Emergency Response Plan drafted, however the current plan lacks detail in relation to wildfire incidents. It is recommended that the Emergency Response Plan be updated to incorporate wildfire emergency response and evacuation planning. In addition, it is recommended that Wildfire Preparedness Guides be developed for subdivisions and municipalities in the Beaver County planning area.

6 Summary of Recommendations

Each of the recommendations is ordered upon urgency and effort to assist each of the communities in making a working plan. Urgency and effort levels were set using the following criteria:

Urgency is a measure of timeliness and is rated as high, moderate, or low. The rates of timeliness mean:

High	The recommendation is critical and should be commenced as soon as possible.
Moderate	Recommendation is important and may be worked on as a staged approach to program improvement.
Low	The recommendation may be completed as resources become available.

Effort is a measure of resources required over a period of time and is rated as high, moderate, or low. The rates of resources mean:

High	Requires direct project funding (for contracted services), possibly a multi-year project, preferably managed through dedicated resources for the term of the project, involves significant external stakeholder involvement.
Moderate	May require direct project funding (for contracted services), generally completed within one business year, managed with assigned resources and possibly involves external stakeholder input.
Low	Generally will not require direct project funding, managed through existing resources as routine business, often can be completed within one or two business quarters and generally does not involve external stakeholders.

Note: The following tables contain the recommendations, indicating their respective urgency and level of effort required for implementation.

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	 1a. Recommendation Educate and encourage community member involvement with FireSmart Activities. Project Lead BHI Committee Representative Benefits Increase community education and involvement. 	Annually	5.1
High	Moderate	 1b. Recommendation Distribute information regarding FireSmart priority zones. Project Lead BHI Committee Representative Benefits Reduce flammable fuels nearest to the structure. 	Annually	5.1
Moderate	Moderate	 1d. Recommendation Promote residences to use the "Alberta Emergency Alert" App for up to date information on wildfire emergencies. Project Lead BHI Committee Representative Benefits Community alertness if emergencies arise. 	Annually	5.1

Public Education

Development

Urgency	Effort	Recommendation	Frequency	Section
High	Moderate	 2a. Recommendation Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services. Project Lead Public Works Department Benefits Improve emergency response times.	One Time	5.2.1
High	Moderate	 2b. Recommendations Ensure that the primary and secondary power lines are maintained. Project Lead Public Works Departments Benefits Preventative measures to maintain community safety. 	Annually	5.2.2

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	 2c. Recommendation Consult with Regional Water Services Commission to improve water distribution through the planning area. Project Lead Planning and Development Department Benefits Increase water resources in the planning area. 	Annually	5.2.3
Moderate	Moderate	 2d. Recommendation Obtain Superior Tanker Shuttle Service (STSS) accreditation. Project Lead Emergency Services Board Benefits Increase response time and decrease insurance rates. 	Annually	5.2.3

Vegetation Management

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	 3a. Recommendation Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1. Project Lead Planning and Development Department Benefits Decrease fire hazards. 	Annually	5.3
Moderate	Moderate	 3b. Recommendation Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities. Project Lead Public Works Department Benefits Preventative measures to maintain community safety. 	One Time	5.3

Urgency	Effort	Recommendation	Frequency	Section
Low	Moderate	 4a. Recommendation Update the fire permit requirements to include procedures for addressing holdover fires during the winter season. Project Lead Administration Members Benefits Decrease fire hazards. 	One Time	5.4.1
Moderate	Moderate	 4b. Recommendation Develop a land use bylaw that incorporates FireSmart principles. Project Lead Public Works Department Benefits Preventative measures to maintain community safety. 	One Time	5.4.2

Legislation

Inter-Agency Cooperation

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	 5a. Recommendation Coordinate a pre-fire season meeting with other agencies to discuss the upcoming wildfire season. Project Lead Public Works Department Benefits Improve and maintain mutual aid agreements. 	Annually	5.5

Cross-Training

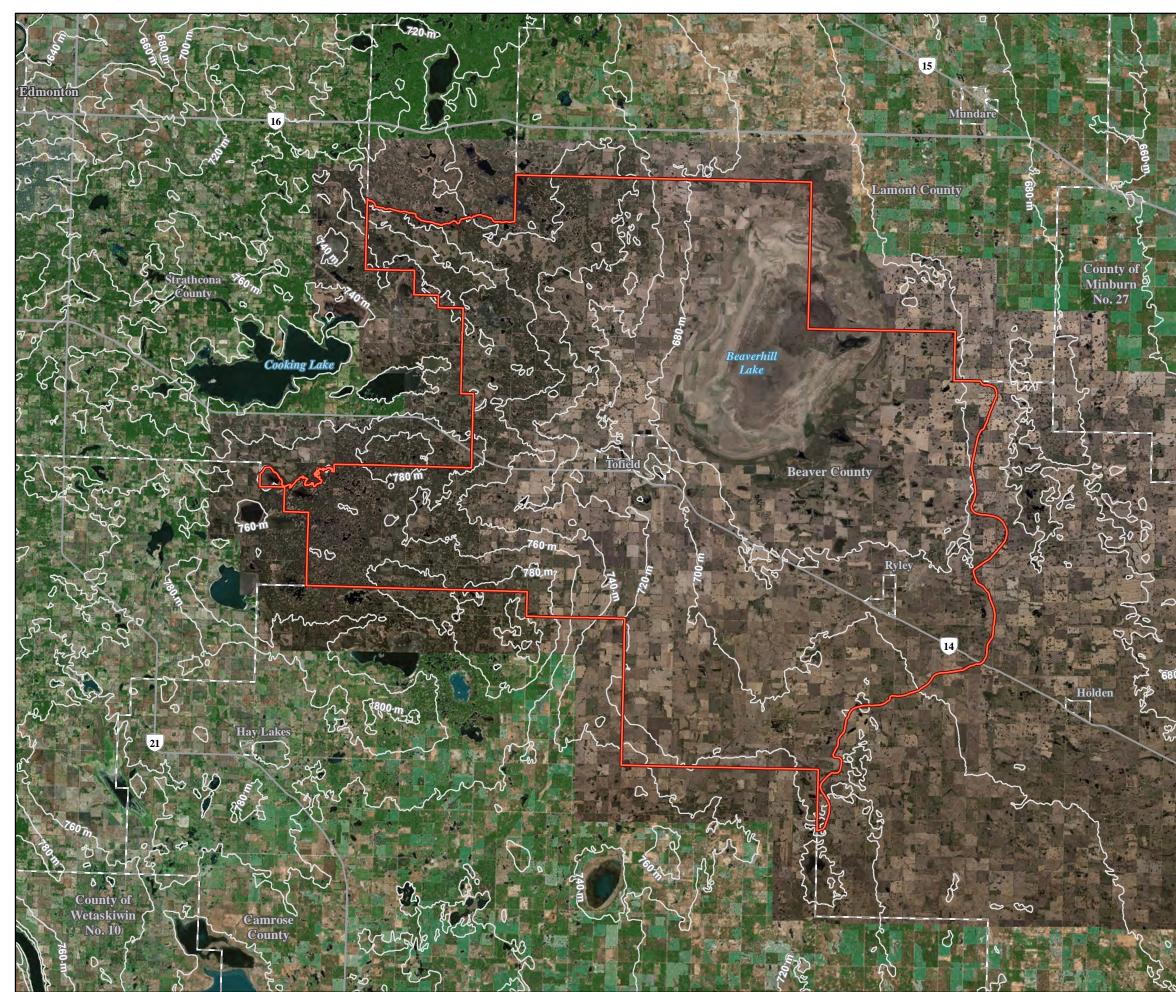
Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	 6a. Recommendation Create desktop scenarios to test out and understand protocols during wildfire emergencies (example: Wildfire CD's). Project Lead Fire Department, Alberta Agriculture and Forestry Benefits Increase fire preparedness for the season. 	Annually	5.6

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	 6b. Recommendation Participate in joint wildfire exercises with Alberta Agriculture and Forestry. Project Lead Fire Department, Alberta Agriculture and Forestry Benefits Increase fire preparedness for the season. 	Annually	5.6

Emergency Planning

Urgency	Effort	Recommendation	Frequency	Section
Low	Moderate	 7a. Recommendation Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies. Project Lead Public Works Department Benefits Improve Emergency Preparedness. 	Annually	5.7
Low	Moderate	7b. Recommendation Create Wildfire Preparedness Guides for communities. Project Lead Public Works Department Benefits Improve Emergency Preparedness.	One Time	5.7

Appendix A1: Overview and Topography Map



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Appendix A2: Values at Risk Maps



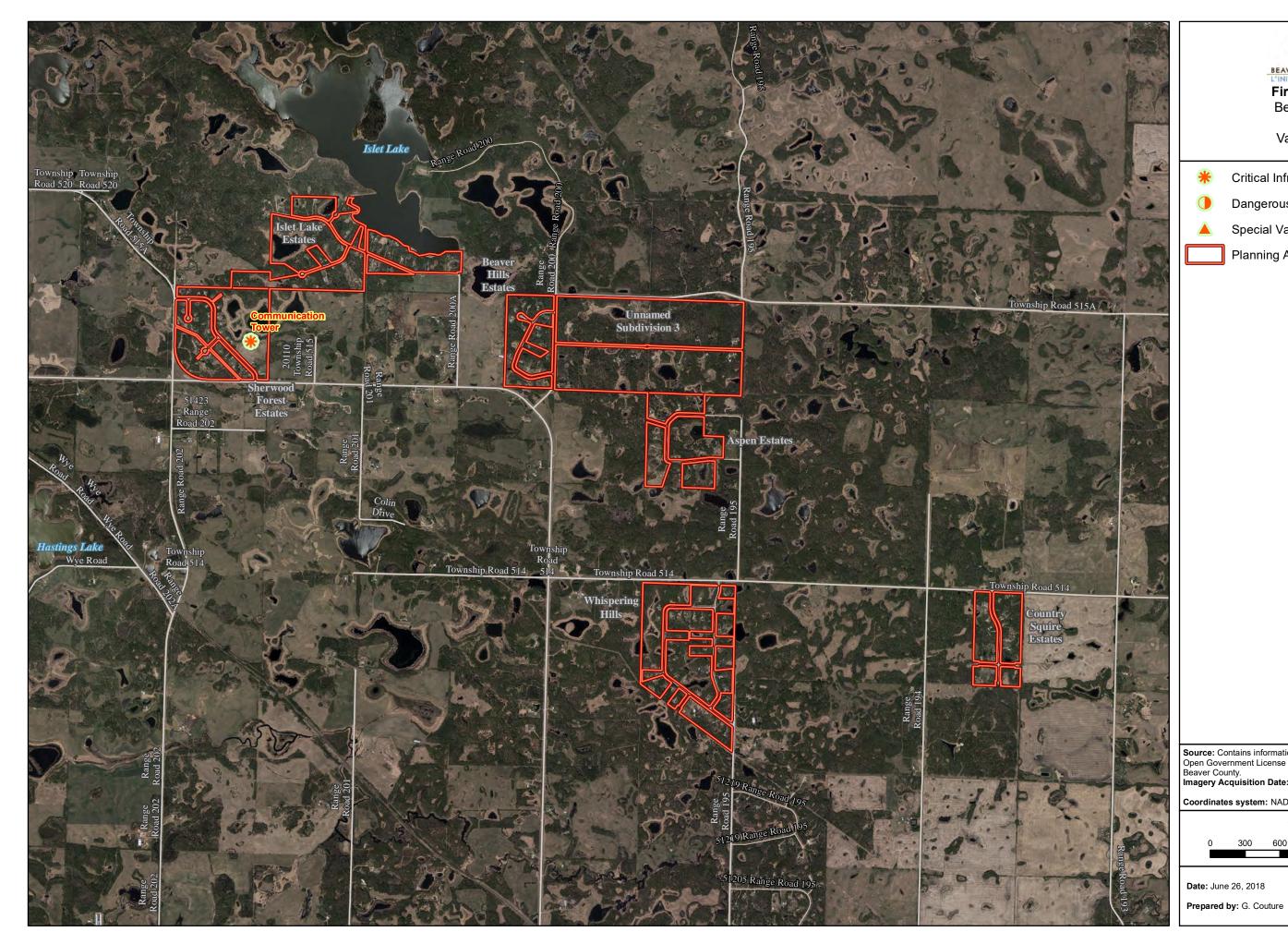


- * Critical Infrastructure
- Dangerous Goods
 - Special Values
 - Planning Area

No values at risk identified.

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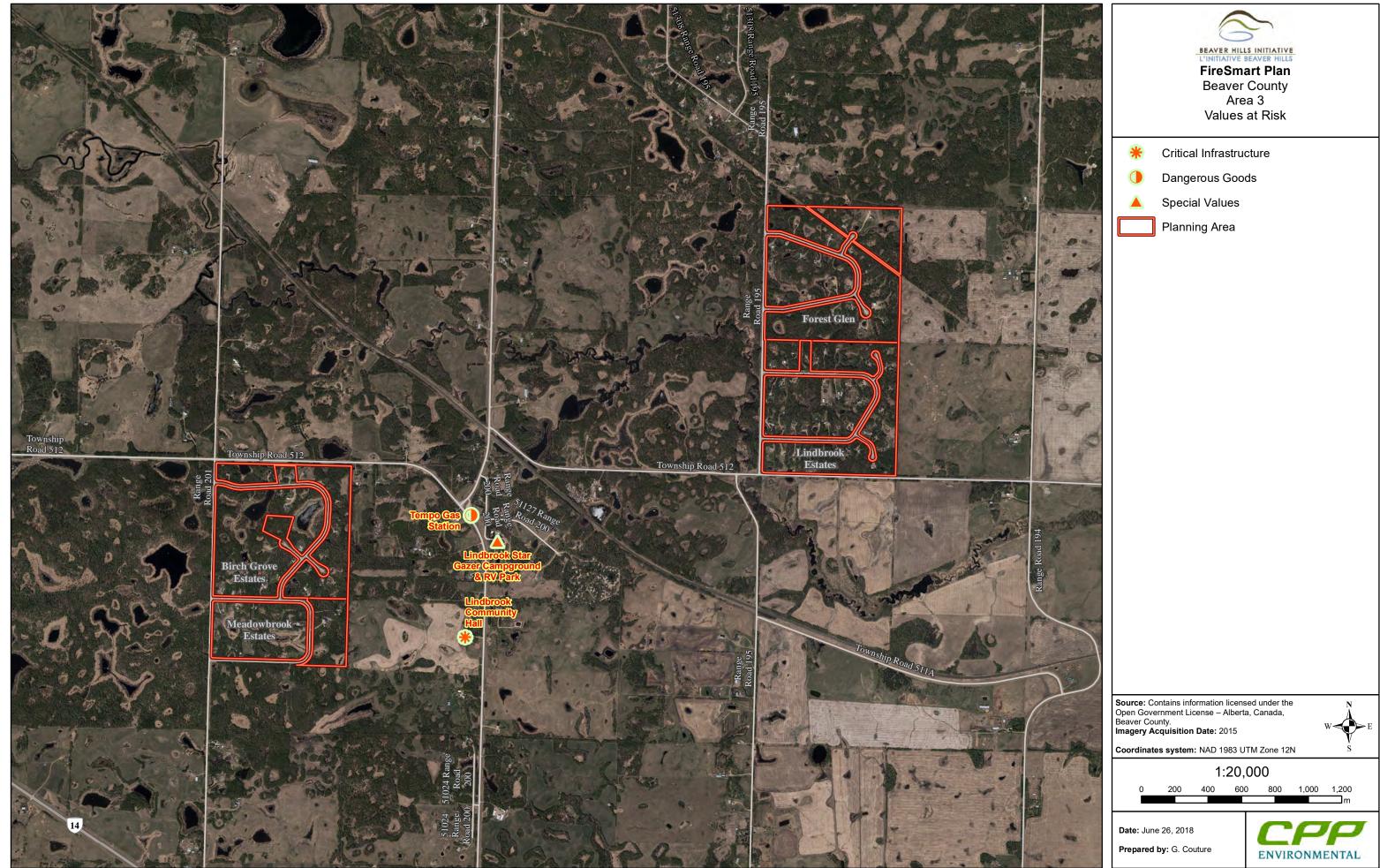
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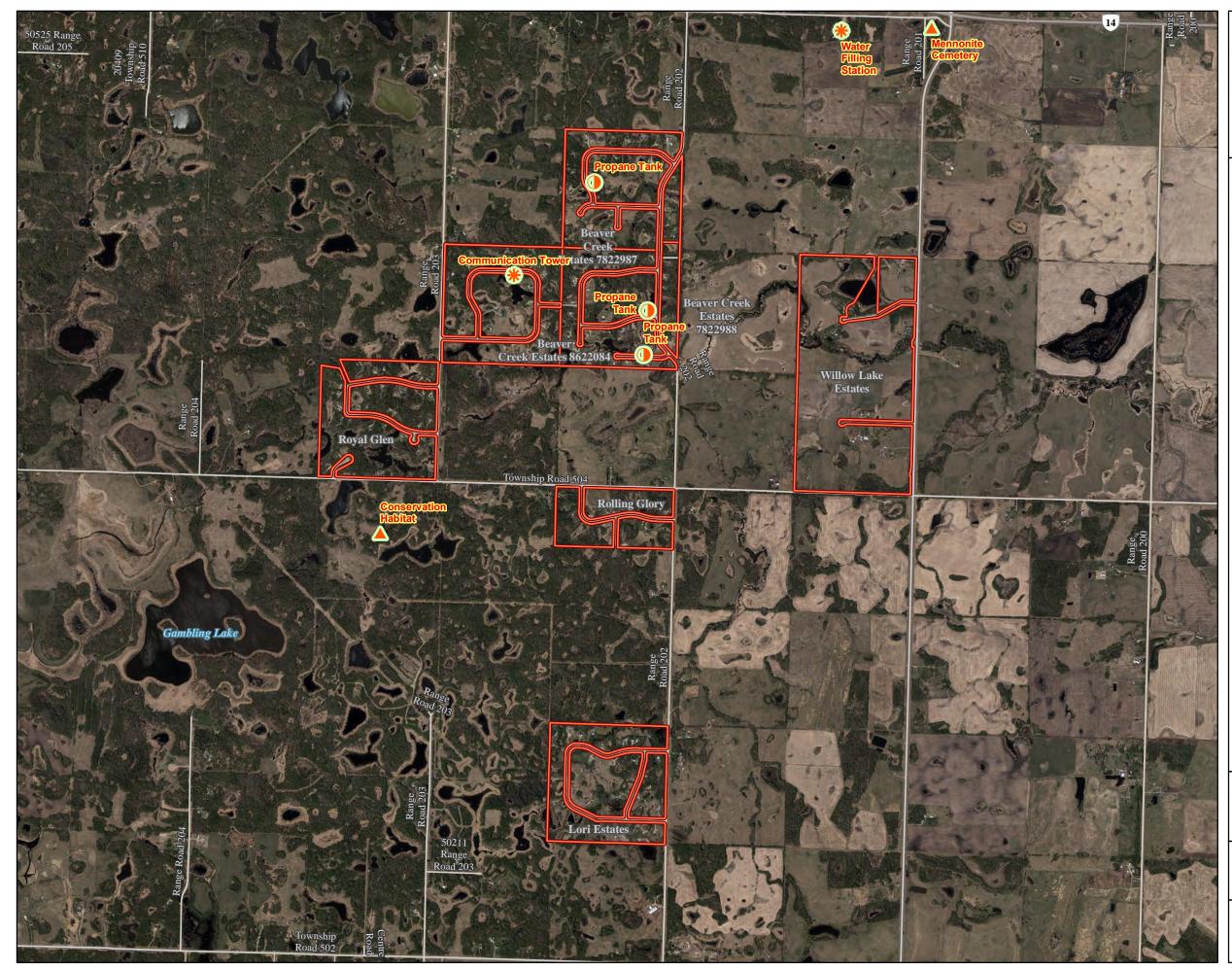


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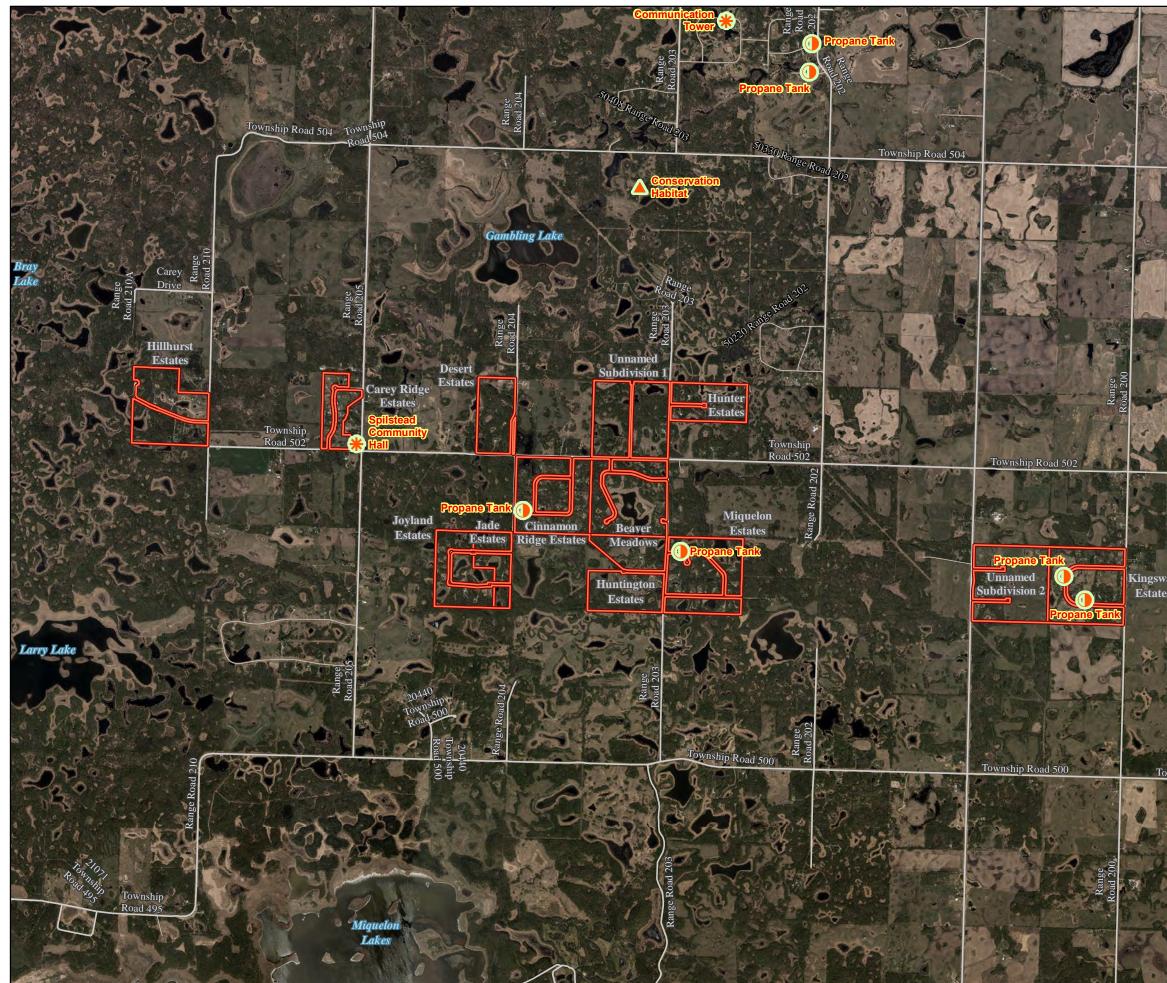




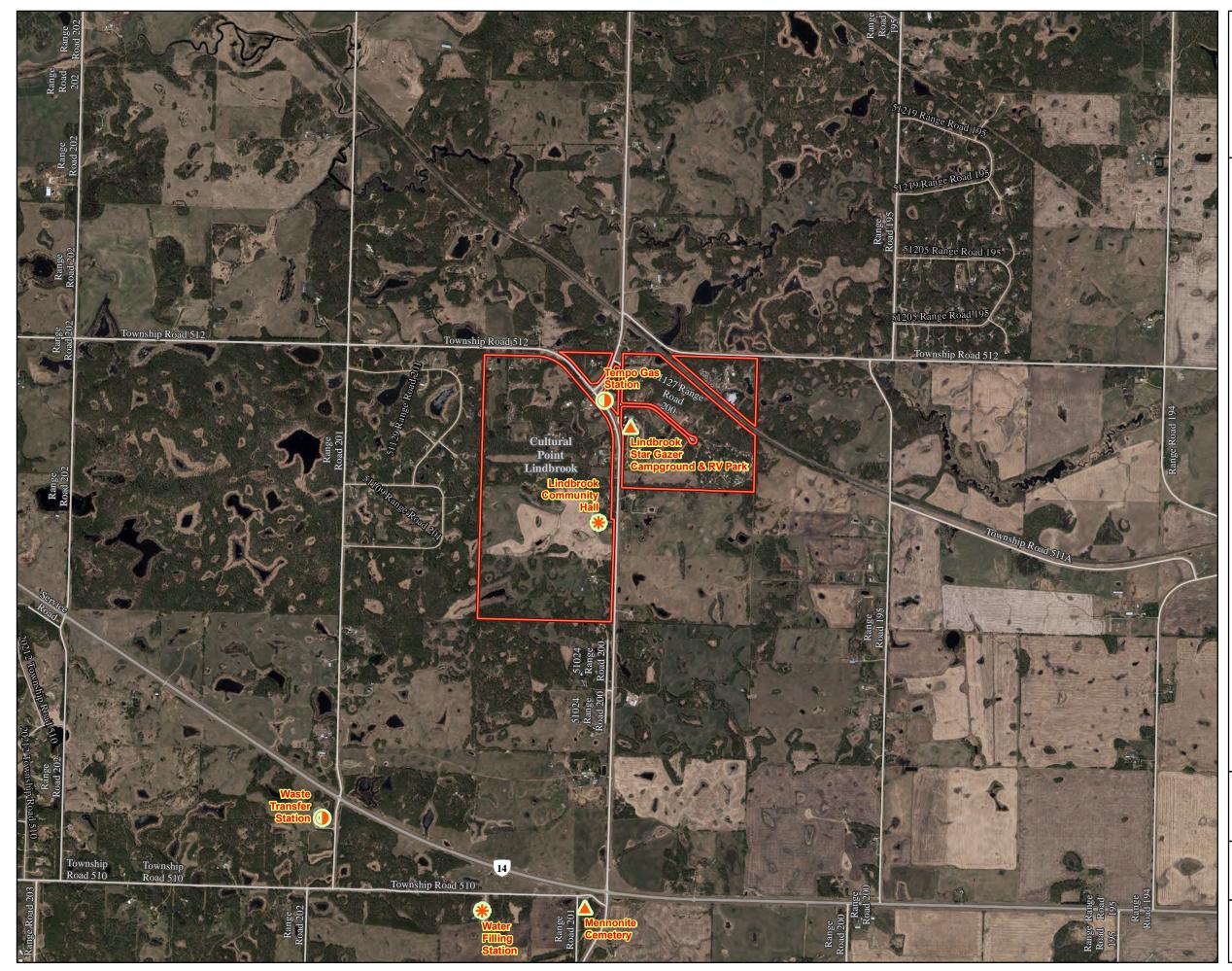


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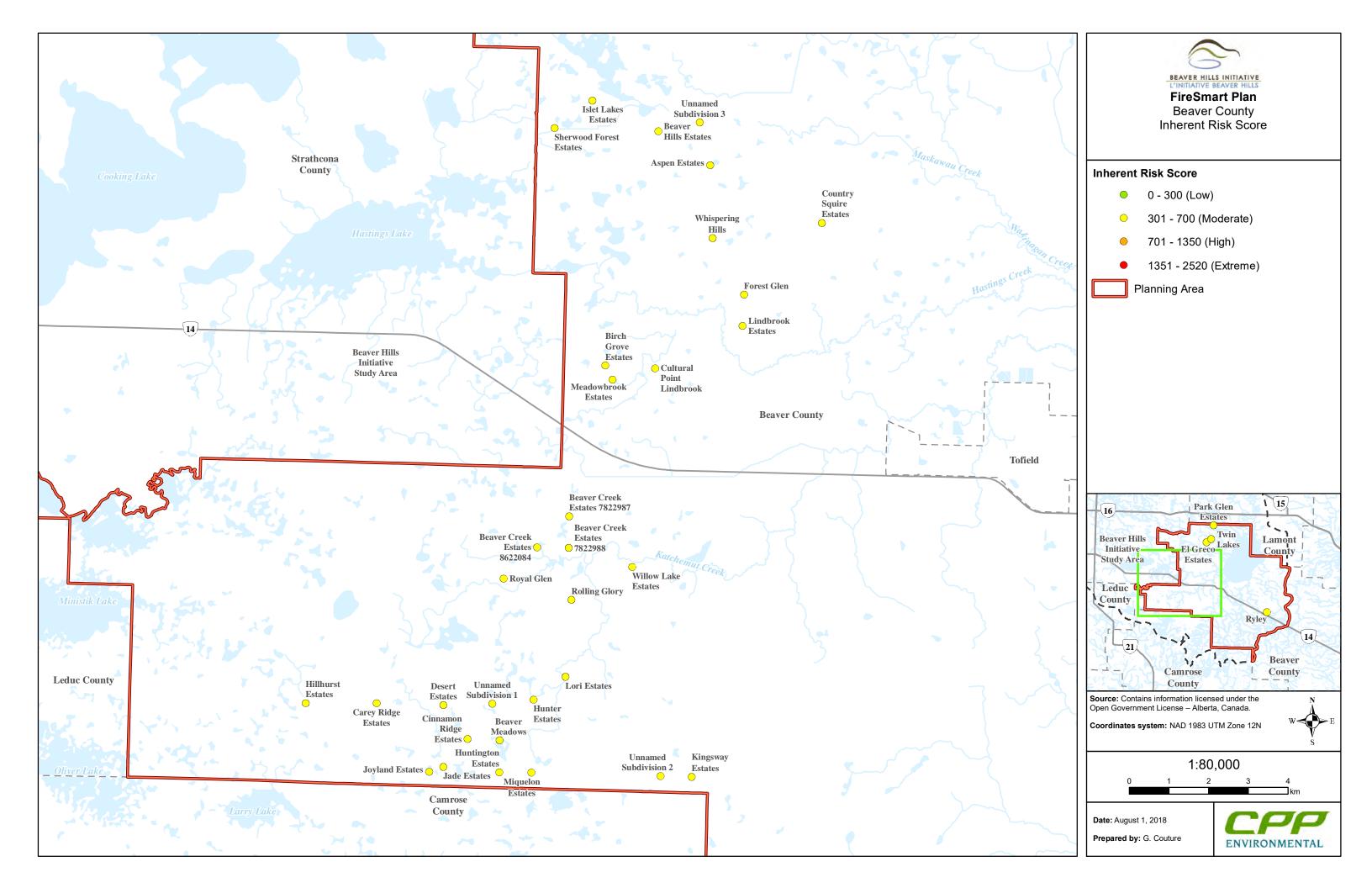


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Source: Contains information licensed under the Open Government License – Alberta, Canada, Beaver County. Imagery Acquisition Date: 2015 Coordinates system: NAD 1983 UTM Zone 12N 1:22,000 0 200 400 600 800 1,000 1,200 m Date: June 26, 2018 Prepared by: G. Couture Appendix A3: Inherent Risk Map and Community Risk Assessment Results



Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

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Image: Figure Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required requir		~ -			4
Image: Figure Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required requir	ASIE	ź o	A Utility ROW maintenance		
Image: Figure Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required r multicipanty 0 of 1 0 Image: Construction of the maintenance required requir	FEA	A A I			
Sgoot A Road width is equal to or greater than 7 m 0 or 1 0 B Loop turnarounds/ cul-de-sacs are suitable for large fire 0 or 1 0 C 2 or more means of egress 0 or 1 0 D Standard visible lot signage 0 or 1 0 Image: A responding Fire Department has proper equipment for bush fires 0 or 1 0 B Fire fighters have basic wildfire fighting training 0 or 1 0 C Mutual Aid Agreements are present 0 or 1 0 D Within an adequate distance to fire station and water supply 1	DE	NAI NAI NUC			
Sgoot A Road width is equal to or greater than 7 m 0 or 1 0 B Loop turnarounds/ cul-de-sacs are suitable for large fire 0 or 1 0 C 2 or more means of egress 0 or 1 0 D Standard visible lot signage 0 or 1 0 Image: A responding Fire Department has proper equipment for bush fires 0 or 1 0 B Fire fighters have basic wildfire fighting training 0 or 1 0 C Mutual Aid Agreements are present 0 or 1 0 D Within an adequate distance to fire station and water supply 1		E TE			
B Loop turnarounds/ cul-de-sacs are suitable for large fire 0 or 1 0 C 2 or more means of egress 0 or 1 1 D Standard visible lot signage 0 or 1 1 A Responding Fire Department has proper equipment for bush fires 0 or 1 0 B Fire fighters have basic wildfire fighting training 0 or 1 0 C Mutual Aid Agreements are present 0 or 1 0 D Within an adequate distance to fire station and water supply 1			A Road width is equal to or greater than 7 m		
NOSSERVENCE C 2 or more means of egress 0 or 1 0 NOSSERVENCE D Standard visible lot signage 0 or 1 1 NOSSERVENCE A Responding Fire Department has proper equipment for bush fires 0 or 1 0 B Fire fighters have basic wildfire fighting training 0 or 1 0 0 C Mutual Aid Agreements are present 0 or 1 0 0 D Within an adequate distance to fire station and water supply 1 0		s			
A Responding Fire Department has proper equipment for bush fires 0 or 1 0 B Fire fighters have basic wildfire fighting training 0 or 1 0 C Mutual Aid Agreements are present 0 or 1 0 D Within an adequate distance to fire station and water supply 0 or 1 0		CES			
A Responding Fire Department has proper equipment for bush fires 0 or 1 0 B Fire fighters have basic wildfire fighting training 0 or 1 0 C Mutual Aid Agreements are present 0 or 1 0 D Within an adequate distance to fire station and water supply 0 or 1 0		ACI	-		
Notes A Responding Fire Department has proper equipment for bush fires 0 or 1 0 B Fire fighters have basic wildfire fighting training 0 or 1 0 C Mutual Aid Agreements are present 0 or 1 0 D Within an adequate distance to fire station and water supply 0 or 1 0		-			
NOSSERVED fires B Fire fighters have basic wildfire fighting training 0 or 1 0 C Mutual Aid Agreements are present 0 or 1 0 0 0 D Within an adequate distance to fire station and water supply /4 0			A Responding Fire Department has proper equipment for buch		
B Fire fighters have basic wildfire fighting training 0 or 1 0 C Mutual Aid Agreements are present 0 or 1 0 D Within an adequate distance to fire station and water supply /4 0		~		0011	0
/4 0		jo ≿		0 or 1	0
/4 0		ESS BILI			
/4 0		PR			
/4 0		CG		0011	U
		•,	within an adequate distance to me station and water supply	/4	0
				TOTAL:	32

	COMM	IUNITY:		Lindbrook Estates	INHE	RENT
	COIVIIV			LINUDIOOK Estates	Rating	Scores
		FUEL TYPES		 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0
		~*		VAR on the sustained slope or within 100 m of the top crest of a slope	/10	5
		SLOPE & FUEL TYPE		Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2 2
ENCE	JCTURE	JCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ПКЕЦНООГ	PROBABILITY OF EXTREME FIRE EXTREME FIRE BURNING BEHAVIOR ALLOWED SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 1 2
				 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH	RENT RISK 512	TOTAL:	16
				Risk Hazard Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Park Glen Estates		RENT
	Ĩ		Rating	Scores
Ë	A Lake	/	0 or 3 0 or 3	0
ACCESS TO SAFE ZONES	B Large Non-Fuel Surface C Cleared Area (Vegetation Maintained)			3
ESS TO ZONES		0 or 3 0 or 3	3 0	
ZC	D County Roa E Subdivision		0 or 3 0 or 3	0
ACC	E Subulvision	i Road	/15	6
-	A 0 to 30		1	1
н	B 31 to 60		2	1
NUMBER OF HOMES	C 61 to 90		3	
ON VIBE	D 91 to 120		4	
j ≖	E > 120		5	
-			/5	1
	Average Property Valu	e:		
ECONOMIC RISK	A \$0 - \$300 0	00	1	
Ľ Ľ	B \$300 001 -	\$500 000	2	2
Σ	C \$500 001 -	\$750 000	3	
Ň	D > \$750 000		4	
Ë	Avg Home	Cost: \$ 335,459	1-	
	D		/4	2
AT	Presence of:	actructure	0.01.2	2
VALUES AT RISK	A Critical Infr B Dangerous		0 or 3 0 or 3	3 0
N N N	C Special Val	Goods Infrastructure	0 or 3 0 or 3	0
۸	C Special val	ues	/9	3
	A Local med	ia involvement and no structural impact to Emergency Services or		3
×	programs	a involvement and no structural impact to Emergency Services of	1	1
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
B	programs		-	
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
, d	-	Services or county government	-	
-	- 6 1		/3	1
	L S	A < 20 m between homes	3	
	lre Jre	B 21 - 40 m between homes	2	
	CTL	C 41 - 100 m between homes	1	1
	DENSITY OF STRUCTURES	D > 100m between homes	0	
	SI D		/3	1
	0	A East w/ Barrier within 200m	0 or 2	0
	ts 1 TEA	B West w/ Barrier within 200m	0 or 4	4
	SPI	C South w/ Barrier within 200m	0 or 4	4
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	0
			/12	8
	JEL ZE	A No forest patch present within community	0	
	I FL H SI	B Patch 0.1 - 0.9 ha within community boundary	1	
	KES1 TCF	C Patch 1 - 2.9 ha within community boundary	3	-
È	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5 /5	5 5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	4
Ę	L AL	B 21-40 %	3	4
Ō	1AR 1AR	C 41-60 %	2	
ц Ц	ESN	D 61-80 %	1	
≧	RESIDENTIAL FIRESMART	E 81-100 %	0	
BILI	<u> </u>		/4	4
NSI N	ŻщQ	A Utility ROW maintenance	0 or 1	1
H	MA NNC IIRE	B Fuel maintenance required - other agency	0 or 1	0
ā	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	0
	I F 문		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	0
	A	D Standard visible lot signage	0 or 1	0
			/4	0
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	No⊾	fires	0	
	SSI	B Fire fighters have basic wildfire fighting training	0 or 1	0
	UPPRESSIO	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D Within an adequate distance to fire station and water supply	0 or 1	0
	S	Within an adequate distance to fire station and water supply	/4	0
I			TOTAL:	32

	сомм			Park Glen Estates		INHE	RENT	
	COIVIIV			Park Gieli Estates		Rating	Scores	
	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood		B O Fuels - Grasses		0 or 1 0 or 2 0 or 3 0 or 2	1 2 0 2
		FUE		E C Fuels - Conifer		0 or 4 /10	0	
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of Fuel Type: <u>D1</u> Slope %: <u>10-30</u>		0 to 6 /6	2 2	
RENCE	UCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 		0 1 3 /3	1	
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 		0 3 5 /5	3 3	
ГІКЕГІНООІ	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 		0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	PROBABILITY OF EXTREME FIRE BEHAVIOR BEHAVIOR ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 		0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	1 1	
	Consequer	nce x Likelih	nood = INH	RENT RISK	480	TOTAL:	15	
				Risk Hazard Mo	oderate			

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		El-Greco Estates	INHE	RENT
			Rating	Scores
Ë	A Lake	/	0 or 3	3
ACCESS TO SAFE ZONES	, e	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3 0 or 3	3 0
ZC	D County Roa E Subdivision		0 or 3 0 or 3	0
ACC	E Subulvision	i Road	/15	0 9
-	A 0 to 30		1	
н	B 31 to 60		2	1
JMBER (HOMES	C 61 to 90		3	
ON VIBE	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
-			/5	1
	Average Property Valu	e:		
ECONOMIC RISK	A \$0 - \$300 0	00	1	
Ľ Ľ	B \$300 001 -	\$500 000	2	2
Σ	C \$500 001 -	\$750 000	3	
Ň	D > \$750 000		4	
Ë	Avg Home	Cost: \$ 361,001	1-	
	D		/4	2
AT	Presence of:	actructura	0.01.2	2
VALUES AT RISK	A Critical Infr B Dangerous		0 or 3 0 or 3	3 0
N N N	C Special Val	Goods Infrastructure	0 or 3 0 or 3	0
۸	C Special val	ues	/9	3
	A Local med	ia involvement and no structural impact to Emergency Services or		3
×	programs	a involvement and no structural impact to Emergency Services of	1	1
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
B	programs		-	
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
5	-	Services or county government	5	
-			/3	1
	L S	A < 20 m between homes	3	
	DENSITY OF STRUCTURES	B 21 - 40 m between homes	2	
	CT	C 41 - 100 m between homes	1	
	EN:	D > 100m between homes	0	0
	SI D		/3	0
	2 9	A East w/ Barrier within 200m	0 or 2	0
	ts t tea	B West w/ Barrier within 200m	0 or 4	4
	SPI	C South w/ Barrier within 200m	0 or 4	4
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
			/12	10
	JEL ZE	A No forest patch present within community	0	
	I FI H SI	 B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary 	1	
	RES		3	F
È	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5 /5	5 5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	4
ž	AL KT	B 21-40 %	3	
Ō	1AF	C 41-60 %	2	
ь В	RESIDENTIAI FIRESMART	D 61-80 %	1	
È	RESIDENTIAL FIRESMART	E 81-100 %	0	
BL			/4	4
ISN	N H G	A Utility ROW maintenance	0 or 1	1
Ë	M A A NC JIRE	B Fuel maintenance required - other agency	0 or 1	0
<u>^</u>	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	0
	E E		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	1
	A	D Standard visible lot signage	0 or 1	1
			/4	2
	_	A Responding Fire Department has proper equipment for bush	0 or 1	0
	No⊾	fires	0	0
	SSI	B Fire fighters have basic wildfire fighting training	0 or 1	0
	UPPRESSIO	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D Within an adequate distance to fire station and water supply	0 or 1	0
	U.	within an adequate distance to me station and water supply	/4	0
			TOTAL:	38

COMMUNITY:			El-Greco Estates		INHE	RENT	
				EI-GIECO Estates		Rating	Scores
		FUEL TYPES		 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 		0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 0 0 2 0
						/10	3
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest Fuel Type: <u>D1</u> Slope %: <u>10-</u>	t of a slope -30%	0 to 6 /6	2 2
ENCE	ICTURE	FUEL STRUCTURE	DEAD & Down Material	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twi C Abundant-Continuous logs, branches & twigs 	gs	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE		LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 		/3 0 3 5 /5	3 3 3
ГІКЕГІНОО	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 		0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	PROBABILITY OF EXTREME FIRE BEHAVIOR ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 		0 or 1 0 or 1 0 or 1 /3	1 0 1 2
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH		494	TOTAL:	13
				Risk Hazard	Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Twin Lakes		RENT
	Ĩ	Luco	Rating	Scores
ACCESS TO SAFE ZONES	C Cleared Are	Fuel Surface ea (Vegetation Maintained)	0 or 3 0 or 3 0 or 3	0 3 3
ACCESS ZO	D County Roa E Subdivisior		0 or 3 0 or 3 /15	0 0 6
NUMBER OF HOMES	A 0 to 30 B 31 to 60 C 61 to 90 D 91 to 120 E > 120		1 2 3 4 5	1
ECONOMIC RISK	Average Property Valu A \$0 - \$300 C B \$300 001 - C \$500 001 - D > \$750 000 Avg Home	00 \$500 000 \$750 000	/5 1 2 3 4 /4	1
VALUES AT RISK	Presence of: A Critical Infr B Dangerous C Special Val	Goods Infrastructure	0 or 3 0 or 3 0 or 3 /9	3 0 0 3
Political risk	programs B Local medi programs C Regional m	ia involvement and no structural impact to Emergency Services or a involvement and internal structural changes to Emergency Services or redia involvement, lack of public confidence, and external changes to services or county government	1 2 3	1
		A <20 m between homes	/3 3	1
	DENSITY OF STRUCTURES	B21 - 40 m between homesC41 - 100 m between homesD> 100m between homes	2 1 0 /3	0
	BARRIERS TO FIRE SPREAD	AEastw/ Barrier within 200mBWestw/ Barrier within 200mCSouthw/ Barrier within 200mDNorthw/ Barrier within 200m	0 or 2 0 or 4 0 or 4 0 or 2 /12	2 0 4 2 8
È	FOREST FUEL PATCH SIZE	 A No forest patch present within community B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary D Patch > 3 ha within community boundary 	0 1 3 5 /5	5 5 5
DEFENSIBILITY OF COMMUNITY	RESIDENTIAL FIRESMART	A 0-20 % B 21-40 % C 41-60 % D 61-80 % E 81-100 %	4 3 2 1 0 /4	4
DEFENSI	FUEL MAIN. TENANCE REQUIRED	 A Utility ROW maintenance B Fuel maintenance required - other agency C Fuel maintenance required - municipality 	0 or 1 0 or 1 0 or 1 /3	1 0 0 1
	ACCESS	 A Road width is equal to or greater than 7 m B Loop turnarounds/ cul-de-sacs are suitable for large fire C 2 or more means of egress D Standard visible lot signage 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 1 0 1
	SUPPRESSION CAPABILITY	 A Responding Fire Department has proper equipment for bush fires B Fire fighters have basic wildfire fighting training C Mutual Aid Agreements are present D Within an adequate distance to fire station and water supply 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0
			74 TOTAL:	0 31

	COMMUNITY:			Twin Lakes	INHE	RENT
			Twin Lakes		Scores	
		FUEL TYPES		 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood 	0 or 1 0 or 2 0 or 3	1 2 0
		FUEL		D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 2 0 or 4 /10	0 0 3
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>>30%</u>	0 to 6 /6	2 2
TENCE	JCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE		LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ГІКЕГІНООД	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	PROBABILITY OF EXTREME FIRE BURNING BEHAVIOR ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1
	Consequer	nce x Likelih	nood = INHI	RENT RISK 403	TOTAL:	13
				Risk Hazard Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Whispering Hills		RENT
	•	winspering fills	Rating	Scores
E	A Lake		0 or 3	0
SA		Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	3
ESS	D County Roa		0 or 3	0
ACCESS TO SAFE ZONES	E Subdivisior	n Road	0 or 3	0
4			/15	6
ш	A 0 to 30		1	
ES O	B 31 to 60		2	2
JMBER C HOMES	C 61 to 90		3	
NUMBER OF HOMES	D 91 to 120 E > 120		4	
z	E > 120		5 /5	2
	Average Property Valu	۰۵.	/3	2
ž	A \$0 - \$300 0		1	
R	B \$300 001 -		2	2
0F	C \$500 001 -		3	2
Ō	D > \$750 000		4	
ECONOMIC RISK		Cost: \$ 343,008	•	
Ū.			/4	2
	Presence of:			
VALUES AT RISK	A Critical Infr	astructure	0 or 3	3
LUES RISK		Goods Infrastructure	0 or 3	0
ALL	C Special Val		0 or 3	0
>			/9	3
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
ž	programs	. , ,		
2	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
CAL	programs	с с ,		
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
POLITICAL RISK	-	Services or county government		
_	, U	, ,	/3	1
	ll N	A < 20 m between homes	3	
	JRE OF	B 21 - 40 m between homes	2	2
	DENSITY OF STRUCTURES	C 41 - 100 m between homes	1	
	RU ENS	D > 100m between homes	0	
	STD		/3	2
	0 0	A East w/ Barrier within 200m	0 or 2	2
	BARRIERS TO FIRE SPREAD	B West w/ Barrier within 200m	0 or 4	4
	IER	C South w/ Barrier within 200m	0 or 4	4
	RR RE 3	D North w/ Barrier within 200m	0 or 2	2
	B/B		/12	12
		A No forest patch present within community	0	
	FOREST FUEL PATCH SIZE	B Patch 0.1 - 0.9 ha within community boundary	1	
	E ST	C Patch 1 - 2.9 ha within community boundary	3	
≻	FOREST FU PATCH SIZ	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	5 4		/5	5
Ĩ,		A 0-20 %	4	4
Σ	RT	B 21-40 %	3	
	NA MA	C 41-60 %	2	
ö	RESIDENTIAL FIRESMART	D 61-80 %	1	
Ę	FIF	E 81-100 %	0	
IBII			/4	4
SN	Ч́н П	A Utility ROW maintenance	0 or 1	1
EE	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
<u> </u>		C Fuel maintenance required - municipality	0 or 1	0
	5 F 8		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACCESS	C 2 or more means of egress	0 or 1	0
	A(D Standard visible lot signage	0 or 1	0
			/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Z ≻	fires		
	SSIC	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	AP AP	D	0 or 1	0
	SI SI	Within an adequate distance to fire station and water supply		
			/4	0
			TOTAL:	39

	CO1414	UINUTV.		Whieneying Hills	INHE	RENT
COMMUNITY:			Whispering Hills	Rating	Scores	
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 0 2 0 3
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: D1 Slope %: 0-10%	-	2 2 2
ENCE	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
D OF OCCUR			LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3 3
LIKELIHOOD OF OCCURRENCE	PRESENT PRESENT LANDSCAPE IGNITION SOURCES			ARecreation (Presence)BOverhead Utility Line adjacent to forestC< 1 km from primary/secondary roadway	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A vg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelil	nood = INH	ERENT RISK 546	TOTAL:	14

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Country Squire Estates	INHE	RENT
CONIN		Country Squire Estates	Rating	Scores
FE	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO S		ea (Vegetation Maintained)	0 or 3	3
ZC	D County Roa		0 or 3	0
ACC	E Subdivisior	i Koad	0 or 3	0 9
	A 0 to 30		/15 1	9 1
н	B 31 to 60		2	1
JMBER (HOMES	C 61 to 90		3	
ABF OV	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
2	-		/5	1
	Average Property Valu	le:		
ECONOMIC RISK	A \$0 - \$300 0	00	1	1
C H	B \$300 001 -	\$500 000	2	
Σ	C \$500 001 -	\$750 000	3	
Ň	D > \$750 000		4	
Ĕ	Avg Home	Cost: \$ 288,933		
			/4	1
41	Presence of:		0 2	2
VALUES AT RISK	A Critical Infr		0 or 3	3
ALUES RISK	-	Goods Infrastructure	0 or 3	0
۸×	C Special Val	ues	0 or 3	0
	A Local med	ia involvement and no structural impact to Emergency Services or	/9 1	3
×	programs	a involvement and no structural impact to emergency services of	1	T
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
, ST	programs	a involvement and internal structural changes to Emergency services of	2	
Ĕ	· -	edia involvement, lack of public confidence, and external changes to	3	
JO .	-	Services or county government	5	
<u> </u>	Emergency	Scruces of county government	/3	1
		A < 20 m between homes	3	-
	DENSITY OF STRUCTURES	B 21 - 40 m between homes	2	2
	CT II	C 41 - 100 m between homes	1	
	RU	D > 100m between homes	0	
	D		/3	2
	0 0	A East w/ Barrier within 200m	0 or 2	0
	ts T tea	B West w/ Barrier within 200m	0 or 4	4
	SPI	C South w/ Barrier within 200m	0 or 4	4
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	0
			/12	8
	E E	A No forest patch present within community	0	
	I SI	B Patch 0.1 - 0.9 ha within community boundary	1	
	GE	C Patch 1 - 2.9 ha within community boundary	3	_
È	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5 /5	5
DEFENSIBILITY OF COMMUNITY	-	A 0-20 %	75 4	5
₹ S	≓ ⊢	A 0-20 % B 21-40 %	4	4
Ō	IAR	C 41-60 %	2	
Ğ	DEr	D 61-80 %	1	
È	RESIDENTIAL FIRESMART	E 81-100 %	0	
BIL	œ —		/4	4
ISN	Ξ _ω Ω	A Utility ROW maintenance	0 or 1	1
33	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
۵		C Fuel maintenance required - municipality	0 or 1	0
	E H		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	1
	Ā	D Standard visible lot signage	0 or 1	0
			/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	No≿	fires		
	ISS!	B Fire fighters have basic wildfire fighting training	0 or 1	0
	UPPRESSIO	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D Within an adequate distance to fire station and water supply	0 or 1	0
	CO CO	Within an adequate distance to fire station and water supply	/4	0
				-
			TOTAL:	36

	COMMUNITY:			Country Squire Estates		INHE	RENT
				country squire Estates		Rating	Scores
		FUEL TYPES		 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 		0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 0 0 0
						/10	1
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	slope	0 to 6 /6	2 2
RENCE	UCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 		0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE		LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 		0 3 5 /5	3
ГІКЕГІНООІ	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 		0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	PROBABILITY OF EXTREME FIRE BEHAVIOR BEHAVIOR ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 		0 or 1 0 or 1 0 or 1 /3	1 0 1 2
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH		96	TOTAL:	11
				Risk Hazard Mod	erate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	COMMUNITY: Aspen Estates		INHE	RENT
		Aspen Estates	Rating	Scores
E	A Lake		0 or 3	0
SA	, and the second s	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	3
ESS	D County Roa		0 or 3	0
ACCESS TO SAFE ZONES	E Subdivision	Road	0 or 3	0
٩			/15	6
ш	A 0 to 30		1	1
NUMBER OF HOMES	B 31 to 60		2	
JMBER C HOMES	C 61 to 90		3	
독 유	D 91 to 120		4	
ž	E > 120		5	
	Assessed December Male		/5	1
×	Average Property Valu A \$0 - \$300 0		1	
S.S.	A \$0 - \$300 0 B \$300 001 -		1 2	2
JIC JIC	C \$500 001 -		2	2
õ	D > \$750 000		5 4	
ECONOMIC RISK		Cost: \$ 330,526	4	
Ĕ	Avg nome	CUSI: \$ 550,520	/4	2
	Presence of:		/4	2
АТ		astructure	0 or 3	3
VALUES AT RISK		astructure Goods Infrastructure	0 or 3 0 or 3	3 0
	•			
s S	C Special Val		0 or 3 /9	0 3
		is involvement and no structural impact to Emergency Services or		
×		ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs B Local media	a involvement and internal structural changes to Emergency Services or	2	
AL		a involvement and internal structural changes to Emergency Services or	2	
1C	programs	adia involvement lack of public confidence, and external changes to	3	
OF	-	edia involvement, lack of public confidence, and external changes to	3	
_	Emergency	Services or county government	/3	1
		A 20 m hatwaan hamaa	3	1
	OF	A < 20 m between homes		2
	DENSITY OF STRUCTURES	B 21 - 40 m between homes	2 1	2
		C 41 - 100 m between homes D > 100m between homes		
		D > 100m between homes	0 /3	2
		A Fast w/ Derrier within 200m	-	2
	AD AD	A East w/ Barrier within 200m	0 or 2	0
	RS	B West w/ Barrier within 200m C South w/ Barrier within 200m	0 or 4 0 or 4	4 4
	E SI			4
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	8
		A No foract patch procept within community	0	ð
	JEL JE	A No forest patch present within community		
	T FI T SI	 B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary 	1	
	ES.		3	-
È	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5 /5	5 5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	75 4	4
ξ	ゴト		4	4
ő	AR AR	B 21-40 % C 41-60 %	3 2	
Ĕ	SM		2	
ž	RESIDENTIAL FIRESMART	D 61-80 % E 81-100 %	1 0	
5	~ ~	F 01-100 /0	/4	4
ISIB	Ż c	A Utility ROW maintenance	0 or 1	
L N			0 or 1 0 or 1	1
DE		 B Fuel maintenance required - other agency C Fuel maintenance required - municipality 	0 or 1 0 or 1	0 0
	FUEL MAIN TENANCE REQUIRED	C ruer maintenance required - municipality	/3	1
	<u> </u>	A Road width is equal to or greater than 7 m	0 or 1	
	(0	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1 0 or 1	0 0
	TES		0 or 1 0 or 1	
	ACCESS	-		0
		D Standard visible lot signage	0 or 1 /4	0
		A Despending Eiro Department has preserve assumment for burgh	-	0
	_	A Responding Fire Department has proper equipment for bush	0 or 1	0
	vo ⊾	fires B. Fire fighters have basis wildfire fighting training	0 == 1	0
	SS	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	CA UP	D Within an adequate distance to fire station and water supply	0 or 1	0
	C)	within an adequate distance to me station and water supply	/4	0
			-	0
			TOTAL:	33

	COMMUNITY:			Acron Estatos		INHERENT	
			Aspen Estates		Rating	Scores	
		FUEL TYPES		 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 		0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 3 0 0
						/10	6
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest Fuel Type: <u>M Fuels</u> Slope %: <u>10-3</u>		0 to 6 /6	4 4
ENCE	CTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	gs	0 1 3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE		LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 		/3 0 3 5 /5	1 3 3
ГІКЕГІНОО	PRESENT LAN DSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 		0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 		0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A vg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH	RENT RISK	594	TOTAL:	18
				Risk Hazard	Voderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Beaver Hill Estates	INHE	RENT
			Rating	Scores
AFE	A Lake	Fuel Coufe as	0 or 3	0
ACCESS TO SAFE ZONES	•	Fuel Surface ea (Vegetation Maintained)	0 or 3 0 or 3	3 3
ESS TO ZONES	D County Roa		0 or 3	0
CES	E Subdivision		0 or 3	0
AC			/15	6
	A 0 to 30		1	1
NUMBER OF HOMES	B 31 to 60		2	
JMBER (HOMES	C 61 to 90		3	
돌 모	D 91 to 120		4	
z	E > 120		5 /5	1
	Average Property Valu	le:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-
ISK	A \$0 - \$300 0		1	
C R	B \$300 001 -	\$500 000	2	2
ECONOMIC RISK	C \$500 001 -		3	
ŇO	D > \$750 000		4	
Ğ	Avg Home	Cost: \$ 370,216	10	
	Presence of:		/4	2
AT	A Critical Infr	astructure	0 or 3	3
LUES RISK		Goods Infrastructure	0 or 3	0
VALUES AT RISK	C Special Val		0 or 3	0
			/9	3
		ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs		2	
AL I		a involvement and internal structural changes to Emergency Services or	2	
DI DI	programs C Regional m	edia involvement, lack of public confidence, and external changes to	3	
D	-	Services or county government	5	
₽.	Linergency	Services of county government	/3	1
	ι v	A < 20 m between homes	3	_
	LRE J	B 21 - 40 m between homes	2	2
	SIT	C 41 - 100 m between homes	1	
	DENSITY OF STRUCTURES	D > 100m between homes	0	
			/3	2
	AD AD	A East w/ Barrier within 200m B West w/ Barrier within 200m	0 or 2 0 or 4	0 4
	BARRIERS TO FIRE SPREAD	C South w/ Barrier within 200m	0 or 4	4
	.RRI RE S	D North w/ Barrier within 200m	0 or 2	2
	BA FIF		/12	6
	ш Ш	A No forest patch present within community	0	
	5 EUI	B Patch 0.1 - 0.9 ha within community boundary	1	
	CH EST	C Patch 1 - 2.9 ha within community boundary	3	
È	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	/5 4	5 4
Σ	I T	A 0-20% B 21-40%	4	4
Ō	NTI. AAR	C 41-60 %	2	
ان	RESIDENTIAL FIRESMART	D 61-80 %	1	
È	FIR	E 81-100 %	0	
1BIL			/4	4
ENS		A Utility ROW maintenance	0 or 1	0
DEF	UIR U	B Fuel maintenance required - other agency	0 or 1	0
	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1 /3	0
	<u> </u>	A Road width is equal to or greater than 7 m	/3 0 or 1	0
	s	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACCESS	C 2 or more means of egress	0 or 1	0
	AC	D Standard visible lot signage	0 or 1	0
			/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	No ≿	fires		
	SSI	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present D	0 or 1 0 or 1	0 0
	SUP	Within an adequate distance to fire station and water supply	001	0
			/4	0
			TOTAL:	31

	COMMUNITY:			Beaver Hill Estates		INHE	RENT
	COIVIIV			Beaver Hill Estates		Rating	Scores
		FUEL TYPES		 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 		0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0
						/10	5
		SLOPE & FUEL TYPE		· ·	st of a slope D-30%	0 to 6 /6	2 2
RENCE	JCTURE	JCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & tw C Abundant-Continuous logs, branches & twigs 	vigs	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	5	0 3 5 /5	0 3 0 3
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 		0 or 1 0 or 1 0 or 1 0 or 1 0 or 1	0 1 1 0 2
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 		0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH	ERENT RISK	496	TOTAL:	16
				Risk Hazard	Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Islet Lake Estates		RENT
	-		Rating	Scores
Ë	A Lake	/	0 or 3	0
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3 0 or 3	3 0
ZCES	D County Roa E Subdivisior			
ACC	E Subdivision	i Koau	0 or 3 /15	0 6
-	A 0 to 30		1	1
ц.	B 31 to 60		2	1
JMBER (HOMES	C 61 to 90		3	
O VIBI	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
-			/5	1
	Average Property Valu	e:		
ECONOMIC RISK	A \$0 - \$300 0	00	1	1
Ľ Ľ	B \$300 001 -	\$500 000	2	
Σ	C \$500 001 -	\$750 000	3	
Ň	D > \$750 000		4	
EC	Avg Home	Cost: \$ 149,770	1-	
	Dracanae of:		/4	1
AT	Presence of: A Critical Infr	astructura	0.05.2	3
VALUES AT RISK		Goods Infrastructure	0 or 3 0 or 3	3 0
RI ALO	C Special Val		0 or 3	0
\$	C Special Val		/9	3
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
x	programs		-	÷
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
CAL	programs			
Ē		edia involvement, lack of public confidence, and external changes to	3	
IO	-	Services or county government		
_			/3	1
	чS	A < 20 m between homes	3	
	URE U	B 21 - 40 m between homes	2	2
	SIT	C 41 - 100 m between homes	1	
	DENSITY OF STRUCTURES	D > 100m between homes	0	
	s: D		/3	2
	2 Q	A East w/ Barrier within 200m	0 or 2	0
	RS .	B West w/ Barrier within 200m	0 or 4	4
	RIE	C South w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
		A No forget noteb present within community	/12	6
	UEL	A No forest patch present within community	0	
	I I I I	 B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary 	1	
	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	3 5	5
Ę	<u>6</u> 2		/5	5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	4
۶	₹ AL	B 21-40 %	3	
8	AAF AAF	C 41-60 %	2	
ت	RESIDENTIAI FIRESMART	D 61-80 %	1	
È	RESIDENTIAL FIRESMART	E 81-100 %	0	
IBIL			/4	4
SN3		A Utility ROW maintenance	0 or 1	1
EFE	MA ANC ANC	B Fuel maintenance required - other agency	0 or 1	0
^	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	0
	I I I		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	ESS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	1
	<	D Standard visible lot signage	0 or 1	0
		A Bosponding Eiro Donartmont has proper actions at far buch	/4	1
	-	A Responding Fire Department has proper equipment for bush fires	0 or 1	0
	<u>ó</u> ≿	B Fire fighters have basic wildfire fighting training	0 or 1	0
	ESS BILI	C Mutual Aid Agreements are present	0 or 1 0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	C SUE	Within an adequate distance to fire station and water supply	0.011	Ŭ
		,	/4	0
			/4	0

	COMMUNITY:			Islet Lake Estates	IN	HERENT
	COIVIIV			ISIEL LAKE ESTATES	Ratin	g Scores
		FUEL TYPES		 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood 	0 or 1 0 or 2 0 or 3	2 3
		FUEI		D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 2 0 or 4 /10	-
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a s Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	lope 0 to 6 /6	2 2 2
RENCE	UCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1 0 1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	0 3 0 3
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	. 1
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	. 0
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1
	Consequer	nce x Likelih	nood = INH	RENT RISK 52	7 TOTAI	.: 17
				Risk Hazard Mode	rate	

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Sherwood Forest Estates	INHE	RENT
	•	Sherwood i drest Estates	Rating	Scores
Ë	A Lake		0 or 3	0
ACCESS TO SAFE ZONES		Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	0
ZC	D County Roa		0 or 3	0
ACO	E Subdivisior	i Koad	0 or 3	0
4	A 0 to 20		/15	3
ц.	A 0 to 30 B 31 to 60		1 2	2
R C ES	C 61 to 90		3	2
JMBER C HOMES	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
2	2 120		/5	2
	Average Property Valu	ie:		
ECONOMIC RISK	A \$0 - \$300 0	00	1	
C H	B \$300 001 -	\$500 000	2	2
Σ	C \$500 001 -	\$750 000	3	
Ň	D > \$750 000		4	
EC	Avg Home	Cost: \$ 429,210		
	Durana (/4	2
4	Presence of:	activity	0 == 2	2
VALUES AT RISK	A Critical Infr B Dangerous		0 or 3 0 or 3	3 0
N N N	C Special Val	Goods Infrastructure	0 or 3 0 or 3	0
₹×	C Special Val	ues	/9	3
	A Local med	ia involvement and no structural impact to Emergency Services or		3
×	programs	a molvement and no structural impact to Emergency Services of	1	1
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
B	programs		-	
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
ğ	-	Services or county government	-	
-			/3	1
	L S	A < 20 m between homes	3	
	IR OI	B 21 - 40 m between homes	2	2
	CTL	C 41 - 100 m between homes	1	
	DENSITY OF STRUCTURES	D > 100m between homes	0	
	D IS		/3	2
	0 D	A East w/ Barrier within 200m	0 or 2	2
	REA	B West w/ Barrier within 200m	0 or 4	0
	SPI	C South w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
			/12	4
		A No forest patch present within community	0	
	I FL	B Patch 0.1 - 0.9 ha within community boundary	1	
		C Patch 1 - 2.9 ha within community boundary	3	_
È	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5 /5	5 5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	4
≧	יד AL	B 21-40 %	3	-
Ō	NTI. 1AF	C 41-60 %	2	
Ъ.	RESIDENTIAI FIRESMART	D 61-80 %	1	
È	RESIDENTIAL FIRESMART	E 81-100 %	0	
IBIT			/4	4
SN		A Utility ROW maintenance	0 or 1	1
Ë	MA ANC ANC	B Fuel maintenance required - other agency	0 or 1	0
<u>^</u>	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	0
			/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	ESS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	0
	< <p></p>	D Standard visible lot signage	0 or 1	0
		A Bosponding Eiro Donartmont has proper actions at far buch	/4	0
	-	A Responding Fire Department has proper equipment for bush fires	0 or 1	0
	<u>ó</u> ≿	B Fire fighters have basic wildfire fighting training	0 or 1	0
	ESS BILI	C Mutual Aid Agreements are present	0 or 1 0 or 1	0
	PR PA	D	0 or 1	0
	SUPPRESSION CAPABILITY	Within an adequate distance to fire station and water supply	0.011	v
	S -			
	S -	· · · · · · · · · · · · · · · · · · ·	/4	0

	COMMUNITY:			Sherwood Forest Estates	INH	ERENT
	COIVIIV			Silerwood Forest Estates	Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 0 3
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a sl Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>		2 2 2
RENCE	UCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE LADDER FUEL MATERI	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	0 3 3	
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1
	Consequer	nce x Likelih	nood = INH	RENT RISK 378	TOTAL:	14
				Risk Hazard Moder	ate	

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Forest Glen	INHE	RENT
	7		Rating	Scores
ACCESS TO SAFE ZONES	•		0 or 3 0 or 3 0 or 3 0 or 3 0 or 3	3 3 0 0
NUMBER OF A HOMES	A 0 to 30 B 31 to 60 C 61 to 90 D 91 to 120 E > 120		/15 1 2 3 4 5 /5	9
ECONOMIC RISK	Average Property Valu A \$0 - \$300 (0 B \$300 001 - C \$500 001 - D > \$750 000 Avg Home	00 \$500 000 \$750 000	1 2 3 4 /4	2 2 2
VALUES AT RISK	Presence of: A Critical Infr B Dangerous C Special Val	Goods Infrastructure	0 or 3 0 or 3 0 or 3 /9	3 0 0 3
POLITICAL RISK	programs B Local medi programs C Regional m	ia involvement and no structural impact to Emergency Services or a involvement and internal structural changes to Emergency Services or redia involvement, lack of public confidence, and external changes to Services or county government	1 2 3 /3	1
	DENSITY OF STRUCTURES	A< 20 m between homesB21 - 40 m between homesC41 - 100 m between homesD> 100m between homes	3 2 1 0 /3	1
	BARRIERS TO FIRE SPREAD	AEastw/ Barrier within 200mBWestw/ Barrier within 200mCSouthw/ Barrier within 200mDNorthw/ Barrier within 200m	0 or 2 0 or 4 0 or 4 0 or 2 /12	2 0 0 2 4
λLI,	FOREST FUEL PATCH SIZE	 A No forest patch present within community B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary D Patch > 3 ha within community boundary 	0 1 3 5 /5	5 5
DEFENSIBILITY OF COMMUNITY	RESIDENTIAL FIRESMART	A 0-20 % B 21-40 % C 41-60 % D 61-80 % E 81-100 %	4 3 2 1 0 /4	4
DEFENSI	FUEL MAIN- TENANCE REQUIRED	 A Utility ROW maintenance B Fuel maintenance required - other agency C Fuel maintenance required - municipality 	0 or 1 0 or 1 0 or 1 /3	1 0 0 1
	ACCESS	 A Road width is equal to or greater than 7 m B Loop turnarounds/ cul-de-sacs are suitable for large fire C 2 or more means of egress D Standard visible lot signage 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 1 1
	SUPPRESSION CAPABILITY	 A Responding Fire Department has proper equipment for bush fires B Fire fighters have basic wildfire fighting training C Mutual Aid Agreements are present D Within an adequate distance to fire station and water supply 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0
			, TOTAL:	32

	COMMUNITY:			Forest Glen	INHE	RENT
	COIVIIV			Forest dien	Rating	Scores
		FUEL TYPES		 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 0 0 0 0
					/10	1
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2 2
ENCE	JCTURE	JCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE FUEL STRUCTURE LADDER DOWN	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ПКЕЦНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	1 1 0 0 2
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		EROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH		TOTAL:	12
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Meadowbrook Estates	INHE	RENT
CONIN		MCadowbiook Estates	Rating	Scores
E	A Lake		0 or 3	3
S SA	, e	Fuel Surface	0 or 3	3
NE		ea (Vegetation Maintained)	0 or 3	3
ESS TO (ZONES	D County Roa		0 or 3	0
ACCESS TO SAFE ZONES	E Subdivision	Road	0 or 3	0
4			/15	9
ш	A 0 to 30		1	1
NUMBER OF HOMES	B 31 to 60		2	
JMBER (HOMES	C 61 to 90		3	
N N N	D 91 to 120 E > 120		4	
z	E > 120		5 /5	1
	Average Property Valu	e.	75	1
š	A \$0 - \$300 C		1	
R	B \$300 001 -		2	2
ы	C \$500 001 -		3	_
Q	D > \$750 000		4	
ECONOMIC RISK		Cost: \$ 350,692		
ш	Ū		/4	2
	Presence of:			
	A Critical Infr	astructure	0 or 3	3
LUES RISK	B Dangerous	Goods Infrastructure	0 or 3	0
VALUES AT RISK	C Special Val	ues	0 or 3	0
^			/9	3
	A Local med	a involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs			
L R	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
ICA	programs			
	C Regional m	edia involvement, lack of public confidence, and external changes to	3	
ЪС	Emergency	Services or county government		
			/3	1
	ES I	A < 20 m between homes	3	
	Σ Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu	B 21 - 40 m between homes	2	
		C 41 - 100 m between homes	1	1
	DENSITY OF STRUCTURES	D > 100m between homes	0	
			/3	1
	AD AD	A East w/ Barrier within 200m	0 or 2	2
	RE	B West w/ Barrier within 200m	0 or 4	0
	E SF	C South w/ Barrier within 200m	0 or 4	4
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	0
		A No forget noteb present within community	/12 0	6
	UEL ZE	A No forest patch present within community		
	E IS H	 B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary 	1 3	
	FOREST FU PATCH SIZ	D Patch > 3 ha within community boundary	5	5
È	P2		/5	5
1 1		A 0-20 %	4	4
Ž	L AL	B 21-40 %	3	+
Ō	IAR	C 41-60 %	2	
Ъ	ESN	D 61-80 %	1	
≧	RESIDENTIAL FIRESMART	E 81-100 %	0	
DEFENSIBILITY OF COMMUNITY	æ –		/4	4
ISN	Żω Ω	A Utility ROW maintenance	0 or 1	1
E	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
ä	QU	C Fuel maintenance required - municipality	0 or 1	0
	면 표 뽑		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACCESS	C 2 or more means of egress	0 or 1	0
	AC	D Standard visible lot signage	0 or 1	0
			/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Z ≻	fires		
	ŝŝic	B Fire fighters have basic wildfire fighting training	0 or 1	0
	ABI	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	S SI	Within an adequate distance to fire station and water supply		
			/4	0
			TOTAL:	34

	COMMUNITY:			Meadowbrook Estates	INHE	RENT
	COIVIIV			Wieadowbrook Estates	Rating	Scores
		FUEL TYPES		 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood 	0 or 1 0 or 2 0 or 3	1 2 0
		FUEL .		D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 2 0 or 4 /10	0 0 3
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2
ENCE	JCTURE	ICTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	/3 0 3 5 /5	3
ПКЕЦНООГ		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		ROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	 1 1
	Consequer	nce x Likelih	nood = INHI	RENT RISK 476	TOTAL:	14
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Birch Grove Estates		RENT
	-	Birth Grove Estates	Rating	Scores
H	A Lake		0 or 3	0
ACCESS TO SAFE ZONES	•		0 or 3	3
ESS TO ZONES			0 or 3	3
ZC	D County Ros E Subdivision		0 or 3	0
ACC	E Subdivision	1 KOad	0 or 3	0 6
	A 0 to 30		/15 1	0 1
н	B 31 to 60		2	1
JMBER (HOMES	C 61 to 90		3	
ABF OV	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
2	_		/5	1
	Average Property Valu	ie:		
ECONOMIC RISK	A \$0 - \$300 0	000	1	
Ľ Ľ	B \$300 001 -	\$500 000	2	2
Σ	C \$500 001 -	\$750 000	3	
Ň	D > \$750 000		4	
EC	Avg Home	Cost: \$ 361,732		
			/4	2
₹I	Presence of:		0.07.2	2
VALUES AT RISK			0 or 3 0 or 3	3 0
Ri C	•			
A ≥	C Special Val	In Road Intel: 000 - \$5500 000 - \$5750 000 00 e Cost: \$ 361,732 frastructure is Goods Infrastructure alues dia involvement and no structural impact to Emergency Services or ia involvement and internal structural changes to Emergency Services or dia involvement, lack of public confidence, and external changes to cy Services or county government A < 20 m between homes	0 or 3 /9	0 3
	A Local med	ia involvement and no structural impact to Emergency Services or	1	3 1
×	programs	is involvement and no structural impact to Enlergency Services Of	1	1
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
B	programs	a involvement and internal stratetaral changes to Emergency services of	-	
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
, SC	-		5	
-			/3	1
	щ N	A < 20 m between homes	3	
	DENSITY OF STRUCTURES	B 21 - 40 m between homes	2	
	E E	C 41 - 100 m between homes	1	1
	Ĩ.	D > 100m between homes	0	
	D		/3	1
	2 9	A East w/ Barrier within 200m	0 or 2	2
	REA	B West w/ Barrier within 200m	0 or 4	0
	SPI	C South w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	0
			/12	2
	LE H		0	
	I SI		1	
			3	_
È	FOREST FUEL PATCH SIZE	vatch > 3 na within community boundary	5 /5	5 5
DEFENSIBILITY OF COMMUNITY		Δ 0-20 %	75 4	5 4
₹.	₹ E		4	4
Ō	ITI I		2	
Ğ	DEr		1	
È	RESIDENTIAL FIRESMART		0	
BILI	<u> </u>		/4	4
ISN	<u>م</u> يو Ż	A Utility ROW maintenance	0 or 1	1
34	FUEL MAIN TENANCE REQUIRED		0 or 1	0
ā		C Fuel maintenance required - municipality	0 or 1	1
	I F 盟		/3	2
			0 or 1	0
	SS	-	0 or 1	0
	ACCESS	-	0 or 1	0
	۲	D Standard visible lot signage	0 or 1	0
			/4	0
			0 or 1	0
	ŏ≿		0 1	0
			0 or 1 0 or 1	0 0
	ESS			
	PRESS			
	SUPPRESSIO	D	0 or 1	0
	SUPPRESSION CAPABILITY		0 or 1	

	COMMUNITY:			Birch Grove Estates	INHE	RENT
	COIVIIV			Birch Grove Estates	Rating	Scores
	A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	 B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer 	0 or 1 0 or 2 0 or 3 0 or 2	1 0 0 2		
		4		E C Fuels - Conifer	0 or 4	0
		-4			/10	3
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2 2
RENCE	JCTURE	JCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ПКЕЦНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	 1 1
	Consequer	nce x Likelih	nood = INH	RENT RISK 378	TOTAL:	14
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Rolling Glory	INHE	RENT
	7	Noning Giory	Rating	Scores
ACCESS TO SAFE ZONES	•		0 or 3 0 or 3 0 or 3 0 or 3 0 or 3	3 3 3 0 0
NUMBER OF A HOMES	A 0 to 30 B 31 to 60 C 61 to 90 D 91 to 120 E > 120		/15 1 2 3 4 5	9 1
ECONOMIC RISK	Average Property Valu A \$0 - \$300 (C B \$300 001 - C \$500 001 - D > \$750 000 Avg Home	00 \$500 000 \$750 000	/5 1 2 3 4 /4	1
VALUES AT RISK	Presence of: A Critical Infr B Dangerous C Special Val	Goods Infrastructure	0 or 3 0 or 3 0 or 3 /9	3 0 0 3
POLITICAL RISK	programs B Local medi programs C Regional m	ia involvement and no structural impact to Emergency Services or a involvement and internal structural changes to Emergency Services or redia involvement, lack of public confidence, and external changes to Services or county government	1 2 3 /3	1
	DENSITY OF STRUCTURES	A< 20 m between homes	3 2 1 0 /3	1
	BARRIERS TO FIRE SPREAD	AEastw/ Barrier within 200mBWestw/ Barrier within 200mCSouthw/ Barrier within 200mDNorthw/ Barrier within 200m	0 or 2 0 or 4 0 or 4 0 or 2 /12	0 4 4 0 8
λ. Li	FOREST FUEL PATCH SIZE	 A No forest patch present within community B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary D Patch > 3 ha within community boundary 	0 1 3 5 /5	5 5
DEFENSIBILITY OF COMMUNITY	RESIDENTIAL FIRESMART	A 0-20 % B 21-40 % C 41-60 % D 61-80 % E 81-100 %	4 3 2 1 0 /4	4
DEFENSI	FUEL MAIN- TENANCE REQUIRED	 A Utility ROW maintenance B Fuel maintenance required - other agency C Fuel maintenance required - municipality 	0 or 1 0 or 1 0 or 1 /3	1 0 0 1
	ACCESS	 A Road width is equal to or greater than 7 m B Loop turnarounds/ cul-de-sacs are suitable for large fire C 2 or more means of egress D Standard visible lot signage 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0 0
	SUPPRESSION CAPABILITY	 A Responding Fire Department has proper equipment for bush fires B Fire fighters have basic wildfire fighting training C Mutual Aid Agreements are present D Within an adequate distance to fire station and water supply 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0
			TOTAL:	34

	COMM	IUNITY:		Rolling Glory	INHE	RENT
	COIVIIV			Rolling Glory	Rating	Scores
	B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer	UEL TYPES		B O Fuels - GrassesC M Fuels - Mixedwood	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0
		_			/10	5
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: D1 Slope %: 0-10%	0 to 6	2 2
ENCE	JCTURE	FUEL STRUCTURE FUEL STRUCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRU		LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ПКЕЦНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH		TOTAL:	16
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	IUNITY:	Royal Glen	INHE	RENT
	-	noyal dich	Rating	Scores
AFE	A Lake	Fuel Surface	0 or 3	0
ACCESS TO SAFE ZONES	•	Fuel Surface ea (Vegetation Maintained)	0 or 3 0 or 3	3 3
ESS TO ZONES			0 or 3 0 or 3	3 0
ZC	D County Roa E Subdivision		0 or 3	0
ACC		i Koau	/15	6
	A 0 to 30		1	0
Ъ	B 31 to 60		2	2
ER (C 61 to 90		3	
JMBER (HOMES	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
			/5	2
¥	Average Property Valu			
RISI	A \$0 - \$300 0		1	
5	B \$300 001 -		2	2
20	C \$500 001 -		3	
ECONOMIC RISK	D > \$750 000		4	
ä	Avg home	Cost: \$ 412,157	/4	2
	Presence of:		/4	2
AT	A Critical Infr	astructure	0 or 3	3
LUES RISK		Goods Infrastructure	0 or 3	0
VALUES AT RISK	C Special Val		0 or 3	3
>			/9	6
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
ž	programs			
POLITICAL RISK	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
CA	programs			
	C Regional m	edia involvement, lack of public confidence, and external changes to	3	
PP	Emergency	Services or county government	10	
			/3	1
	DENSITY OF STRUCTURES	A < 20 m between homes	3	
	ΣĒ	B 21 - 40 m between homes C 41 - 100 m between homes	2 1	1
	DENSITY OF	D > 100m between homes	0	1
	DE	D > 100m between nomes	/3	1
	0.0	A East w/ Barrier within 200m	0 or 2	0
	S TC EAL	B West w/ Barrier within 200m	0 or 4	4
	PR	C South w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
	B B A		/12	6
		A No forest patch present within community	0	
	FUI	B Patch 0.1 - 0.9 ha within community boundary	1	
	CH ISI	C Patch 1 - 2.9 ha within community boundary	3	
≥	FOREST FU PATCH SIZ	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	<u> </u>		/5	5
IMI	ᆗᆫ	A 0-20 %	4	4
≥ 0	AR1	B 21-40 %	3	
с Н	SM,	C 41-60 %	2	
ž	RESIDENTIAL FIRESMART	D 61-80 % E 81-100 %	1 0	
ĨĽ	<u>к</u> г		/4	4
ASIE	ż " o	A Utility ROW maintenance	0 or 1	1
E.	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
ä	U EL n O U	C Fuel maintenance required - municipality	0 or 1	1
	면 뷰 쎫		/3	2
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	0
	Ă,	D Standard visible lot signage	0 or 1	0
			/4	0
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	No≿	fires		0
	SSI SILI	B Fire fighters have basic wildfire fighting training	0 or 1	0
		C Mutual Aid Agreements are present	0 or 1	0
	PRE	D	0 0 1	0
	SUPPRESSION CAPABILITY	D Within an adequate distance to fire station and water supply	0 or 1	0
	SUPPRESSION CAPABILITY	D Within an adequate distance to fire station and water supply		0 0

	сомм	UINIITV.		Royal Glen	INHE	RENT
	COIVIIV			Royal dieli	Rating	Scores
	PES			A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood	0 or 1 0 or 2 0 or 3	1 2 0
		FUEL TYPES		D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 2 0 or 4 /10	2 0 5
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6	2 2 2
ENCE	FUEL STRUCTURE		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE			LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	/3 0 3 5 /5	3
ПКЕЦНООГ		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	 1 1
	Consequer	nce x Likelih	ood = INH		TOTAL:	15
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

сомм	IUNITY:	Lori Estates	INHE	RENT
	7	Lon Louico	Rating	Scores
ACCESS TO SAFE ZONES	•		0 or 3 0 or 3 0 or 3 0 or 3 0 or 3 /15	3 3 0 0 9
NUMBER OF HOMES	A 0 to 30 B 31 to 60 C 61 to 90 D 91 to 120 E > 120		1 2 3 4 5 /5	2
ECONOMIC RISK	Average Property Valu A \$0 - \$300 C B \$300 001 - C \$500 001 - D > \$750 00C Avg Home	00 \$500 000 \$750 000	1 2 3 4 /4	1
VALUES AT RISK	Presence of: A Critical Infr B Dangerous C Special Val	Goods Infrastructure	0 or 3 0 or 3 0 or 3 /9	3 0 0 3
POLITICAL RISK	programs B Local medi programs C Regional m	ia involvement and no structural impact to Emergency Services or a involvement and internal structural changes to Emergency Services or redia involvement, lack of public confidence, and external changes to Services or county government	1 2 3 /3	1
	DENSITY OF STRUCTURES	A< 20 m between homesB21 - 40 m between homesC41 - 100 m between homesD> 100m between homes	3 2 1 0 /3	1
	BARRIERS TO FIRE SPREAD	AEastw/ Barrier within 200mBWestw/ Barrier within 200mCSouthw/ Barrier within 200mDNorthw/ Barrier within 200m	0 or 2 0 or 4 0 or 4 0 or 2 /12	0 4 4 2 10
λΞΪΝ	FOREST FUEL PATCH SIZE	 A No forest patch present within community B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary D Patch > 3 ha within community boundary 	0 1 3 5 /5	5 5
DEFENSIBILITY OF COMMUNITY	RESIDENTIAL FIRESMART	A 0-20 % B 21-40 % C 41-60 % D 61-80 % E 81-100 %	4 3 2 1 0 /4	4
DEFENSI	FUEL MAIN- TENANCE REQUIRED	 A Utility ROW maintenance B Fuel maintenance required - other agency C Fuel maintenance required - municipality 	0 or 1 0 or 1 0 or 1 /3	1 0 0 1
	ACCESS	 A Road width is equal to or greater than 7 m B Loop turnarounds/ cul-de-sacs are suitable for large fire C 2 or more means of egress D Standard visible lot signage 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0 0
	SUPPRESSION CAPABILITY	 A Responding Fire Department has proper equipment for bush fires B Fire fighters have basic wildfire fighting training C Mutual Aid Agreements are present D Within an adequate distance to fire station and water supply 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0
			, TOTAL:	37

	COMM	IUNITY:		Lori Estates	INHE	RENT
	COIVIIV			Lon Estates	Rating	Scores
	UEL TYPES		B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer	B O Fuels - GrassesC M Fuels - Mixedwood	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0
		-			/10	5
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6	2 2 2
RENCE	UCTURE	TRUCTURE TRUCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRI		LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	0 3 0 3
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A vg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH		TOTAL:	15
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	IUNITY:	Willow Lake Estates	INHE	RENT
	-	WINGW LUKE LSIGIES	Rating	Scores
Ë	A Lake		0 or 3	0
zs st	•	Fuel Surface	0 or 3	3
ESS TO S		ea (Vegetation Maintained)	0 or 3	0
ZC	D County Roa E Subdivision		0 or 3	3
ACCESS TO SAFE ZONES	E Subdivision	i Koad	0 or 3	0 6
	A 0 to 30		/15 1	1
۳.	B 31 to 60		2	1
JMBER (HOMES	C 61 to 90		3	
ABI OV	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
-			/5	1
	Average Property Valu	e:		
KI SK	A \$0 - \$300 0	00	1	1
Ľ Ľ	B \$300 001 -	\$500 000	2	
Σ	C \$500 001 -	\$750 000	3	
ECONOMIC RISK	D > \$750 000		4	
EC	Avg Home	Cost: \$ 284,026	4.	
	Dressingf:		/4	1
AT	Presence of: A Critical Infr	actructure	0 or 3	3
VALUES AT RISK		Goods Infrastructure	0 or 3 0 or 3	3 0
RI ALO	C Special Val		0 or 3	0
\$	C Special Val		/9	3
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
x	programs		-	-
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
CAL	programs			
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
Ĩ	-	Services or county government		
_			/3	1
	гŝ	A < 20 m between homes	3	
	URE O	B 21 - 40 m between homes	2	
	CTI	C 41 - 100 m between homes	1	
	DENSITY OF STRUCTURES	D > 100m between homes	0	0
	<u>م</u> ۲		/3	0
	29	A East w/ Barrier within 200m	0 or 2	0
	RS 1 REA	B West w/ Barrier within 200m	0 or 4	0
	SP	C South w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	0
			/12	0
	II II	A No forest patch present within community	0	
	I FI I SI	B Patch 0.1 - 0.9 ha within community boundary	1	
	FOREST FUEL PATCH SIZE	 C Patch 1 - 2.9 ha within community boundary D Patch > 3 ha within community boundary 	3 5	5
È	PA	ratin > 5 na within tonninunity boundary	5 /5	5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	4
ž	AL KT	B 21-40 %	3	
<u> </u>	1AF 1AF	C 41-60 %	2	
ъ ъ	FIRESMART	D 61-80 %	1	
È	RESIDENTIAL FIRESMART	E 81-100 %	0	
IBIL			/4	4
SN:		A Utility ROW maintenance	0 or 1	1
EFE	ANC ANC	B Fuel maintenance required - other agency	0 or 1	0
<u> </u>	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	1
			/3	2
		A Road width is equal to or greater than 7 m	0 or 1	0
	ESS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACCESS	C 2 or more means of egress	0 or 1	1
	< <p></p>	D Standard visible lot signage	0 or 1	1
		A Bosponding Eiro Donartmont has proper as viewant for burch	/4	3
	-	A Responding Fire Department has proper equipment for bush fires	0 or 1	0
	<u>ó</u> ≿	B Fire fighters have basic wildfire fighting training	0 or 1	0
	ESS BILI	C Mutual Aid Agreements are present	0 or 1 0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	C SUE	Within an adequate distance to fire station and water supply	0.011	Ŭ
			/4	0

	COMM	IUNITY:		Willow Lake Estates	INHE	RENT
	COIVIIV			WIIIOW Lake Estates	Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer 	0 or 1 0 or 2 0 or 3 0 or 2	1 2 0 2
		E		E C Fuels - Conifer	0 or 4	0
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: 01 Slope %: 0-10%	/10 0 to 6 /6	5 3 3
RENCE	UCTURE		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRI		LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ПКЕЦНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH		TOTAL:	17
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	UNITY:	Beaver Creek Estates 7822987	INHE	RENT
			Rating	Scores
Ë	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	3
ZC	D County Roa		0 or 3	0
ACC	E Subdivision	i Koad	0 or 3	0
1	A 0 to 20		/15	9
ц.	A 0 to 30 B 31 to 60		1 2	1
NUMBER OF HOMES	C 61 to 90		3	
JMBER (HOMES	D 91 to 120		4	
≧ ¥	E > 120		4 5	
2	2 7 120		/5	1
	Average Property Valu	le:	7-	-
ECONOMIC RISK	A \$0 - \$300 0	00	1	
C R	B \$300 001 -	\$500 000	2	2
Σ	C \$500 001 -	\$750 000	3	
NO	D > \$750 000		4	
ECC	Avg Home	Cost: \$ 307,503		
	-		/4	2
4	Presence of:		0 0	2
VALUES AT RISK	A Critical Infr		0 or 3	3
RISK	-	Goods Infrastructure	0 or 3	3
A V	C Special Val	ues	0 or 3	0
	ا - معاممه ا	is involvement and no structural impact to Emergency Cardioce or	/9	6 1
¥	A Local medi programs	ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
, AL	programs	a involvement and internal structural changes to Emergency services of	2	
9 E		edia involvement, lack of public confidence, and external changes to	3	
D	-	Services or county government	5	
۹.	Linergency	Services of county government	/3	1
	9	A < 20 m between homes	3	-
	DENSITY OF STRUCTURES	B 21 - 40 m between homes	2	
		C 41 - 100 m between homes	1	1
	RUG	D > 100m between homes	0	
	ST DI		/3	1
	0 0	A East w/ Barrier within 200m	0 or 2	0
	IS T	B West w/ Barrier within 200m	0 or 4	4
	SPR	C South w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
	B/ FI		/12	6
	Ē	A No forest patch present within community	0	
	FU SIZ	B Patch 0.1 - 0.9 ha within community boundary	1	
	EST CH	C Patch 1 - 2.9 ha within community boundary	3	
≥	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	u –		/5	5
IMI	- <u>-</u>	A 0-20 %	4	4
≥ 0	ART	B 21-40 %	3	
л. С	SML	C 41-60 %	2	
L L	RESIDENTIAL FIRESMART	D 61-80 % E 81-100 %	1 0	
L L	<u></u> В п	C 01-100 /0	/4	4
ISIB	ź o	A Utility ROW maintenance	0 or 1	4
E	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
ä	A NAI 2UI	C Fuel maintenance required - municipality	0 or 1	0
	ECE ECE	······	/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	ş	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	0
	AC	D Standard visible lot signage	0 or 1	0
			/4	0
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Z≻	fires		
	SSIC	B Fire fighters have basic wildfire fighting training	0 or 1	0
	RE	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	SL SL	Within an adequate distance to fire station and water supply		
			/4	0
			TOTAL:	36

	COMM			Beaver Creek Estates 7822987		INHE	RENT
	COIVIIV			Beaver Creek Estates 7822987		Rating	Scores
		ES		A D Fuels - Deciduous B O Fuels - Grasses		0 or 1 0 or 2	1 2
	LΛΡ			C M Fuels - Mixedwood		0 or 3	0
HOOD OF OCCURRENCE		. 13		D C Fuels - Patchy conifer		0 or 2	2
	FUEL STRU FUEL STRU RESIDENTIAL RESIDENTIAL RESIDENTIAL PRESENT BURNING LANDSCAPE FUEL STRU LANDSCAPE FUEL STRU ALLOWED SOURCES FUEL STRU		E C Fuels - Conifer		0 or 4	0	
						/10	5
	OPE & FUEL TYPE	VAR on the sustained slope or within 100 m of the top crest Fuel Type: D1 Slope %: 10-	t of a slope -30%	0 to 6	2		
		S'E T				/6	2
			, T	A Absent- No dead or down material		0	
ш	RE	RE	DEAD & DOWN MATERIAL	B Scattered- 3-5m separating logs, branches & twi	gs	1	1
INCE	DT.	E E	DE PO	C Abundant-Continuous logs, branches & twigs		3	
RE	RUC	RU(2			/3	1
CU	FUEL STI	Image: Second system A Absent- <25% of trees have ladder fuels Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image: Second system Image:	<u>د</u>	A Absent- <25% of trees have ladder fuels		0	
8				3	3		
۳.		ш	F LA	C Abundant- > 75% of trees have ladder fuels		5 /5	3
8							-
되		ᆸᄤᇰ		A Recreation (Presence) B Overhead Utility Line adjacent to forest		0 or 1 0 or 1	1 1
KEL		SEN SCA RCE		C < 1 km from primary/secondary roadway		0 or 1	0
Ξ		PRE AND IGNI SOU		D < 1km from railway		0 or 1	0
LIKELIHOOD OF OCCURRENCE PROBABILITY OF EXTREME FIRE FUEL STRUCTURE PROBABILITY OF BURNING PRESENT PROBABILITY OF BURNING PRUSCAFE FUEL FUEL TYPE SOURCES SOURCES SOURCES		,		/4	2		
		D J		A Incinerator Fires		0 or 1	1
				B Open Fires		0 or 1	0
				C Backyard Fire Pits - Standard Design		0 or 1	1
		RE I				/3	2
		۳ a		A Avg # of crossover days > 25 per year		4	
				B Avg # of crossover days < 25 per year		3	
		BABI REV EHAV		C Avg # of crossover days < 20 per year		2	1
		EXT BE		D Avg # of crossover days < 10 per year		1 /4	1
	Consequer			ERENT RISK	576	/4 TOTAL:	16
	consequer	ICC A LINCIN			Moderate	IUTAL.	10

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	UNITY:	Beaver Creek Estates 7822988	INHE	RENT
		Deaver creek Lotates 7022300	Rating	Scores
E	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	3
ZC	D County Roa		0 or 3	0
ACC	E Subdivision	N KOad	0 or 3	0
1	A 0 to 20		/15	9
L.	A 0 to 30 B 31 to 60		1 2	1
NUMBER OF HOMES	C 61 to 90		3	
JMBER (HOMES	D 91 to 120		4	
≧ ¥	E > 120		4 5	
2	2 7 120		/5	1
	Average Property Valu	ie:		_
ISK	A \$0 - \$300 0	00	1	
СК	B \$300 001 -	\$500 000	2	2
Ξ	C \$500 001 -	\$750 000	3	
DNC	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 328,728		
			/4	2
F	Presence of:			
VALUES AT RISK	A Critical Infr		0 or 3	3
LUES RISK	•	Goods Infrastructure	0 or 3	3
A V	C Special Val	ues	0 or 3	0
			/9	6
×		ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs B Local media	a involvement and internal structural changes to Emergency Services or	2	
, AL		a involvement and internal structural changes to Emergency services of	2	
IC	programs C Regional m	edia involvement, lack of public confidence, and external changes to	3	
GL	-		5	
۵.	Emergency	Services or county government	/3	1
	(0	A < 20 m between homes	3	-
	DENSITY OF STRUCTURES	B 21 - 40 m between homes	2	
	Σ Σ	C 41 - 100 m between homes	1	1
	RUG	D > 100m between homes	0	-
	STI		/3	1
	0 0	A East w/ Barrier within 200m	0 or 2	0
	S TI	B West w/ Barrier within 200m	0 or 4	0
	IER	C South w/ Barrier within 200m	0 or 4	4
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	0
	B/ FII		/12	4
	E	A No forest patch present within community	0	
	EU SIZ	B Patch 0.1 - 0.9 ha within community boundary	1	
	CH ST	C Patch 1 - 2.9 ha within community boundary	3	
≥	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	Ĕ ^L		/5	5
<u>I</u>	ч .	A 0-20 %	4	4
≥ o	TIA ART	B 21-40 %	3	
С С	EN.	C 41-60 %	2	
o ≻	RESIDENTIAL FIRESMART	D 61-80 %	1	
L L	RE E	E 81-100 %	0 /4	4
ISIB	Ż c	A Utility ROW maintenance	/4 0 or 1	4 1
N N N N N N N N N N N N N N N N N N N		B Fuel maintenance required - other agency	0 or 1 0 or 1	0
DE	NAF AUII	C Fuel maintenance required - other agency	0 or 1	0
	FUEL MAIN. TENANCE REQUIRED		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	s	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	0
	ĀČ	D Standard visible lot signage	0 or 1	0
		5 5	/4	0
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	z、	fires		
		B Fire fighters have basic wildfire fighting training	0 or 1	0
	RES ABI	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	su	Within an adequate distance to fire station and water supply		
			/4	0
			TOTAL:	34

	COMM	IUNITY:		Beaver Creek Estates 7822988	INHE	RENT
	COIVIIV			Beaver Creek Estates 7822988	Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: D1 Slope %: 0-10%	0 to 6 /6	2 4
RENCE	FUEL STRUCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE		FUEL STRUCTURE LADDER LADDER POWN FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3 3	
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelił	nood = INH		TOTAL:	17
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM		Beaver Creek Estates 8622084	INHE	RENT
		Deaver Licer Litales 0022004	Rating	Scores
E	A Lake		0 or 3	0
S SA	, e	Fuel Surface	0 or 3	3
U E O		ea (Vegetation Maintained)	0 or 3	3
ESS	D County Roa		0 or 3	0
VCCI	E Subdivision	Road	0 or 3	0
4			/15	6
ш	A 0 to 30		1	1
ES O	B 31 to 60		2	
IBE	C 61 to 90		3	
≦ ¥	D 91 to 120 E > 120		4	
z	E > 120		5 /5	1
	Average Property Valu	۵.	/3	1
ž	A \$0 - \$300 C		1	
R	B \$300 001 -		2	2
Ĕ	C \$500 001 -		3	-
Q	D > \$750 000		4	
0		Cost: \$ 380,926		
ш	Ū		/4	2
L	Presence of:			
E C	A Critical Infr	astructure	0 or 3	3
SK C	B Dangerous	Goods Infrastructure	0 or 3	3
DEFENSIBILITY OF COMMUNITY DEFENSIBILITY OF COMMUNITY POLITICAL RISK VALUES AT ECONOMIC RISK HOMES 2 ZONES ZONES	C Special Val	ues	0 or 3	0
			/9	6
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
ISK	programs			
L R	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
CA	programs			
5	C Regional m	edia involvement, lack of public confidence, and external changes to	3	
DA	Emergency	Services or county government		
			/3	1
	Р ES	A < 20 m between homes	3	
	URI V	B 21 - 40 m between homes	2	
		C 41 - 100 m between homes	1	1
	DENSITY OF STRUCTURES	D > 100m between homes	0	
	S L		/3	1
	5 Q	A East w/ Barrier within 200m	0 or 2	0
	RS . RE/	B West w/ Barrier within 200m	0 or 4	0
	RIE	C South w/ Barrier within 200m	0 or 4	4
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
			/12	6
	JEL ZE	A No forest patch present within community	0	
	I FI I SI	B Patch 0.1 - 0.9 ha within community boundary	1	
	TCF	C Patch 1 - 2.9 ha within community boundary	3	_
È	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5 /5	5 5
Ň		A 0-20 %	4	5 4
Š	ar ⊨	B 21-40 %	4	4
Ō	IAR	C 41-60 %	2	
Ч	DEL	D 61-80 %	1	
<u>۲</u>	RESIDENTIAL FIRESMART	E 81-100 %	0	
ВЦ	œ –		/4	4
IISN	Ż w O	A Utility ROW maintenance	0 or 1	1
E	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
ä	U A U	C Fuel maintenance required - municipality	0 or 1	0
	D H H	. ,	/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACCESS	C 2 or more means of egress	0 or 1	0
	AC	D Standard visible lot signage	0 or 1	1
			/4	2
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Z ≻	fires		
	ŝŝic	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	AP AP	D	0 or 1	0
	2 SI	Within an adequate distance to fire station and water supply		
			/4	0
			TOTAL:	35

	COMMUNITY:			Beaver Creek Estates 8622084		INHE	RENT
	COIVIIV			Beaver Creek Estates 8622084		Rating	Scores
	ES			A D Fuels - DeciduousB O Fuels - Grasses		0 or 1 0 or 2	1 2
	FUEL TYPES			C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer		0 or 3 0 or 2 0 or 4	0 2 0
						/10	5
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a Fuel Type: D1 Slope %: 0-10%	slope	0 to 6	2
ENCE	JCTURE		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 		0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE FUEL STRUCTURE LADDER DOWN FUEL MATER	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 		0 3 5 /5	3 3 3
ПКЕЦНОО	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 		0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	1 1 0 0 2
-	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 		0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	 1 1
	Consequer	nce x Likelił	nood = INH	RENT RISK 63	30	TOTAL:	18
				Risk Matrix Mode	erate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Kingsway Estates	INHE	RENT
		Kingsway Lstates	Rating	Scores
E	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	0
ZC	D County Roa		0 or 3	0
ACC	E Subdivisior	1 Koad	0 or 3	0
`	A 0 to 30		/15	6
ц.	A 0 to 30 B 31 to 60		1 2	1
ES ES	C 61 to 90		3	
JMBER (HOMES	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
2	2 / 120		/5	1
	Average Property Valu	le:	7-	
SK	A \$0 - \$300 0		1	1
2	B \$300 001 -		2	
ž	C \$500 001 -		3	
ON ON	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 289,474		
-			/4	1
F	Presence of:			
VALUES AT RISK	A Critical Infr		0 or 3	3
LUES RISK	, e	Goods Infrastructure	0 or 3	3
VAI	C Special Val	ues	0 or 3	0
-			/9	6
~		ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs	a involvement and internal structure laboratory (2	
ALF		a involvement and internal structural changes to Emergency Services or	2	
20	programs		2	
GL	-	edia involvement, lack of public confidence, and external changes to	3	
ă	Emergency	Services or county government	12	
		A 20 m between homes	/3 3	1
	OF	A < 20 m between homes B 21 - 40 m between homes	3 2	
	DENSITY OF STRUCTURES	C 41 - 100 m between homes	1	1
	NSI	D > 100m between homes	0	Ţ
	DE		/3	1
	0.0	A East w/ Barrier within 200m	0 or 2	0
	S TC EAL	B West w/ Barrier within 200m	0 or 4	0
	ER	C South w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
	BA		/12	2
		A No forest patch present within community	0	
	FUE	B Patch 0.1 - 0.9 ha within community boundary	1	
	ST CH (C Patch 1 - 2.9 ha within community boundary	3	
7	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	5 d		/5	5
Ν		A 0-20 %	4	0
Σ	IIAI IRT	B 21-40 %	3	3
Ŭ	ENI	C 41-60 %	2	
ō	RESIDENTIAL FIRESMART	D 61-80 %	1	
É	E	E 81-100 %	0	
SIBI			/4	3
Ŭ.	FUEL MAIN TENANCE REQUIRED	A Utility ROW maintenance	0 or 1	1
DEF	N N N	B Fuel maintenance required - other agency	0 or 1	0
_		C Fuel maintenance required - municipality	0 or 1	1
	ш · ш	A Pood width is actual to an greater than 7 m	/3	2
	(0	 A Road width is equal to or greater than 7 m B Loop turnarounds/ cul-de-sacs are suitable for large fire 	0 or 1 0 or 1	0
). ESS	C 2 or more means of egress	0 or 1 0 or 1	1 0
	ACCESS	D Standard visible lot signage	0 or 1 0 or 1	0
		שלא איז איז איז איז איז איז איז איז איז אי	/4	2
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Ζ.	fires	0011	U
		B Fire fighters have basic wildfire fighting training	0 or 1	0
	LESS BIL	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	C SUF	Within an adequate distance to fire station and water supply		Ŭ
			/4	0

	COMMUNITY:			Kingsway Estates	INHE	RENT
	COIVIIV			Kingsway Estates	Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 0 0
					/10	3
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: D1 Slope %: 0-10%	0 to 6 /6	2 2
ENCE	ICTURE	ICTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	/3 0 3 5 /5	3
ПКЕЦНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 <u>/4</u>	1 1 1 0 3
_	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH	RENT RISK 450	TOTAL:	15
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Miquelon Estates	INHE	RENT
			Rating	Scores
AFE	A Lake	Fuel Coufe as	0 or 3	3
ACCESS TO SAFE ZONES	B Large Non-Fuel SurfaceC Cleared Area (Vegetation Maintained)		0 or 3 0 or 3	3 3
ESS TO ZONES	D County Roa		0 or 3	0
CES	E Subdivision		0 or 3	0
AC			/15	9
	A 0 to 30		1	1
NUMBER OF HOMES	B 31 to 60		2	
JMBER (HOMES	C 61 to 90		3	
~ ~ ~	D 91 to 120		4	
z	E > 120		5 /5	1
	Average Property Valu	le:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-
ISK	A \$0 - \$300 0		1	1
C R	B \$300 001 -	\$500 000	2	
NO	C \$500 001 -		3	
ECONOMIC RISK	D > \$750 000		4	
Ŭ	Avg Home	Cost: \$ 279,763	10	
	Presence of:		/4	1
АТ	A Critical Infr	astructure	0 or 3	3
LUES RISK		Goods Infrastructure	0 or 3	3
VALUES AT RISK	C Special Val		0 or 3	0
~			/9	6
		ia involvement and no structural impact to Emergency Services or	1	1
RISK	programs		-	
POLITICAL RISK	B Local media programs	a involvement and internal structural changes to Emergency Services or	2	
0 E		edia involvement, lack of public confidence, and external changes to	3	
TO,	-	Services or county government	5	
-			/3	1
	гS	A < 20 m between homes	3	
	Υ O URE	B 21 - 40 m between homes	2	
	DENSITY OF STRUCTURES	C 41 - 100 m between homes	1	1
		D > 100m between homes	0	
		A East w/ Barrier within 200m	/3 0 or 2	1 2
	BARRIERS TO FIRE SPREAD	A East w/ Barrier within 200m B West w/ Barrier within 200m	0 or 2	2
	ERS	C South w/ Barrier within 200m	0 or 4	0
	RRI RE S	D North w/ Barrier within 200m	0 or 2	2
	B A FII		/12	4
	E E	A No forest patch present within community	0	
	FU SIZ	B Patch 0.1 - 0.9 ha within community boundary	1	
	EST	C Patch 1 - 2.9 ha within community boundary	3	_
È	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5 /5	5 5
DEFENSIBILITY OF COMMUNITY	_	A 0-20 %	75 4	5 4
Ž	AL KT	B 21-40 %	3	-
8	NTI	C 41-60 %	2	
ä	RESIDENTIAL FIRESMART	D 61-80 %	1	
μ	FIF	E 81-100 %	0	
SIBI			/4	4
EN,	FUEL MAIN TENANCE REQUIRED	A Utility ROW maintenance	0 or 1	1
DEF	N AN VIF	 B Fuel maintenance required - other agency C Fuel maintenance required - municipality 	0 or 1 0 or 1	0 0
	FUEL MAIN TENANCE REQUIRED	e ruermantenance requirea - municipality	/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	0
	AC	D Standard visible lot signage	0 or 1	0
			/4	0
	_	A Responding Fire Department has proper equipment for bush	0 or 1	0
	No F	fires B Fire fighters have basis wildfire fighting training	0 or 1	0
	ESS BILI	 B Fire fighters have basic wildfire fighting training C Mutual Aid Agreements are present 	0 or 1 0 or 1	0 0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	C SU	Within an adequate distance to fire station and water supply		
			/4	0
I			TOTAL:	33

	COMMUNITY:			Migualan Estatos	INHE	ERENT
	COIVIIV			Miquelon Estates	Rating	Scores
	A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	EL TYPES		 B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer 	0 or 1 0 or 2 0 or 3 0 or 2	1 0 0 2
		교		E C Fuels - Conifer	0 or 4	0
					/10	3
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slop Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	e 0 to 6 /6	2 2
TENCE	JCTURE	JCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE FUEL STRUCTURE DEAD (DOWN FUEL MATERI	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3	
ПКЕЦНОО	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1 1
	Consequer	nce x Likelih	nood = INH	RENT RISK 429	TOTAL:	13
				Risk Matrix Moderate	2	

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Huntington Estates	INHE	RENT
	-	Huntington Estates	Rating	Scores
/FE	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	, e	Fuel Surface	0 or 3	3
ESS TO (ZONES		ea (Vegetation Maintained)	0 or 3	3
ESS	D County Roa		0 or 3	0
ACC	E Subdivision	Road	0 or 3	0
1			/15	9
LL.	A 0 to 30		1	1
NUMBER OF HOMES	B 31 to 60		2	
JMBER (HOMES	C 61 to 90		3	
전 문	D 91 to 120		4	
Z	E > 120		5 /5	4
	Average Property Valu		/5	1
X	A \$0 - \$300 C		1	
R	B \$300 001 -		2	2
0 K	C \$500 001 -		3	2
Ō	D > \$750 000		4	
ECONOMIC RISK		Cost: \$ 394,193	4	
ŭ	Avg nome	Cost. \$ 554,155	/4	2
	Presence of:		/-	2
АТ	A Critical Infr	astructure	0 or 3	3
LUES		Goods Infrastructure	0 or 3	3
VALUES AT RISK	C Special Val		0 or 3	0
>			/9	6
		a involvement and no structural impact to Emergency Services or	1	1
¥	A Local med programs	a moovement and no suluctural impact to Emergency services of	1	1
POLITICAL RISK	1 0	a involvement and internal structural changes to Emergency Services or	2	
, F	programs	a involvement and internal structural changes to Emergency services of	2	
0E		edia involvement, lack of public confidence, and external changes to	3	
G	-	Services or county government	5	
	Linergency	Services of county government	/3	1
		A < 20 m between homes	3	1
	OF	B 21 - 40 m between homes	3 2	
	₽Ē	C 41 - 100 m between homes	2	1
	DENSITY OF STRUCTURES	D > 100 m between homes	0	1
		D > 10011 between nonles	/3	1
		A East w/ Barrier within 200m	0 or 2	0
	BARRIERS TO FIRE SPREAD	B West w/ Barrier within 200m	0 or 4	4
	PRE	C South w/ Barrier within 200m	0 or 4	4
	RIII E SI	D North w/ Barrier within 200m	0 or 2	0
	BARRIERS TO FIRE SPREAD		/12	4
		A No forest patch present within community	0	4
	UEL	B Patch 0.1 - 0.9 ha within community boundary	1	
	I I I I	C Patch 1 - 2.9 ha within community boundary	3	
	OREST FU	D Patch > 3 ha within community boundary		5
È	FOREST FU PATCH SIZ		5 /5	5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	5 4
2 S	≓ ⊢	A 0-20 % B 21-40 %	4	4
ō	AR.	C 41-60 %	3 2	
ц.	DEN	D 61-80 %	2	
Ě	RESIDENTIAL FIRESMART	E 81-100 %	0	
	<u> </u>		/4	4
ISIE	ź ^	A Utility ROW maintenance	0 or 1	4
L N	:UEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1 0 or 1	0
DE	Z Ar Cuir Z	C Fuel maintenance required - other agency	0 or 1	0
	FUEL MAIN TENANCE REQUIRED		/3	1
		A Road width is equal to or greater than 7 m	73 0 or 1	
	(0	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1 0 or 1	1 0
	ES		0 or 1 0 or 1	
	ACCESS	-		1
		D Standard visible lot signage	0 or 1 /4	0
		A Despending Eiro Department has preserve assumment for burgh	-	2
	_	A Responding Fire Department has proper equipment for bush	0 or 1	0
	vo ⊾	fires B. Fire fighters have basis wildfire fighting training	0 1	0
	SS	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	CA U	D Within an adequate distance to fire station and water supply	0 or 1	0
	S	Within an adequate distance to fire station and water supply	/4	-
			-	0
			TOTAL:	36

	COMMUNITY:			Huntington Estator	INHE	RENT
	COIVIIV			Huntington Estates	Rating	Scores
	FUELTYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0
					/10	5
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2 2
tence	JCTURE	JCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE FUEL STRUCTURE LADDER DOWD	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ПКЕЦНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
-	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		ROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH	RENT RISK 540	TOTAL:	15
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Jade Estates	INHE	RENT
CONIN		Jaue Estates	Rating	Scores
Щ	A Lake		0 or 3	0
ACCESS TO SAFE ZONES	, e	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	3
ESS	D County Roa		0 or 3	0
VCC	E Subdivision	Road	0 or 3	0
٩			/15	6
ш	A 0 to 30		1	1
NUMBER OF HOMES	B 31 to 60		2	
JMBER C HOMES	C 61 to 90		3	
독 유	D 91 to 120		4	
ž	E > 120		5	
	Assessed December 1/als		/5	1
×	Average Property Valu A \$0 - \$300 0		1	1
S.R.	A \$0 - \$300 0 B \$300 001 -		1 2	1
JC JC	C \$500 001 -		2	
ğ	D > \$750 000		5 4	
ECONOMIC RISK		Cost: \$ 236,297	4	
Ĕ	Avg nome	COSI: \$ 250,257	/4	1
	Presence of:		/4	1
AT		astructure	0 or 3	3
LUES / RISK		Goods Infrastructure	0 or 3 0 or 3	3
VALUES AT RISK	C Special Val		0 or 3 0 or 3	3 0
۸۸	C Special val	ues	/9	6
	A Local med	a involvement and no structural impact to Emergency Services or	/9 1	6 1
×		a involvement and no structural impact to Emergency Services or	T	T
POLITICAL RISK	programs B Local medi	a involvement and internal structural changes to Emergency Services or	2	
٩٢		a involvement and internal structural changes to Emergency Services or	2	
1C	programs	adia involvement lack of public confidence, and external changes to	3	
G	-	edia involvement, lack of public confidence, and external changes to	3	
_	Emergency	Services or county government	/3	1
		A 20 m between bornes	/3 3	1
	OF	A < 20 m between homes		
	Σī	B 21 - 40 m between homes	2	1
	DENSITY OF STRUCTURES	C 41 - 100 m between homes D > 100m between homes	1	1
	DEI	D > 100m between homes	0 /3	1
		A East w/ Barrier within 200m	-	1 0
	AD		0 or 2 0 or 4	
	RSPRE	B West w/ Barrier within 200m C South w/ Barrier within 200m	0 or 4 0 or 4	4 0
	RIII E SI			2
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	6
		A No forest noteb present within community	0	0
	JEL	A No forest patch present within community		
	T FI H SI	B Patch 0.1 - 0.9 ha within community boundary	1	
	(ES:	 C Patch 1 - 2.9 ha within community boundary D Patch > 3 ha within community boundary 	3	F
È	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5 /5	5
DEFENSIBILITY OF COMMUNITY		A 0.20 %		5
Ę	≓⊢	A 0-20 %	4	4
ő	AR AR	B 21-40 % C 41-60 %	3 2	
Ĕ	SM		2	
ž	RESIDENTIAL FIRESMART	D 61-80 % E 81-100 %	1 0	
5	<u> </u>	F 01-100 /0	/4	4
ISIB	Żo	A Utility ROW maintenance	0 or 1	
L N	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1 0 or 1	1
DEI	Z Ar Cuir Z	C Fuel maintenance required - other agency	0 or 1	0 0
	TEP XEC		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	
	(0	B Loop turnarounds/ cul-de-sacs are suitable for large fire		0
	ES	C 2 or more means of egress	0 or 1 0 or 1	1 1
	ACCESS	-	0 or 1 0 or 1	1 0
		D Standard visible lot signage	/4	2
		A Despending Eiro Department has preserve assumment for burgh	-	
	_	A Responding Fire Department has proper equipment for bush	0 or 1	0
	vo ⊾	fires B. Fire fighters have basis wildfire fighting training	0 == 1	0
	SS	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	CA U	D Within an adequate distance to fire station and water supply	0 or 1	0
	C)	within an adequate distance to me station and water supply	/4	0
			-	0
I			TOTAL:	34

	COMM	IUNITY:		Jade Estates	INHE	RENT
	COIVIIV			Jade Estates	Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2 2 2
RENCE	JCTURE	JCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE LADDER LADDER POWN	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3	
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
-	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH		TOTAL:	15
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Joyland Estates	INHE	RENT
	-	Joyiana Estates	Rating	Scores
E	A Lake		0 or 3	0
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	3
ESS	D County Roa		0 or 3	0
VCCI	E Subdivision	n Road	0 or 3	0
4			/15	6
щ	A 0 to 30		1	1
NUMBER OF HOMES	B 31 to 60		2	
JMBER C HOMES	C 61 to 90		3	
N N	D 91 to 120		4	
z	E > 120		5 /5	4
	Average Property Valu		/5	1
x	A \$0 - \$300 C		1	
R	B \$300 001 -		2	2
0 F	C \$500 001 -	•	3	2
Ō	D > \$750 000	•	4	
ECONOMIC RISK		Cost: \$ 367,094	4	
ŭ	Avg nome		/4	2
	Presence of:		7.	-
AT	A Critical Infr	astructure	0 or 3	3
JES ISK		Goods Infrastructure	0 or 3	0
POLITICAL RISK VALUES AT	C Special Val		0 or 3	0
>			/9	3
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
X	programs			
R		a involvement and internal structural changes to Emergency Services or	2	
B	programs		_	
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
JO D	-	Services or county government	-	
-	- 0 /		/3	1
	v	A < 20 m between homes	3	
	DENSITY OF STRUCTURES	B 21 - 40 m between homes	2	
		C 41 - 100 m between homes	1	1
	RUG	D > 100m between homes	0	
	ST D		/3	1
	0 0	A East w/ Barrier within 200m	0 or 2	0
	S TC	B West w/ Barrier within 200m	0 or 4	4
	IER SPR	C South w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
	B/B		/12	6
		A No forest patch present within community	0	
	FUE	B Patch 0.1 - 0.9 ha within community boundary	1	
	E ST	C Patch 1 - 2.9 ha within community boundary	3	
~	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	2 4		/5	5
Ĩ,		A 0-20 %	4	4
Σ	RT	B 21-40 %	3	
	NA MA	C 41-60 %	2	
ö	RESIDENTIAL FIRESMART	D 61-80 %	1	
Ę	FIF	E 81-100 %	0	
BI			/4	4
SN	Ч Ч Ч Ч С	A Utility ROW maintenance	0 or 1	1
EE	MA ANC JIRE	B Fuel maintenance required - other agency	0 or 1	0
•	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	0
	∃ ⊨ ≌		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	1
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACCESS	C 2 or more means of egress	0 or 1	1
	Ă	D Standard visible lot signage	0 or 1	0
			/4	3
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Z ≻	fires		
		B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	APC APC	D	0 or 1	0
	2 SI	Within an adequate distance to fire station and water supply		
			/4	0
			TOTAL:	33

	COMMUNITY:			Joyland Estates	INHE	RENT
	COIVIIV			Joyland Estates	Rating	Scores
	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer	B O Fuels - GrassesC M Fuels - Mixedwood	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 3 0
					/10	6
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slop Fuel Type: <u>M Fuels</u> Slope %: <u>0-10%</u>		3 3
RENCE	UCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3 0 3
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
_	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1
	Consequer	nce x Likelih	nood = INH	ERENT RISK 561	TOTAL:	17
				Risk Matrix Moderat	e	

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Beaver Meadows		RENT
contin	•		Rating	Scores
ACCESS TO SAFE ZONES	A Lake		0 or 3	0
zs st		Fuel Surface	0 or 3	3
ESS TO S		ea (Vegetation Maintained)	0 or 3	3
ZC	D County Roa E Subdivisior		0 or 3	0
ACC	E Subdivision	i Koad	0 or 3	0 6
	A 0 to 30		/15 1	1
۳.	B 31 to 60		2	1
JMBER (HOMES	C 61 to 90		3	
ABI OV	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
-			/5	1
	Average Property Valu	e:		
KI SK	A \$0 - \$300 0	00	1	1
Ľ Ľ	B \$300 001 -	\$500 000	2	
Σ	C \$500 001 -	\$750 000	3	
ECONOMIC RISK	D > \$750 000		4	
Ğ	Avg Home	Cost: \$ 251,377		
	Dressence of		/4	1
AT	Presence of: A Critical Infr	astructura	0.05.2	3
LUES / RISK		Goods Infrastructure	0 or 3 0 or 3	3
POLITICAL RISK RISK	C Special Val		0 or 3 0 or 3	3 0
\$	C Special Val		/9	6
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
ĸ	programs		-	-
E .		a involvement and internal structural changes to Emergency Services or	2	
CAL	programs			
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
Ĩ	-	Services or county government		
_	, U	, ,	/3	1
	гS	A < 20 m between homes	3	
	URE U	B 21 - 40 m between homes	2	
	CTI	C 41 - 100 m between homes	1	1
	DENSITY OF STRUCTURES	D > 100m between homes	0	
	o IS		/3	1
	29	A East w/ Barrier within 200m	0 or 2	0
	RS 1 REA	B West w/ Barrier within 200m	0 or 4	0
	SP	C South w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	0
			/12	0
	JEL ZE	A No forest patch present within community	0	
	I FI I SI	B Patch 0.1 - 0.9 ha within community boundary	1	
	FOREST FUEL PATCH SIZE	 C Patch 1 - 2.9 ha within community boundary D Patch > 3 ha within community boundary 	3 5	5
È	PA	ratin > 5 na within tunning bullidary	5 /5	5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	4
ž	AL	B 21-40 %	3	
<u> </u>	NTI. 1AF	C 41-60 %	2	
Ъ.	RESIDENTIAI FIRESMART	D 61-80 %	1	
È	RESIDENTIAL FIRESMART	E 81-100 %	0	
BIL			/4	4
ISN	N H G	A Utility ROW maintenance	0 or 1	1
EFE	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
<u> </u>		C Fuel maintenance required - municipality	0 or 1	0
			/3	1
		A Road width is equal to or greater than 7 m	0 or 1	1
	ESS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	0
	◄	D Standard visible lot signage	0 or 1	1
		A Bosponding Eiro Donartmont has proper actions at far buch	/4	2
	_	A Responding Fire Department has proper equipment for bush fires	0 or 1	0
	ĕ≿	B Fire fighters have basic wildfire fighting training	0 or 1	0
	ESS BILI	C Mutual Aid Agreements are present	0 or 1 0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
I	C SUE	Within an adequate distance to fire station and water supply	0.011	Ŭ
	Co Ci			
			/4	0

	COMMUNITY:			Beaver Meadows	INHE	RENT
	COIVIIV			Beaver Meadows	Rating	Scores
	SLOPE & FUEL FUEL TYPES TYPE			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5
				VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2 2 2
TENCE	JCTURE	JCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ГІКЕГІНОО	PRESENT PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH		TOTAL:	15
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

сомм	IUNITY:	Cinnamon Ridge Estates	INHE	RENT
		Cananon hidge Estates	Rating	Scores
Ë	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO (ea (Vegetation Maintained)	0 or 3	3
ESS	D County Roa		0 or 3	0
VCC VCC	E Subdivision	n Road	0 or 3	0
4			/15	9
ш	A 0 to 30		1	1
NUMBER OF HOMES	B 31 to 60		2	
JMBER (HOMES	C 61 to 90		3	
M H	D 91 to 120		4	
z	E > 120		5 /5	
	Average Property Valu		/5	1
×	A \$0 - \$300 C		1	1
R	B \$300 001 -		2	1
U N	C \$500 001 -		3	
ē	D > \$750 000		4	
ECONOMIC RISK		Cost: \$ 270,598	7	
ŭ	Ang home		/4	1
	Presence of:			-
АТ	A Critical Infr	astructure	0 or 3	3
LUES RISK		Goods Infrastructure	0 or 3	3
VALUES AT RISK	C Special Val		0 or 3	0
>			/9	6
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
X	programs	a moment and no structural impact to Emergency services of	1	-
POLITICAL RISK	1 0	a involvement and internal structural changes to Emergency Services or	2	
SAL	programs		-	
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
ğ	-	Services or county government	5	
<u> </u>	Lineigeney	Services of county Bovenment	/3	1
	0	A < 20 m between homes	3	_
	DENSITY OF STRUCTURES	B 21 - 40 m between homes	2	
	ΣĽ	C 41 - 100 m between homes	1	1
	SUG	D > 100m between homes	0	-
	STI		/3	1
	0.0	A East w/ Barrier within 200m	0 or 2	2
	BARRIERS TO FIRE SPREAD	B West w/ Barrier within 200m	0 or 2	0
	ER! PRI	C South w/ Barrier within 200m	0 or 4	0
	RRI KE S	D North w/ Barrier within 200m	0 or 2	0
	BA FIR		/12	2
		A No forest patch present within community	0	_
	UEL	B Patch 0.1 - 0.9 ha within community boundary	1	
	LA S H	C Patch 1 - 2.9 ha within community boundary	3	
_	FOREST FU PATCH SIZ	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	6 g	· · · · · · · · · · · · · · · · · · ·	/5	5
Į į		A 0-20 %	4	4
۶	ar AL	B 21-40 %	3	
8	AAF	C 41-60 %	2	
Ъ	ESA	D 61-80 %	1	
≧	RESIDENTIAL FIRESMART	E 81-100 %	0	
BIL	–		/4	4
IS Z	<u>έ</u> ωο	A Utility ROW maintenance	0 or 1	1
E	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
ā	OU EL I	C Fuel maintenance required - municipality	0 or 1	0
	E H H		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	S	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACCESS	C 2 or more means of egress	0 or 1	0
	AC	D Standard visible lot signage	0 or 1	0
		-	/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	z	fires		
	OIS (TL	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	PPI AP/	D	0 or 1	0
	C SU	Within an adequate distance to fire station and water supply		
			/4	0

	COMMUNITY:			Cinnamon Ridge Estates	INHE	RENT
	COIVIIV			Cinnanion Ridge Estates	Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 0 0
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>M Fuels</u> Slope %: <u>0-10%</u>	0 to 6	3 3
RENCE	JCTURE	JCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ПКЕЦНОО	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INHI	RENT RISK 544	TOTAL:	17
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

сомм	UNITY:	Hillhurst Estates	INHE	RENT
contin		minurst Estates	Rating	Scores
/FE	A Lake		0 or 3	0
ts c	•	Fuel Surface	0 or 3	3
ESS TO S		ea (Vegetation Maintained)	0 or 3 0 or 3	3 0
ACCESS TO SAFE ZONES	D County Roa E Subdivision		0 or 3 0 or 3	0
ACC	E Suburvision	- Nour	/15	6
	A 0 to 30		1	1
ь.	B 31 to 60		2	
NUMBER OF HOMES	C 61 to 90		3	
EN IOH	D 91 to 120		4	
	E > 120		5	
			/5	1
×	Average Property Valu A \$0 - \$300 0		1	
RI C	B \$300 001 -		2	2
ы	C \$500 001 -		3	2
Q	D > \$750 000	•	4	
ECONOMIC RISK		Cost: \$ 337,964		
ш			/4	2
F.	Presence of:			
VALUES AT RISK	A Critical Infr		0 or 3	3
RISK	-	Goods Infrastructure	0 or 3	0
A \	C Special Val	ues	0 or 3 /9	0
	A Local med	ia involvement and no structural impact to Emergency Services or	/9 1	3
ž	programs	a molvement and no structural impact to Emergency services of	T	T
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
CAL	programs			
Ē		edia involvement, lack of public confidence, and external changes to	3	
8	Emergency	Services or county government		
			/3	1
	E S	A < 20 m between homes	3	
	IV C	B 21 - 40 m between homes	2	
	DENSITY OF	C 41 - 100 m between homes	1	1
	DENSITY OF STRUCTURES	D > 100m between homes	0 /3	1
		A East w/ Barrier within 200m	/3 0 or 2	0
	BARRIERS TO FIRE SPREAD	B West w/ Barrier within 200m	0 or 2	4
	IER5 PRI	C South w/ Barrier within 200m	0 or 4	4
	ARRI RE S	D North w/ Barrier within 200m	0 or 2	2
	B/ FII		/12	10
	EL	A No forest patch present within community	0	
	. FU	B Patch 0.1 - 0.9 ha within community boundary	1	
	EST	C Patch 1 - 2.9 ha within community boundary	3	-
È	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5 /5	5 5
DEFENSIBILITY OF COMMUNITY	-	A 0-20 %	75 4	5 4
₹ 2	I F	B 21-40 %	4	4
Ō	RESIDENTIAL FIRESMART	C 41-60 %	2	
ъ ъ	IDE	D 61-80 %	1	
Ę	FIR	E 81-100 %	0	
181			/4	4
ENS	ED	A Utility ROW maintenance	0 or 1	1
EEI	- M/ AN	B Fuel maintenance required - other agency	0 or 1	0
	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	0
	<u> </u>	A Pood width is accual to as greater than 7 m	/3	1
	s	 A Road width is equal to or greater than 7 m B Loop turnarounds/ cul-de-sacs are suitable for large fire 	0 or 1 0 or 1	1 0
	ACCESS	C 2 or more means of egress	0 or 1	0
	ACI	D Standard visible lot signage	0 or 1	1
		5	/4	3
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Z≻	fires		
	SSIC	B Fire fighters have basic wildfire fighting training	0 or 1	0
	ZAB	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY		0 or 1	0
	S -	Within an adequate distance to fire station and water supply	/4	•
				0
			TOTAL:	37

	COMMUNITY:			Hillhurst Estates	INHE	RENT
	COIVIIV			Hilliurst Estates	Rating	Scores
	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer	B O Fuels - GrassesC M Fuels - Mixedwood	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0
		_			/10	5
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2 2
ENCE	JCTURE	FUEL STRUCTURE FUEL STRUCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRU		LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ПКЕЦНОО	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		ROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH	RENT RISK 555	TOTAL:	15
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM		Desert Estates	INHE	RENT
	7		Rating	Scores
Ë		/	0 or 3	3
ACCESS TO SAFE ZONES	, e		0 or 3	3
ESS TO S			0 or 3	3
ZC	· · · · ·		0 or 3	0
ACO	E Subdivision	i Koad	0 or 3	0
`	A 0 to 20		/15	9
ц.			1 2	1
R C ES			3	
JMBER (HOMES			4	
NUMBER OF HOMES			5	
2	2 120		/5	1
	Average Property Valu	le:		
ECONOMIC RISK	A \$0 - \$300 0	00	1	
Ľ Ľ	B \$300 001 -	\$500 000	2	2
Σ	C \$500 001 -	\$750 000	3	
Ň			4	
EC	Avg Home	Cost: \$ 498,928		
			/4	2
₽		activity	0 == 2	2
VALUES AT RISK			0 or 3 0 or 3	3
ALUES RISK	B \$300 001 - \$500 000 C \$500 001 - \$750 000 D > \$750 000 Avg Home Cost: \$ 498,928 Presence of: A Critical Infrastructure B Dangerous Goods Infrastruc C Special Values A Local media involvement an programs B Local media involvement an programs C Regional media involvement an programs C Regional media involvement Emergency Services or count A < 200 B 21 - 4 C 41 - 1 D > 100 C 41 - 1 D > 100 A East B West C South D North B 21 - 4 C 41 - 1 D > 100 A East B West C South D North B 21 - 4 C 41 - 1 D > 100 A East B West C South D North B 21 - 40 C 41 - 1 D > 100 A East B West C South D North B 21 - 40 C 41 - 1 D > 100 A East B West C South D North B 21 - 40 C Fuel C Fuel C Fuel C Fuel C Fuel C Fuel C Fuel C Sub C		0 or 3 0 or 3	0 0
₹×	C Special val	ues	/9	3
	A Local med	ia involvement and no structural impact to Emergency Services or		3
X		a monoment and no structural impact to Enlergency services of	1	1
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
B			-	
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
ğ	-		-	
-	- 6 7		/3	1
	нs	A < 20 m between homes	3	
	URE U	B 21 - 40 m between homes	2	
	CTI	C 41 - 100 m between homes	1	
	EN	D > 100m between homes	0	0
	<u>م</u> ۲		/3	0
	2 9		0 or 2	0
	RS . RE/		0 or 4	4
	RIE		0 or 4	0
	SAR FIRE	D North w/ Barrier within 200m	0 or 2	2
		A No forget noteb present within community	/12	6
	UEL		0	
	E IS F		1 3	
	RES		5	5
Ę	<u>6</u>		/5	5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	4
٤	₹T AL		3	
8	ТИ ИАІ		2	
ö	SIDE (EST	D 61-80 %	1	
È	FIR	E 81-100 %	0	
1181			/4	4
ENS			0 or 1	1
EEI	AN AN		0 or 1	0
	EQIEN	C Fuel maintenance required - municipality	0 or 1	1
	<u> </u>		/3	2
			0 or 1	0
	ESS		0 or 1	1
	ACC	0	0 or 1	1
		D Standard visible lot signage	0 or 1 /4	1 3
		A Responding Fire Department has proper equipment for bush	0 or 1	3
	~		0011	0
	ioir		0 or 1	0
	ESS BIL		0 or 1	0
	PPR		0 or 1	0
	C Sul	Within an adequate distance to fire station and water supply		
I			/4	0

	COMMUNITY:			Desart Estates		INHE	RENT
	COIVIIV			Desert Estates		Rating	Scores
	FUEL TYPES			B O Fuels - GrassesC M Fuels - Mixedwood		0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 3 0 0
		-				/10	6
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of Fuel Type: <u>D Fuels</u> Slope %: <u>0-10</u> %		0 to 6	2 2 2
RENCE	JCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 		0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRL		LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 		0 3 5 /5	3 3
ПКЕЦНОО	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 		0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	PROBABILITY OF EXTREME FIRE BURNING BEHAVIOR ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 		0 or 1 0 or 1 0 or 1 /3	1 0 1 2
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH		576	TOTAL:	16
				Risk Matrix M	oderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	IUNITY:	Hunter Estates	INHE	RENT
COIVIIV			Rating	Scores
E	A Lake		0 or 3	0
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	3
ESS	D County Roa		0 or 3	3
VCCI	E Subdivision	n Road	0 or 3	0
٩			/15	9
ш	A 0 to 30		1	1
NUMBER OF HOMES	B 31 to 60		2	
JMBER C HOMES	C 61 to 90		3	
N N	D 91 to 120 E > 120		4 5	
z	E > 120		5 /5	1
	Average Property Valu	۰۵.	/3	1
š	A \$0 - \$300 C		1	1
R	B \$300 001 -		2	-
Ĭ	C \$500 001 -	•	3	
Q	D > \$750 000	•	4	
ECONOMIC RISK		Cost: \$ 240,670		
ш	Ŭ		/4	1
L	Presence of:			
VALUES AT RISK	A Critical Infr	astructure	0 or 3	3
LUES RISK	B Dangerous	Goods Infrastructure	0 or 3	0
ALI /ALI	C Special Val	ues	0 or 3	0
>			/9	3
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs			
L R	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
CA	programs			
5	C Regional m	edia involvement, lack of public confidence, and external changes to	3	
Dd	Emergency	Services or county government		
			/3	1
	н SI	A < 20 m between homes	3	
	ŭR C	B 21 - 40 m between homes	2	
		C 41 - 100 m between homes	1	
	DENSITY OF STRUCTURES	D > 100m between homes	0	0
			/3	0
	0 d	A East w/ Barrier within 200m	0 or 2	2
	RS	B West w/ Barrier within 200m	0 or 4	0
	RIE	C South w/ Barrier within 200m	0 or 4	4
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
			/12	8
	II II	A No forest patch present within community	0	
	L FI	B Patch 0.1 - 0.9 ha within community boundary	1	
	TCF	C Patch 1 - 2.9 ha within community boundary	3	-
È	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5 /5	5 5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	5 4
2 S	ar ⊢	B 21-40 %	4	4
Ō	IAR	C 41-60 %	2	
Ğ	DEI	D 61-80 %	1	
È	RESIDENTIAL FIRESMART	E 81-100 %	0	
ВШ	œ –		/4	4
IISN	ź w o	A Utility ROW maintenance	0 or 1	1
L H	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
ä	UNA NA	C Fuel maintenance required - municipality	0 or 1	1
	Ū Ħ Ē	,	/3	2
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	1
	AC	D Standard visible lot signage	0 or 1	1
			/4	2
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Z ≻	fires		
	\$SIC	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	AP AP	D	0 or 1	0
	2 SI	Within an adequate distance to fire station and water supply		
I			/4	0
			TOTAL:	36

	COMMUNITY:			Hunter Estates	INHE	INHERENT	
	COIVIIV			Huilter Estates	Rating	Scores	
	FUEL TYPES			B O Fuels - GrassesC M Fuels - Mixedwood	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 3 0 0	
					/10	6	
	SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>M Fuels</u> Slope %: <u>0-10%</u>	0 to 6 /6	3 3		
ENCE	ICTURE	FUEL STRUCTURE FUEL STRUCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1 1	
LIKELIHOOD OF OCCURRENCE	FUEL STRU		LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	/3 0 3 5 /5	3	
ПКЕЦНОО	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1	
	Consequer	nce x Likelih	nood = INH	RENT RISK 612	TOTAL:	17	
				Risk Matrix Moderate			

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	IUNITY:	Carey Ridge Estates	INHE	RENT
		Carcy Muge Estates	Rating	Scores
E	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	, e	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	0
ZC	D County Roa		0 or 3	0
ACC	E Subdivisior	N KOad	0 or 3	0
	A 0 to 30		/15 1	6 1
Ľ.	B 31 to 60		1 2	T
ES C	C 61 to 90		3	
JMBER (HOMES	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
2			/5	1
	Average Property Valu	le:		
ECONOMIC RISK	A \$0 - \$300 0	00	1	
C #	B \$300 001 -	\$500 000	2	2
Σ	C \$500 001 -	\$750 000	3	
Ň	D > \$750 000		4	
EC	Avg Home	Cost: \$ 487,006		
			/4	2
AT	Presence of:	actructura	0 == 2	2
VALUES AT RISK	A Critical Infr B Dangerous	astructure Goods Infrastructure	0 or 3 0 or 3	3 0
S E	•			
A ∑	C Special Val		0 or 3 /9	3 6
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
X	programs	a monoment and no structural impact to Enlergency services of	1	1
S.		a involvement and internal structural changes to Emergency Services or	2	
CAL	programs		_	
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
POLITICAL RISK	-	Services or county government		
			/3	1
	г S	A < 20 m between homes	3	
	ν o URE	B 21 - 40 m between homes	2	
	SIT	C 41 - 100 m between homes	1	1
	DENSITY OF STRUCTURES	D > 100m between homes	0	
	s: L		/3	1
	5 Q	A East w/ Barrier within 200m	0 or 2	0
	RS . RE/	B West w/ Barrier within 200m	0 or 4	4
	RIE	C South w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
		A No forget noteb present within community	/12	6
	FOREST FUEL PATCH SIZE	A No forest patch present within community	0	
	E IS H	 B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary 	1 3	3
_	FOREST FU PATCH SIZ	D Patch > 3 ha within community boundary	5	5
L L	10 24		/5	3
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	
ž	AL &T	B 21-40 %	3	3
8	AAF AAF	C 41-60 %	2	
ŭ.	RESIDENTIAI FIRESMART	D 61-80 %	1	
Ę	RESIDENTIAL FIRESMART	E 81-100 %	0	
BIL			/4	3
SN		A Utility ROW maintenance	0 or 1	0
EF	ANC ANC ANC	B Fuel maintenance required - other agency	0 or 1	0
<u> </u>	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	1
	L L R		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	ESS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	0
	4	D Standard visible lot signage	0 or 1 /4	0
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	-	A Responding Fire Department has proper equipment for bush fires	0.01.1	0
		B Fire fighters have basic wildfire fighting training	0 or 1	0
	(BIL	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	۲ Sul	Within an adequate distance to fire station and water supply		2
1			/4	0

COMMUNITY:			Carey Ridge Estates	INHE	RENT	
	COIVIIV			Carey Ridge Estates	Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2
RENCE	UCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1 1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ГІКЕГІНОО	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelił	nood = INH		TOTAL:	12
				Risk Matrix Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	IUNITY:	Village of Ryley		RENT
	7	tildge of typey	Rating	Scores
ACCESS TO SAFE ZONES	, e		0 or 3 0 or 3 0 or 3 0 or 3 0 or 3 0 or 3	0 3 0 0 0
AC			/15	3
NUMBER OF HOMES	A 0 to 30 B 31 to 60 C 61 to 90 D 91 to 120 E > 120		1 2 3 4 5 /5	5 5
ECONOMIC RISK	Average Property Valu A \$0 - \$300 C B \$300 001 - C \$500 001 - D > \$750 000 Avg Home	00 \$500 000 \$750 000	1 2 3 4 /4	1
VALUES AT RISK	Presence of: A Critical Infr B Dangerous C Special Val	Goods Infrastructure	0 or 3 0 or 3 0 or 3 /9	3 3 3 9
POLITICAL RISK	programs B Local medi programs C Regional m	ia involvement and no structural impact to Emergency Services or a involvement and internal structural changes to Emergency Services or redia involvement, lack of public confidence, and external changes to Services or county government	1 2 3	1
	DENSITY OF	 A < 20 m between homes B 21 - 40 m between homes C 41 - 100 m between homes D > 100m between homes 	/3 3 2 1 0	1 3
	BARRIERS TO D FIRE SPREAD ST	AEastw/ Barrier within 200mBWestw/ Barrier within 200mCSouthw/ Barrier within 200mDNorthw/ Barrier within 200m	/3 0 or 2 0 or 4 0 or 4 0 or 2 /12	3 0 0 0 0 0
λLIN	FOREST FUEL PATCH SIZE	 A No forest patch present within community B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary D Patch > 3 ha within community boundary 	0 1 3 5 /5	1
DEFENSIBILITY OF COMMUNITY	RESIDENTIAL FIRESMART	A 0-20 % B 21-40 % C 41-60 % D 61-80 % E 81-100 %	4 3 2 1 0 /4	4
DEFENSI	FUEL MAIN- TENANCE REQUIRED	 A Utility ROW maintenance B Fuel maintenance required - other agency C Fuel maintenance required - municipality 	0 or 1 0 or 1 0 or 1 /3	1 0 0 1
	ACCESS	 A Road width is equal to or greater than 7 m B Loop turnarounds/ cul-de-sacs are suitable for large fire C 2 or more means of egress D Standard visible lot signage 	0 or 1 0 or 1 0 or 1 0 or 1 /4	1 0 0 0 1
	SUPPRESSION CAPABILITY	 A Responding Fire Department has proper equipment for bush fires B Fire fighters have basic wildfire fighting training C Mutual Aid Agreements are present D Within an adequate distance to fire station and water supply 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0
			TOTAL:	29

COMMUNITY:				Village of Ryley		INHERENT	
	COMMONT 1: Village of Kyley			Village of Kyley	Rating	Scores	
	FUEL TYPES		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer		0 or 1 0 or 2 0 or 3 0 or 2	1 2 0 2	
		5		E C Fuels - Conifer	0 or 4	0 5	
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slop Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	e 0 to 6 /6	2 2	
RENCE	PROBABILITY OF EXTREME FIRE BURNING BEHAVIOR BURNING BEHAVIOR BURNING BEHAVIOR BURNING BEHAVIOR BURNING BEHAVIOR BURNING BURNI		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1	
OF OCCURI			LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3	
ГІКЕГІНООІ				 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 1 1 2	
				 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	0 0 1 1	
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1	
	Consequer	nce x Likelił	nood = INHI	RENT RISK 435	TOTAL:	15	
				Risk Matrix Moderat	e		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Cultural Point Lindbrook		RENT
connin		Cultural Point Linubrook	Rating	Scores
E	A Lake		0 or 3	3
SA	B Large Non-Fuel Surface		0 or 3	3
NE		ea (Vegetation Maintained)	0 or 3	0
ESS TO (ZONES	D County Roa		0 or 3	0
ACCESS TO SAFE ZONES	E Subdivision	n Road	0 or 3	0
4			/15	6
LL.	A 0 to 30		1	1
r o S	B 31 to 60		2	
JMBER (HOMES	C 61 to 90		3	
NUMBER OF HOMES	D 91 to 120		4	
z	E > 120		5 /5	1
	Average Property Valu	<u>م</u>	/3	1
š	A \$0 - \$300 C		1	
R	B \$300 001 -		2	2
ы	C \$500 001 -		3	-
Q	D > \$750 000		4	
ECONOMIC RISK		Cost: \$ 487,006		
ш	Ū		/4	2
L	Presence of:			
	A Critical Infr	astructure	0 or 3	3
LUES RISK	B Dangerous	Goods Infrastructure	0 or 3	3
VALUES AT RISK	C Special Val	ues	0 or 3	3
			/9	9
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs			
L R	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
CA	programs			
5	C Regional m	edia involvement, lack of public confidence, and external changes to	3	
Dd	Emergency	Services or county government		
			/3	1
	E S	A < 20 m between homes	3	3
	DENSITY OF STRUCTURES	B 21 - 40 m between homes	2	
		C 41 - 100 m between homes	1	
	DEN	D > 100m between homes	0	
			/3	3
	AD AD	A East w/ Barrier within 200m	0 or 2	
	RS RE/	B West w/ Barrier within 200m	0 or 4	
	RIE SP	C South w/ Barrier within 200m	0 or 4	4
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	
		A No forget noteb present within community	/12 0	4
	UEL ZE	A No forest patch present within community		
	E IS H	 B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary 	1 3	3
	FOREST FU PATCH SIZ	D Patch > 3 ha within community boundary	5	5
È	P2		/5	3
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	4
ž	AL XI	B 21-40 %	3	
<u> </u>	1AF	C 41-60 %	2	
ъ	RESIDENTIAI FIRESMART	D 61-80 %	1	
È	RESIDENTIAL FIRESMART	E 81-100 %	0	
BIL			/4	4
ISN	Żщ Q	A Utility ROW maintenance	0 or 1	1
H	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
ā		C Fuel maintenance required - municipality	0 or 1	0
	∃ = %		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	0
	Ā	D Standard visible lot signage	0 or 1	0
			/4	0
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	No ≿	fires		
	SSI	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	CAF	D	0 or 1	0
	s ,	Within an adequate distance to fire station and water supply	14	-
			/4	0
			TOTAL:	34

	COMMUNITY:			Cultural Point Lindbrook		INHERENT	
					Rating	Scores	
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2 2 2	
RENCE	PROBABILITY OF EXTREME FIRE BEHAVIOR RESIDENTIAL BURNING PRESENT LANDSCAPE IGNITION FUEL STRUCTURE PROBABILITY OF EXTREME FIRE TYPES RESIDENTIAL LANDSCAPE IGNITION PRESENT FUEL STRUCTURE PROBABILITY OF EXTREME FIRE TYPES RESIDENTIAL LANDSCAPE IGNITION FUEL STRUCTURE		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1	
D OF OCCURF			LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3	
ПКЕЦНОО				 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	1 1 1 1 4	
				 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 1 1 3	
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1	
	Consequer	nce x Likelih	nood = INH		TOTAL:	19	
				Risk Matrix Moderate			

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Unnamed Subdivision 1	INHE	RENT
			Rating	Scores
AFE	A Lake		0 or 3 0 or 3	0
ACCESS TO SAFE ZONES	B Large Non-Fuel Surface			3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	3
ZC	D County Roa E Subdivision		0 or 3	0
ACC	E Subdivision	KOAO	0 or 3	0 6
	A 0 to 30		/15 1	1
н	B 31 to 60		2	1
JMBER (HOMES	C 61 to 90		3	
ABF ON	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
2	-		/5	1
	Average Property Valu	e:		
ECONOMIC RISK	A \$0 - \$300 0	00	1	1
IC H	B \$300 001 -	\$500 000	2	
Σ	C \$500 001 -	\$750 000	3	
DNC	D > \$750 000		4	
ECC	Avg Home	Cost: \$ 250,000		
			/4	1
۹T	Presence of:	octructuro	0 == 2	2
VALUES AT RISK	A Critical Infr	astructure Goods Infrastructure	0 or 3 0 or 3	3
ALUES RISK	•		0 or 3 0 or 3	0
۸A	C Special Val	Jes	/9	0
	A Local med	a involvement and no structural impact to Emergency Services or	/9 1	3
X	programs	a monoment and no structural impact to Emergency services of	Т	T
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
CAL	programs	a involvement and internal strateard endiges to Energency services of	-	
Ш		edia involvement, lack of public confidence, and external changes to	3	
JO .	-	Services or county government	-	
-			/3	1
	L S	A < 20 m between homes	3	3
	JRE O	B 21 - 40 m between homes	2	
	SIT	C 41 - 100 m between homes	1	
	DENSITY OF STRUCTURES	D > 100m between homes	0	
	D		/3	3
	5 Q	A East w/ Barrier within 200m	0 or 2	0
	t S 1 REA	B West w/ Barrier within 200m	0 or 4	4
	SPI	C South w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
			/12	6
	E E	A No forest patch present within community	0	
	I FL	B Patch 0.1 - 0.9 ha within community boundary	1	
		C Patch 1 - 2.9 ha within community boundary	3	_
È	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5 /5	5 5
DEFENSIBILITY OF COMMUNITY	-	A 0-20 %	75 4	5 4
≥ S	₹ E	B 21-40 %	4	4
LO LO	IAR	C 41-60 %	2	
Ğ	DEr	D 61-80 %	1	
Σ	RESIDENTIAL FIRESMART	E 81-100 %	0	
BILI	œ —		/4	4
ISN	<u>z</u> ω ο	A Utility ROW maintenance	0 or 1	1
EFE	FUEL MAIN. TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
ā	ELI	C Fuel maintenance required - municipality	0 or 1	0
	E H		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	1
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACCESS	C 2 or more means of egress	0 or 1	1
	Ă	D Standard visible lot signage	0 or 1	1
			/4	4
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	No≿	fires		
	SSI 81LT	B Fire fighters have basic wildfire fighting training	0 or 1	0
	UPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D Within an adoquate distance to fire station and water supply	0 or 1	0
	s	Within an adequate distance to fire station and water supply	/4	0
				0
			TOTAL:	35

COMMUNITY:				Unnamed Subdivision 1		INHERENT	
	COMMONT 1.			Offinanted Subdivision 1		Scores	
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 0 0 6	
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6 /6	2 2	
RENCE	LIKELIHOOD OF OCCURRENCE PROBABILITY OF EXTREME FIRE BEHAVIOR BEHAVIOR BEHAVIOR BEHAVIOR ALLOWED BELANIOR BELAVIOR BELAVIOR BELAVIOR BELAVIOR BELAVIOR BELAVIOR BELAVIOR ALLOWED SOURCES DEAD & DOWN FUEL DEAD & DOWN		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1	
D OF OCCURI			LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3	
ГІКЕГІНООІ				 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
				 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1	
	Consequer	nce x Likelih	nood = INH		TOTAL:	16	
				Risk Matrix Moderate			

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Unnamed Subdivision 2		RENT
			Rating	Scores
FE	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	B Large Non-Fuel Surface		0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	0
ZC	D County Roa		0 or 3	3
ACC	E Subdivision	N KOad	0 or 3	0
`	A 0 to 30		/15	9
۳.	A 0 to 30 B 31 to 60		1 2	1
R C ES	C 61 to 90		3	
JMBER (HOMES	D 91 to 120		4	
NUMBER OF HOMES	E > 120		4 5	
2	L / 120		/5	1
	Average Property Valu	le:	7-	
ISK	A \$0 - \$300 0		1	1
СК	B \$300 001 -	\$500 000	2	
Σ	C \$500 001 -	\$750 000	3	
ON NO	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 250,000		
_			/4	1
F	Presence of:			
VALUES AT RISK	A Critical Infr		0 or 3	3
LUES RISK	, e	Goods Infrastructure	0 or 3	3
VAI	C Special Val	ues	0 or 3	0
-			/9	6
~		ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs	a involvement and internal structure labor and the second state	2	
ALF		a involvement and internal structural changes to Emergency Services or	2	
20	programs		2	
GLI	-	edia involvement, lack of public confidence, and external changes to	3	
ă	Emergency	Services or county government	/3	
		A 20 m between homes	/3 3	1
	DENSITY OF STRUCTURES	A < 20 m between homes B 21 - 40 m between homes	3 2	
	₽Ē	C 41 - 100 m between homes	1	1
	DENSITY OF	D > 100 m between homes	0	T
	DE		/3	1
	0.0	A East w/ Barrier within 200m	0 or 2	0
	S TC EAL	B West w/ Barrier within 200m	0 or 4	0
	ER	C South w/ Barrier within 200m	0 or 4	4
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
	BA		/12	6
		A No forest patch present within community	0	
	E UE	B Patch 0.1 - 0.9 ha within community boundary	1	
	CH ST	C Patch 1 - 2.9 ha within community boundary	3	
7	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	24		/5	5
Ξ		A 0-20 %	4	
Σ	IIAI	B 21-40 %	3	3
Ŭ	EN	C 41-60 %	2	
Ō	RESIDENTIAL FIRESMART	D 61-80 %	1	
Ĺ,	E R	E 81-100 %	0	
SIB		A Litility DOW maintenance	/4	3
Z H	FUEL MAIN TENANCE REQUIRED	A Utility ROW maintenance	0 or 1	1
DEF	A A A	B Fuel maintenance required - other agency	0 or 1	0
_	ŭE KEA	C Fuel maintenance required - municipality	0 or 1 /3	0
		A Road width is equal to or greater than 7 m	0 or 1	0
	s	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1 0 or 1	0
	ES	C 2 or more means of egress	0 or 1 0 or 1	1
	ACCESS	D Standard visible lot signage	0 or 1	1
			/4	2
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	z.	fires		Ŭ
		B Fire fighters have basic wildfire fighting training	0 or 1	0
	(BIL	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	C SU	Within an adequate distance to fire station and water supply		
			/4	
			/4	0

COMMUNITY:				Unnamed Subdivision 2		INHERENT	
	COMMONT 1.			Unnamed Subdivision 2		Scores	
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3	
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6 /6	2 2	
RENCE	LIKELIHOOD OF OCCURRENCE PROBABILITY OF EXTREME FIRE EXTREME FIRE BEHAVIOR BURNING BURNING BEHAVIOR BURNING B		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1 1	
D OF OCCURI			LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3	
ГІКЕГІНООІ				 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2	
				 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1	
	Consequer	nce x Likelih	nood = INH		TOTAL:	14	
				Risk Matrix Moderate			

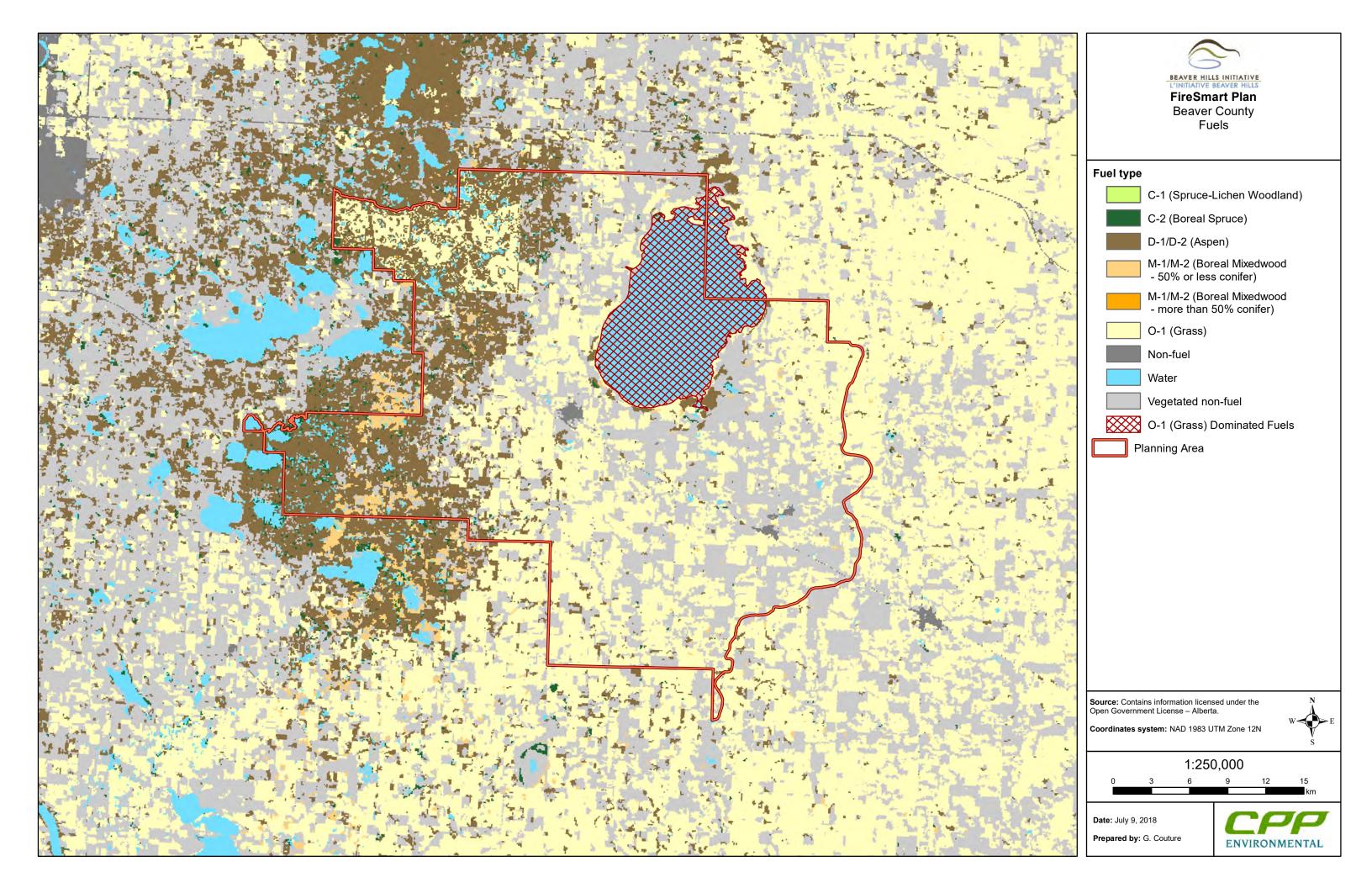
Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Unnamed Subdivision 3	INHE	RENT
comm		official subdivision 5	Rating	Scores
ΓE	A Lake		0 or 3	0
ACCESS TO SAFE ZONES	B Large Non-Fuel Surface		0 or 3	3
ESS TO (ZONES		ea (Vegetation Maintained)	0 or 3	3
ESS	D County Roa		0 or 3	0
VCC	E Subdivisior	Road	0 or 3	0
4			/15	6
LL.	A 0 to 30		1	1
NUMBER OF HOMES	B 31 to 60		2	
JMBER (HOMES	C 61 to 90		3	
MUA	D 91 to 120		4	
Z	E > 120		5 /5	
	Average Property Valu	a:	/5	1
X	A \$0 - \$300 C		1	
RIS	B \$300 001 -		2	2
AIC VIC	C \$500 001 -		3	2
LON ON	D > \$750 000		4	
ECONOMIC RISK		Cost: \$ 376,293	4	
E	Avg nome	Cost. \$ 570,255	/4	2
	Presence of:		,-	2
АТ	A Critical Infr	astructure	0 or 3	3
LUES		Goods Infrastructure	0 or 3	0
VALUES AT RISK	C Special Val		0 or 3	0
>			/9	3
	A Local med	a involvement and no structural impact to Emergency Services or	1	1
×	programs	a more thank to serve and in part to Emergency services of	1	-
POLITICAL RISK	1 0	a involvement and internal structural changes to Emergency Services or	2	0
CAL	programs	a monvement and internal strattard changes to Emergency services of	-	Ũ
Ш		edia involvement, lack of public confidence, and external changes to	3	0
or	-	Services or county government	0	Ŭ
ц.	Emergency	Services of county government	/3	1
		A < 20 m between homes	3	
	OF	B 21 - 40 m between homes	2	2
	DENSITY OF STRUCTURES	C 41 - 100 m between homes	1	-
	RNS	D > 100m between homes	0	
	STI		/3	2
	0.0	A East w/ Barrier within 200m	0 or 2	2
	BARRIERS TO FIRE SPREAD	B West w/ Barrier within 200m	0 or 4	0
	PRI	C South w/ Barrier within 200m	0 or 4	0
	RRI KE S	D North w/ Barrier within 200m	0 or 2	0
	BA FIR		/12	2
		A No forest patch present within community	0	_
	UEL	B Patch 0.1 - 0.9 ha within community boundary	1	
	ST F CH S	C Patch 1 - 2.9 ha within community boundary	3	
<u> </u>	FOREST FU PATCH SIZ	D Patch > 3 ha within community boundary	5	5
Ę	면 모		/5	5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	4
ž	т AL	B 21-40 %	3	
Ō	1AF	C 41-60 %	2	
ä	ESN	D 61-80 %	1	
∠	RESIDENTIAL FIRESMART	E 81-100 %	0	
BILI	œ —		/4	4
IISN	Ż w O	A Utility ROW maintenance	0 or 1	1
EF	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
ä	EL N DUI	C Fuel maintenance required - municipality	0 or 1	0
	IJ II II	······································	/3	1
	-	A Road width is equal to or greater than 7 m	0 or 1	0
	Ś	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	CES	C 2 or more means of egress	0 or 1	0
	ACCESS	D Standard visible lot signage	0 or 1	1
			/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Ζ.	fires	0.01.1	Ŭ
		B Fire fighters have basic wildfire fighting training	0 or 1	0
	BIL	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	C SU	Within an adequate distance to fire station and water supply	0011	J
			/4	0
			TOTAL:	28

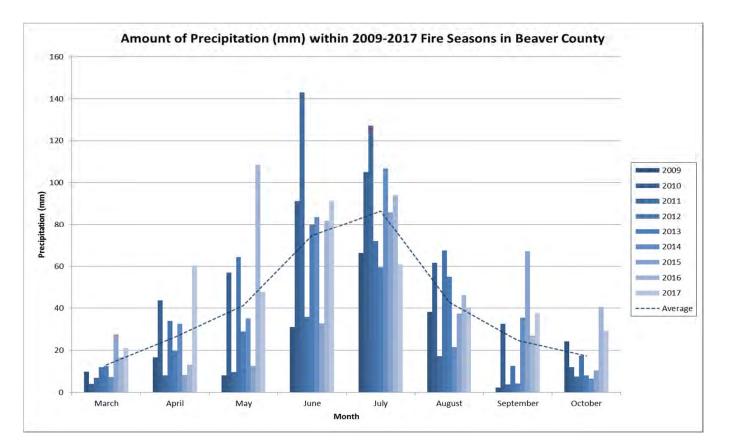
COMMUNITY:				Unnamed Subdivision 3		INHERENT	
	COMMONT 1.			offiamed Subdivision 5		Scores	
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5	
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	0 to 6 /6	2 2	
RENCE	PROBABILITY OF EXTREME FIRE BEHAVIOR RESIDENTIAL BURNING PRESENT LANDSCAPE LANDSCAPE FUEL STRUCTURE PROBABILITY OF EXTREME FIRE BEHAVIOR BURNING LANDSCAPE FUEL STRUCTURE PROBABILITY OF EXTREME FIRE BEHAVIOR PRESENT LANDSCAPE FUEL STRUCTURE		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1 1	
D OF OCCURI			LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3	
ГІКЕГІНОО				 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2	
				 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1	
	Consequer	nce x Likelih	nood = INH		TOTAL:	16	
				Risk Matrix Moderate			

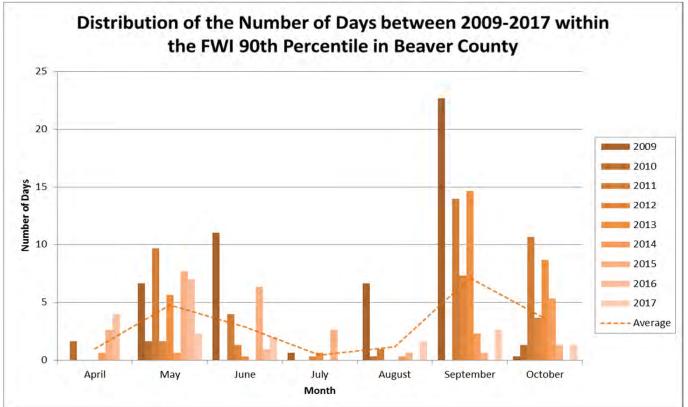
BHI - Beaver County – Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies, August 2018

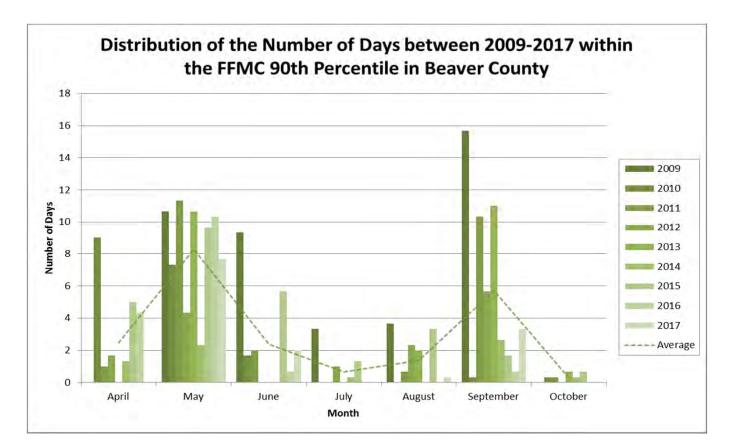
Appendix A4: Fuel Map

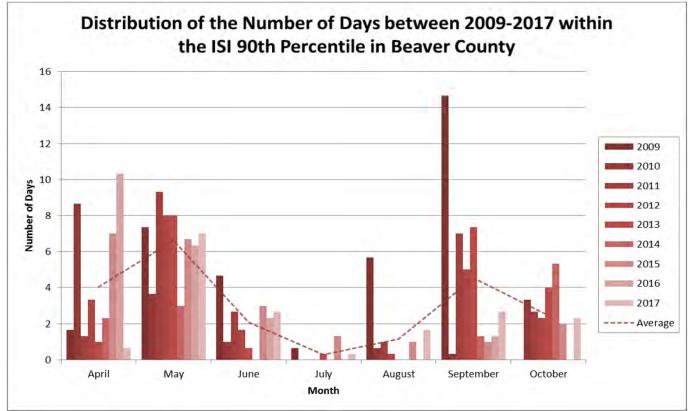


Appendix A5: Fire Season Weather and Fire Indices Charts



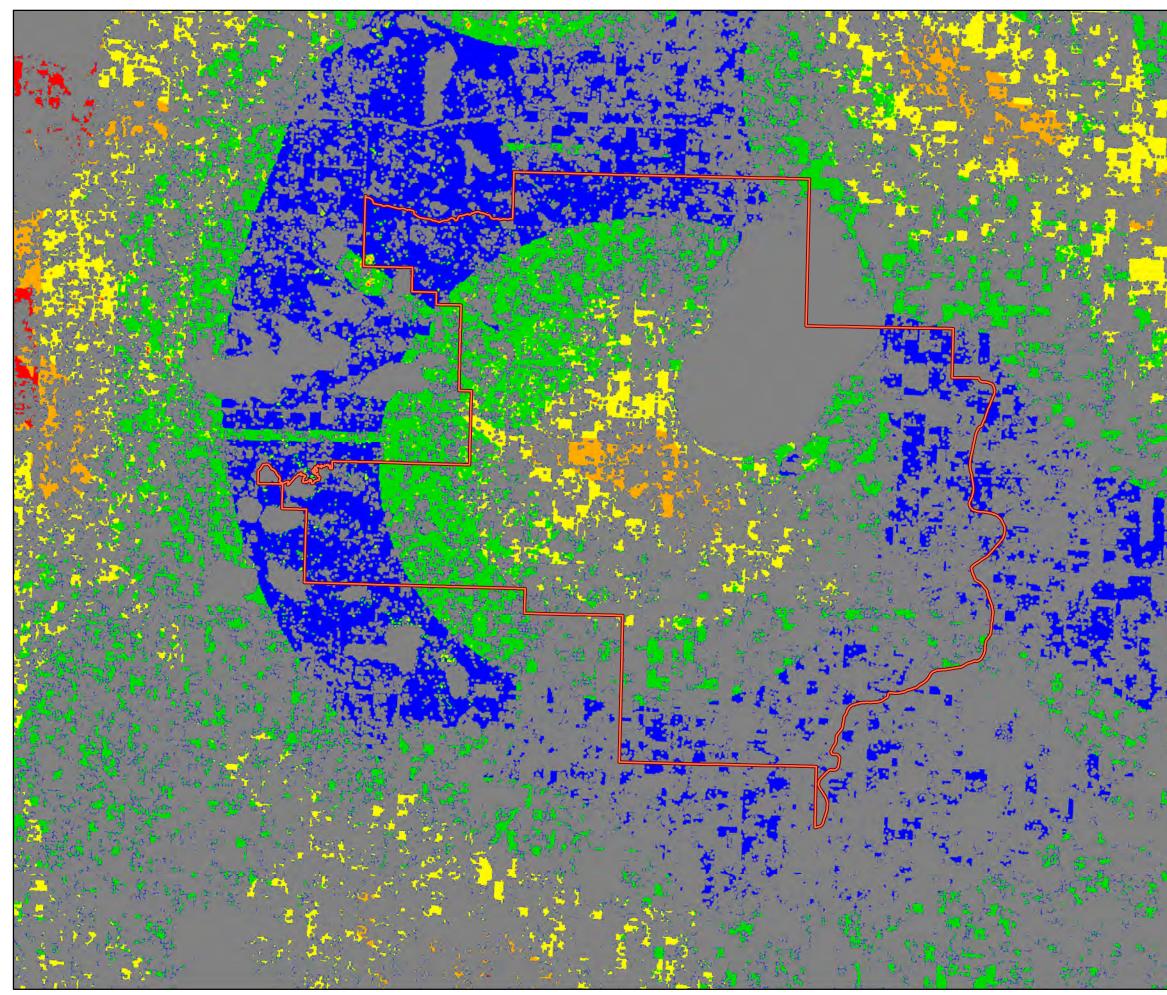






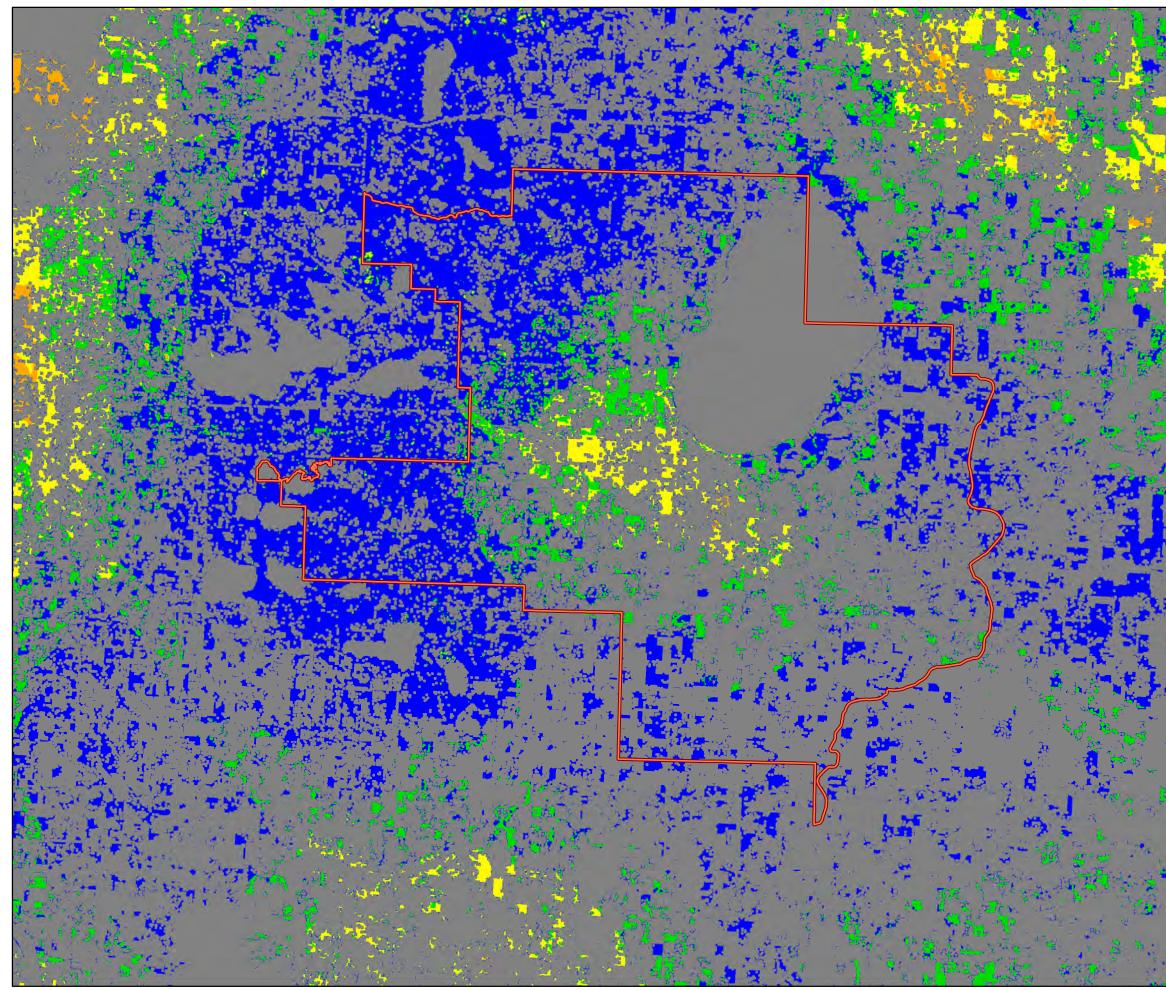
Appendix A6: Wildfire Threat Rating Maps

- Spring
- Summer
- Fall



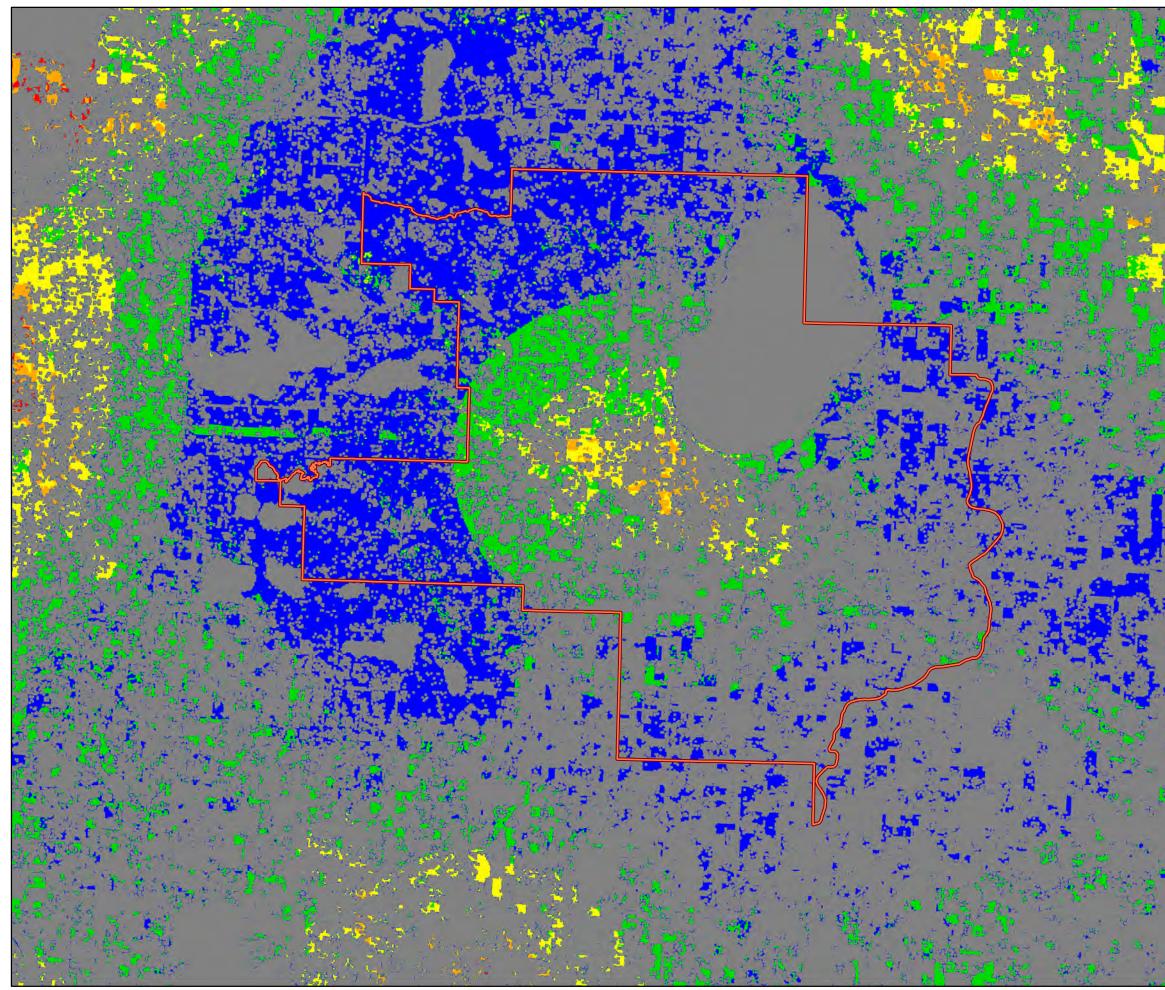


BEAVER HILLS INITIATIVE L'INITIATIVE BEAVER HILLS FireSmart Plan Beaver County Wildfire Threat Rating - Spring					
Wildfire Th	reat Rating	- Spring			
	Non-Fuel				
	Low Wildfire	Threat Potential			
	Moderate Wil	dfire Threat Pote	ntial		
	High Wildfire	Threat Potential			
	Very High Wi	Idfire Threat Pote	ential		
	Extreme Wild	lfire Threat Poten	tial		
Pla	anning Area				
			ν.		
Source: Contains information licensed under the Open Government License – Alberta. Coordinates system: NAD 1983 UTM Zone 12N					
· · · ·	V S				
		0,000	15		
0	3 6	9 12	15 km		
Date: April 20, 2 Prepared by: G			P		





BEAVER HILLS INITIATIVE L'INITIATIVE BEAVER HILLS FireSmart Plan Beaver County Wildfire Threat Rating - Summer					
Wildfire T	hreat Rating	- Summer			
	Non-Fuel				
		Threat Potential			
		Idfire Threat Pote	ential		
		Threat Potential			
	-	Idfire Threat Pot			
		Ifire Threat Pote			
	lanning Area		Iliai		
 ' ' '	idiiiiiiy Aisa				
Source: Contains information licensed under the Open Government License – Alberta.					
Coordinates system: NAD 1983 UTM Zone 12N					
	1:250	0,000			
0	3 6	9 12	15 km		
Date: April 20, Prepared by:		ENVIRONME			

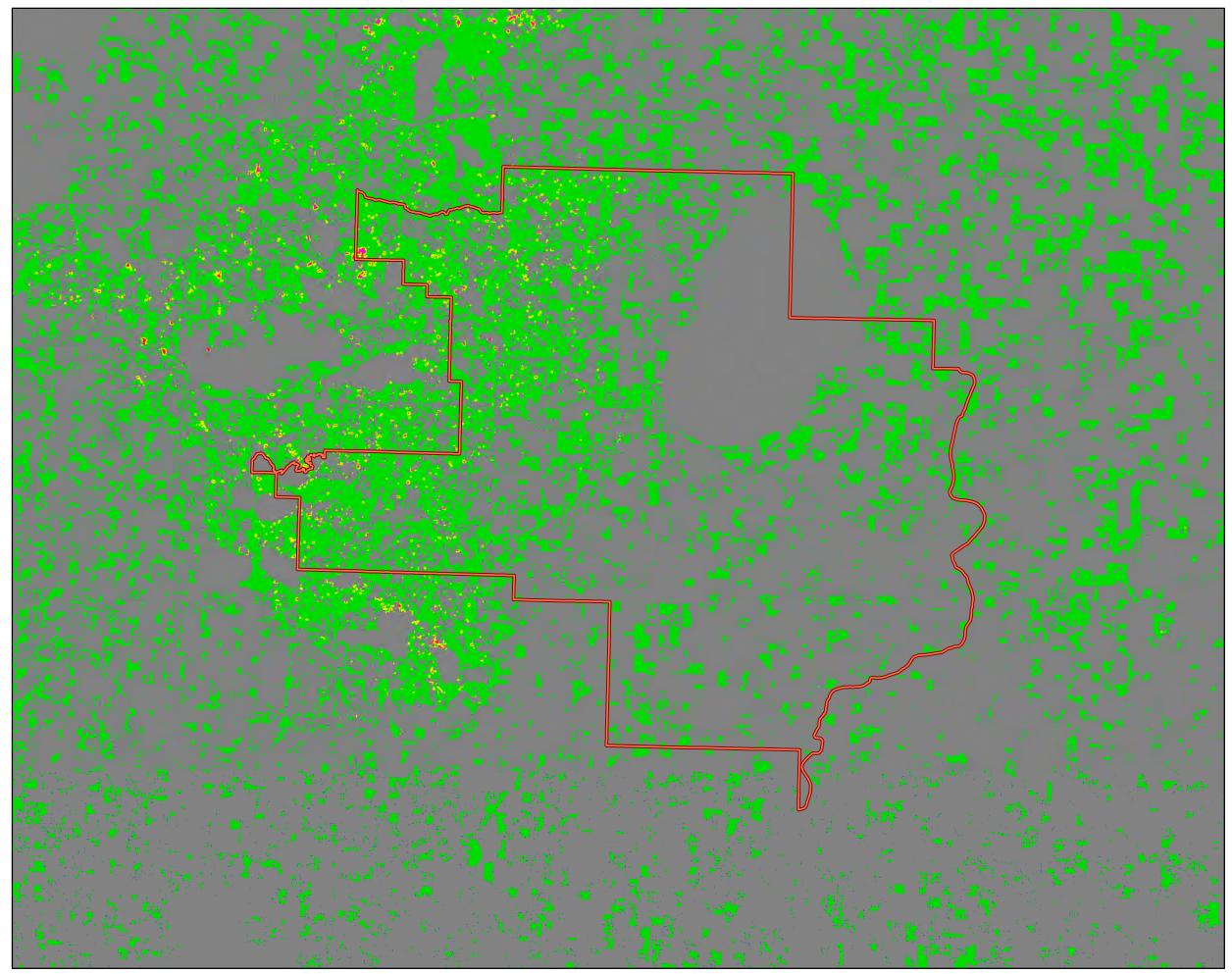




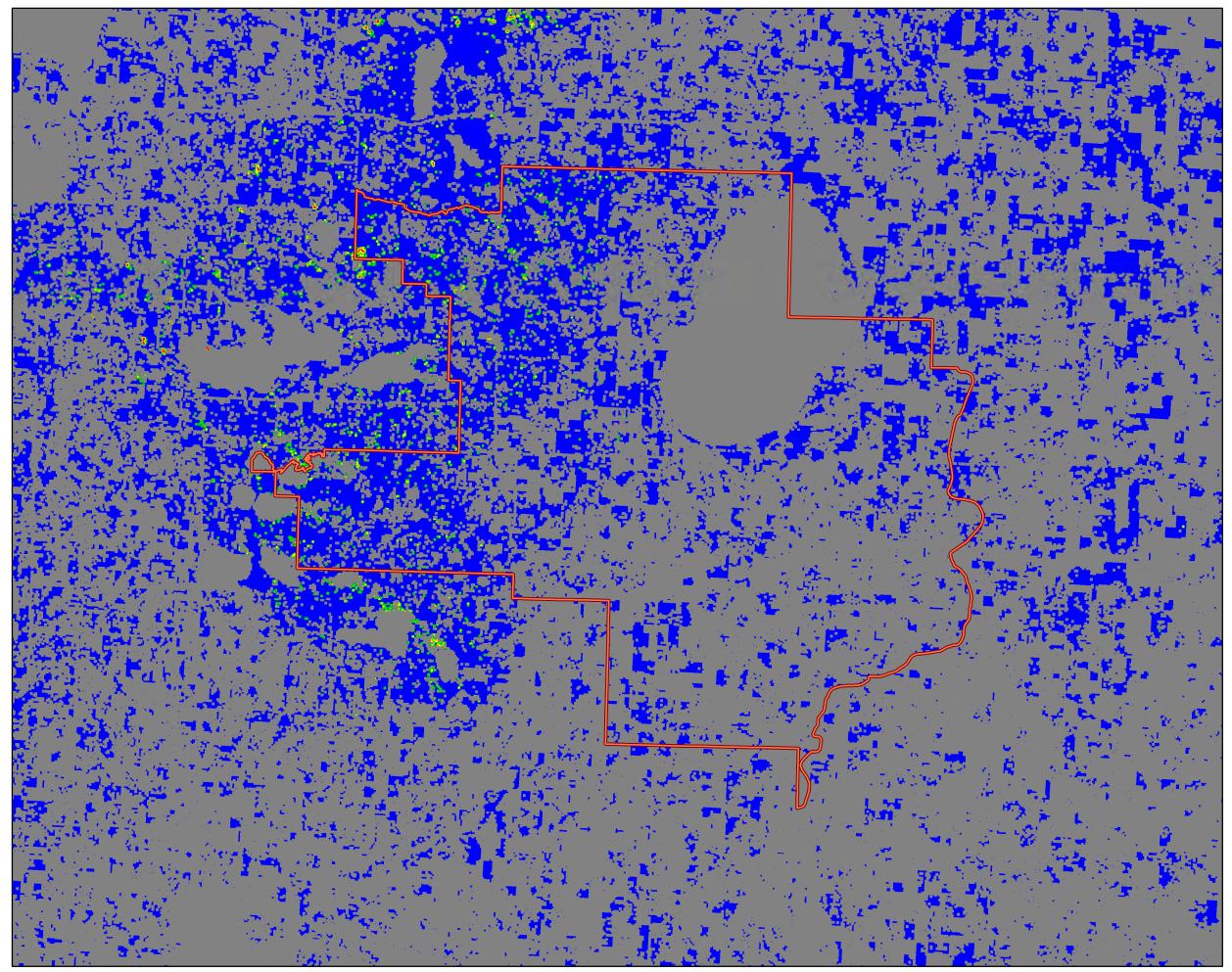
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Appendix A7: Wildfire Behaviour Potential Maps

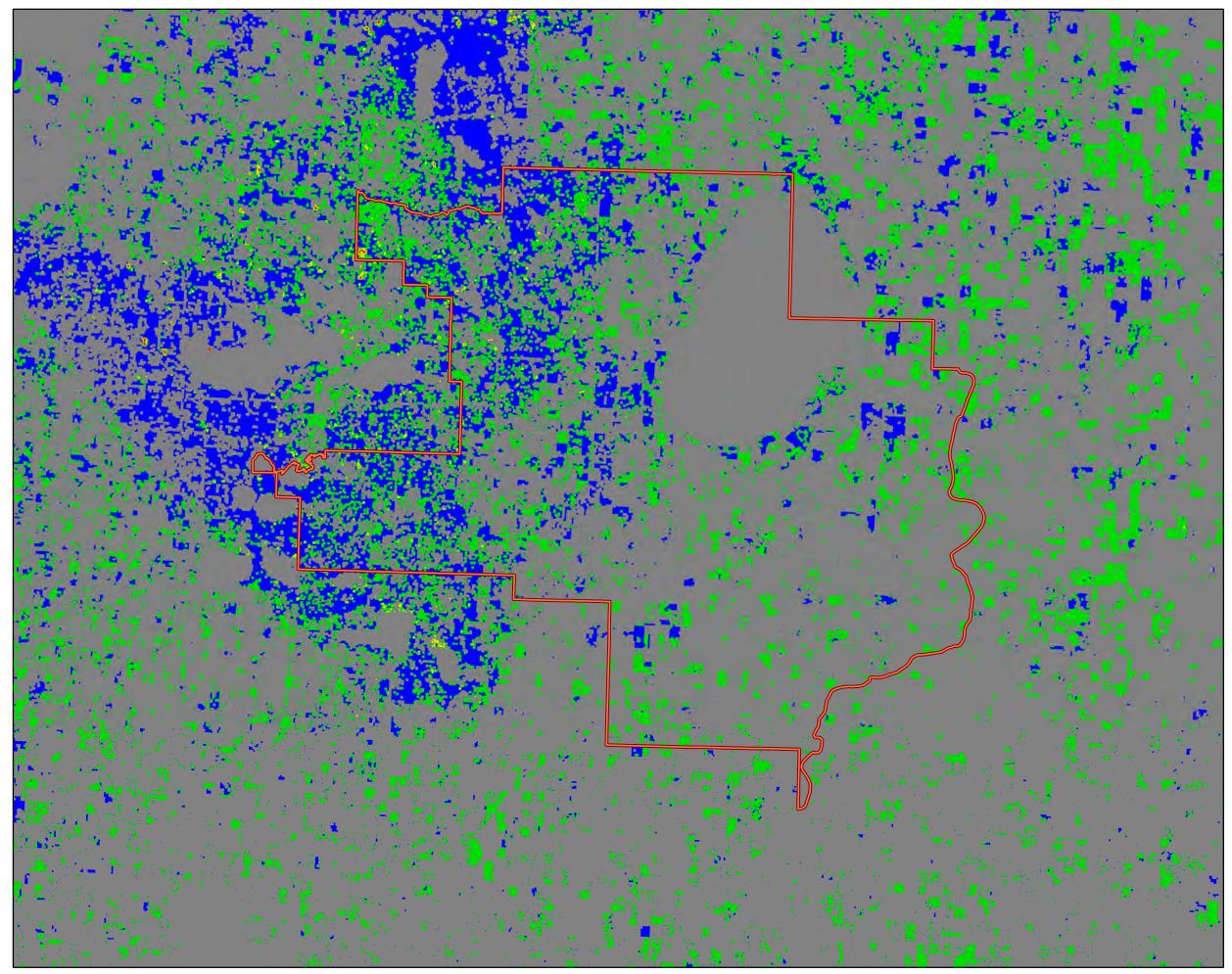
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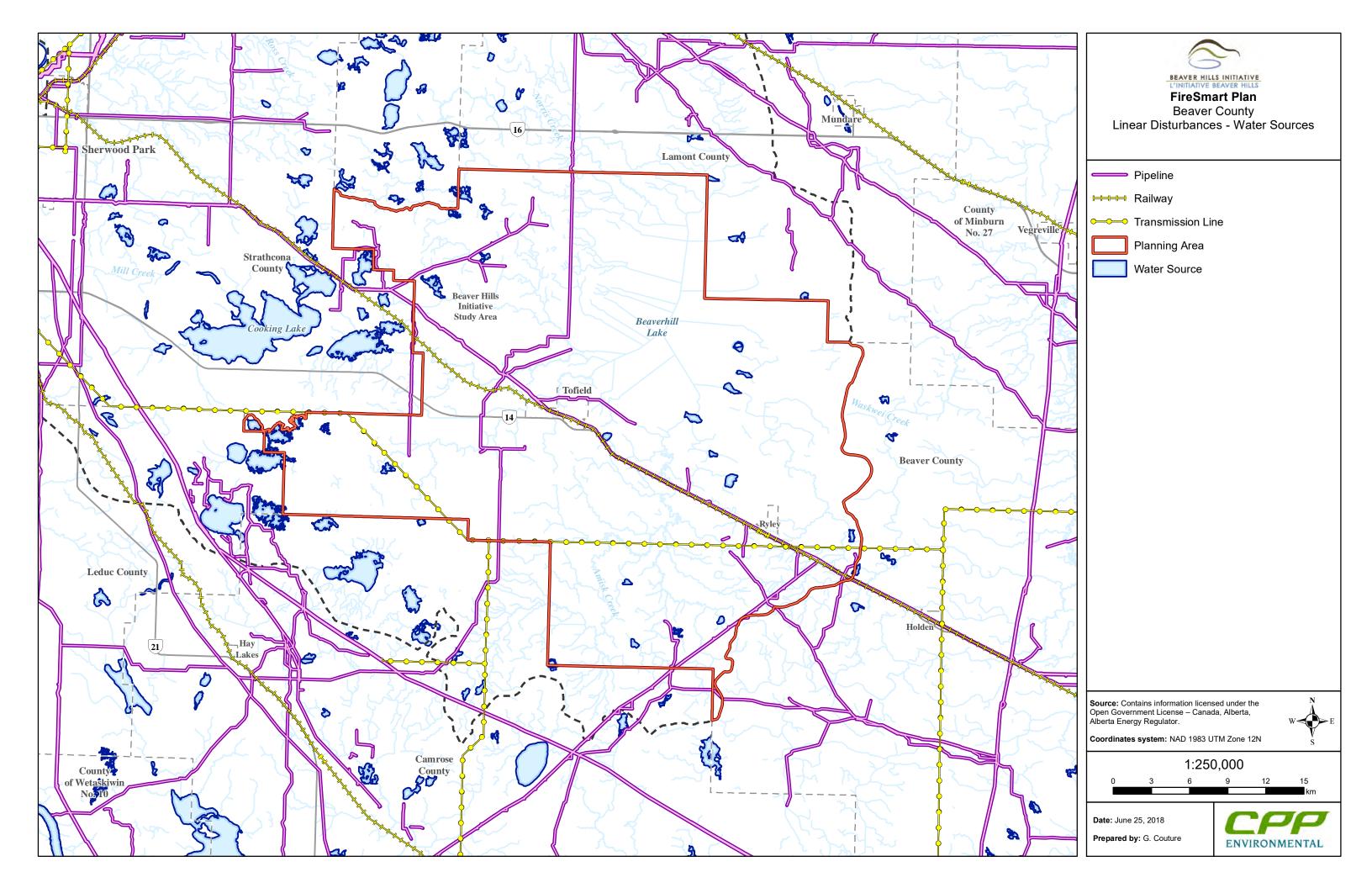


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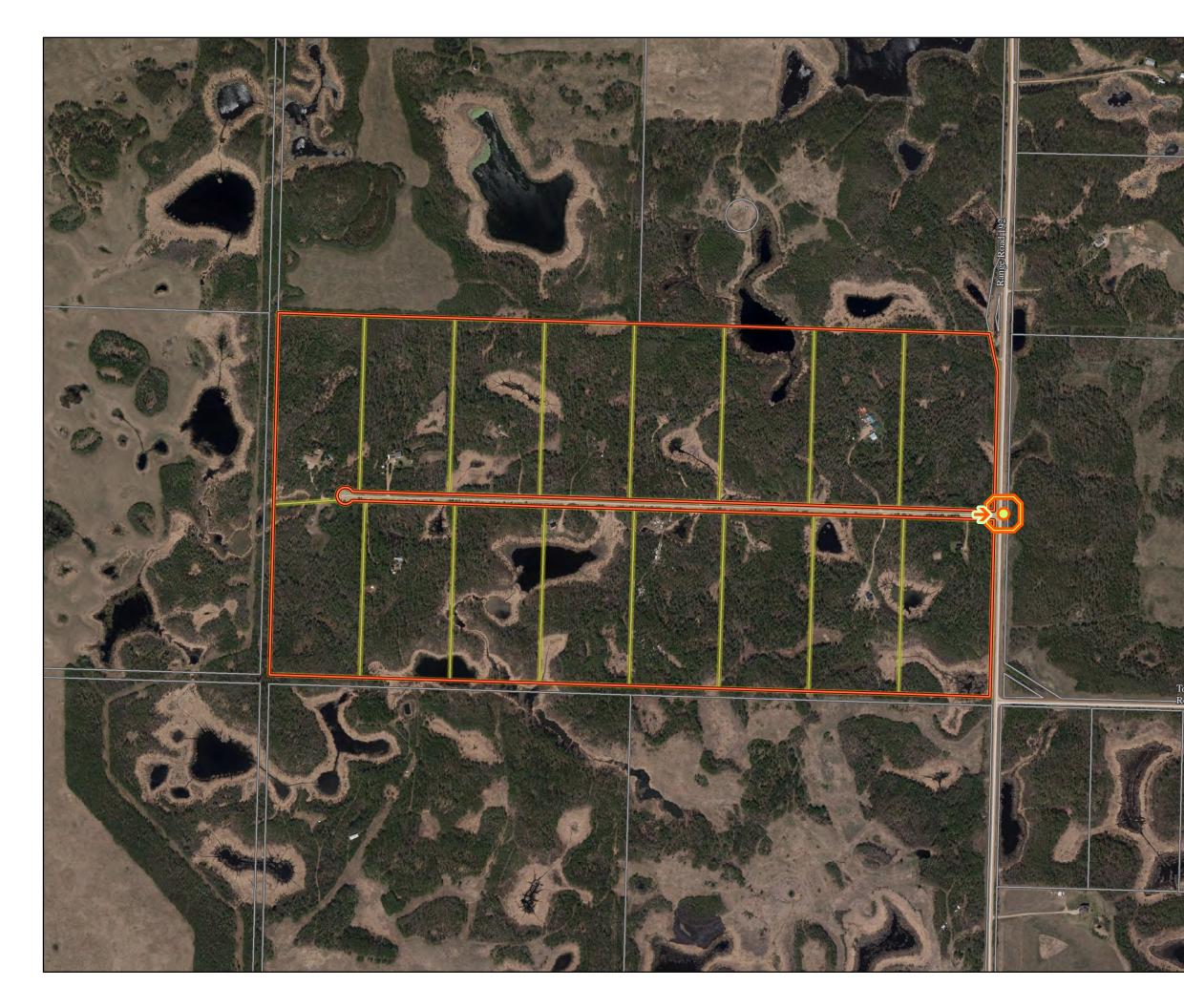


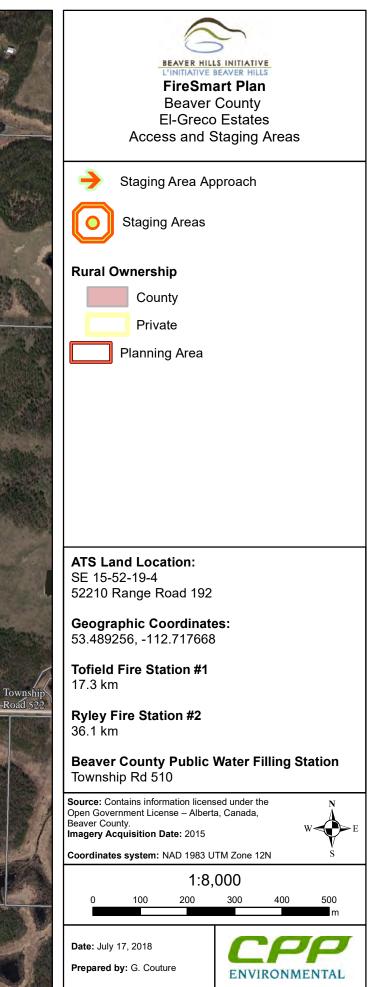
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Appendix A8: Linear Disturbance and Water Sources Map

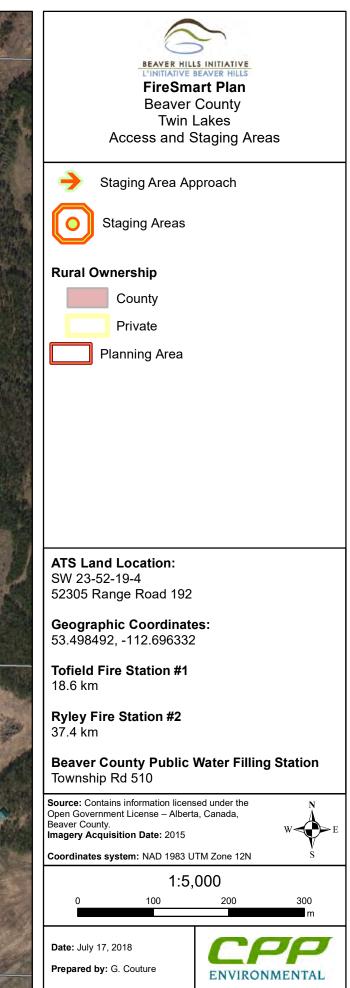


Appendix A9: Access and Staging Area Maps

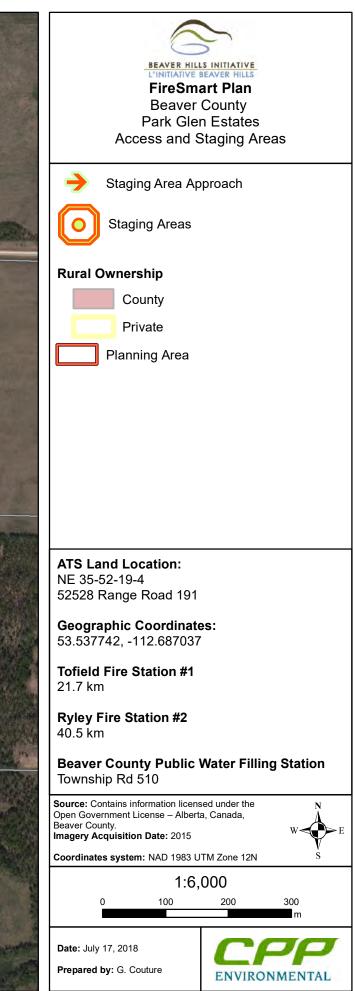


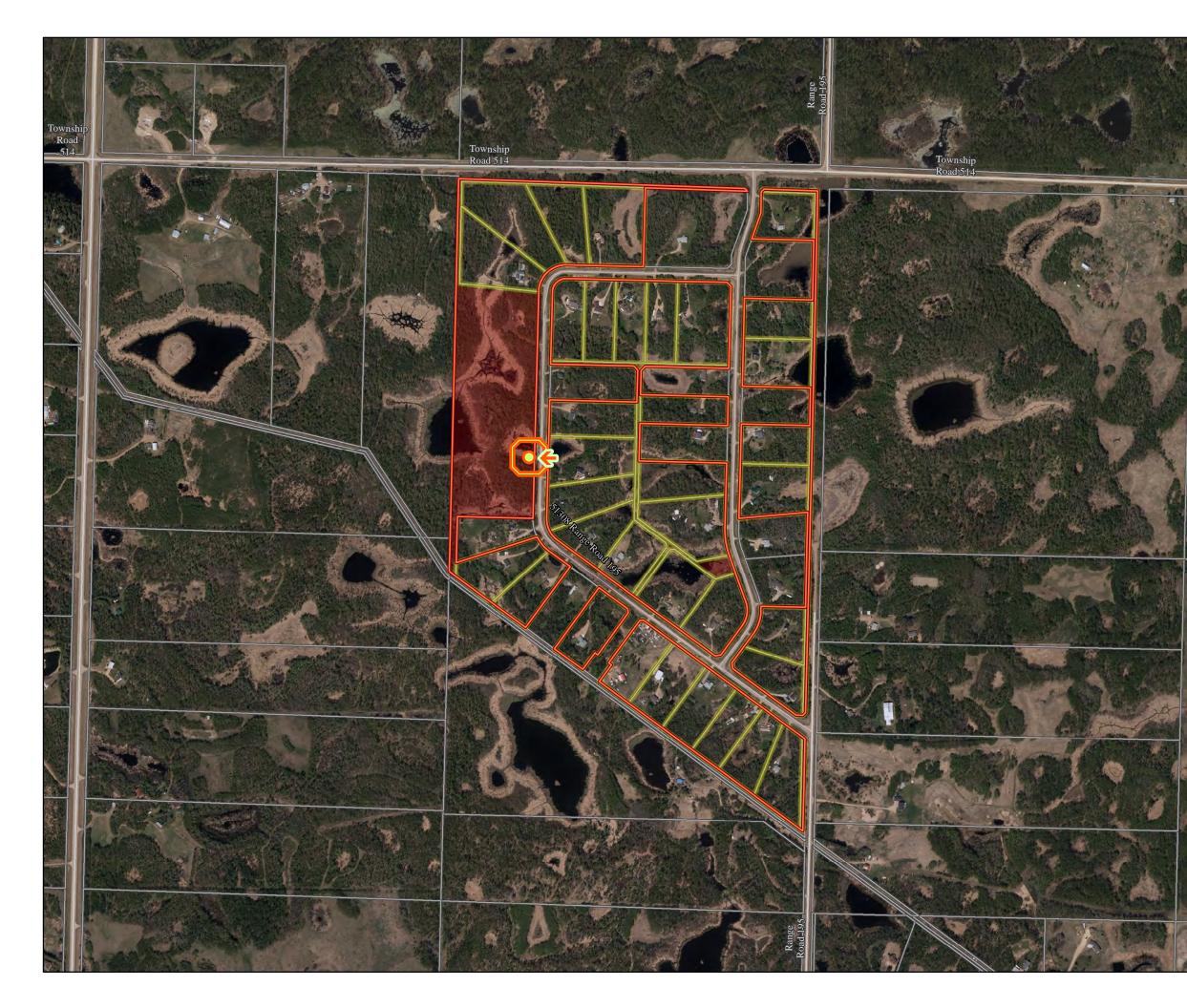


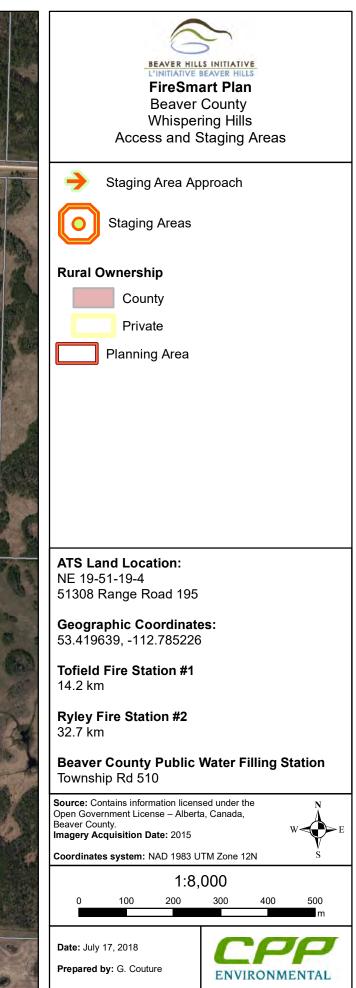




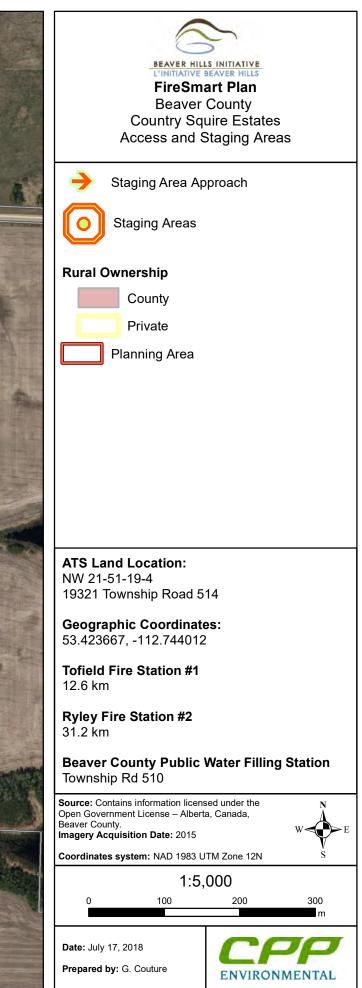




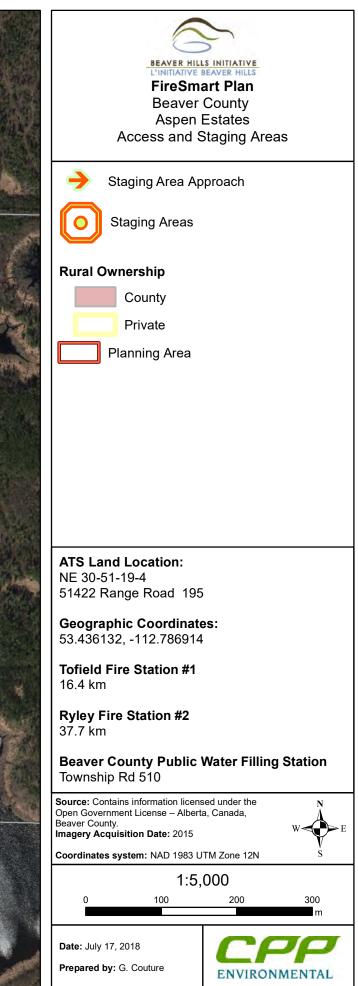


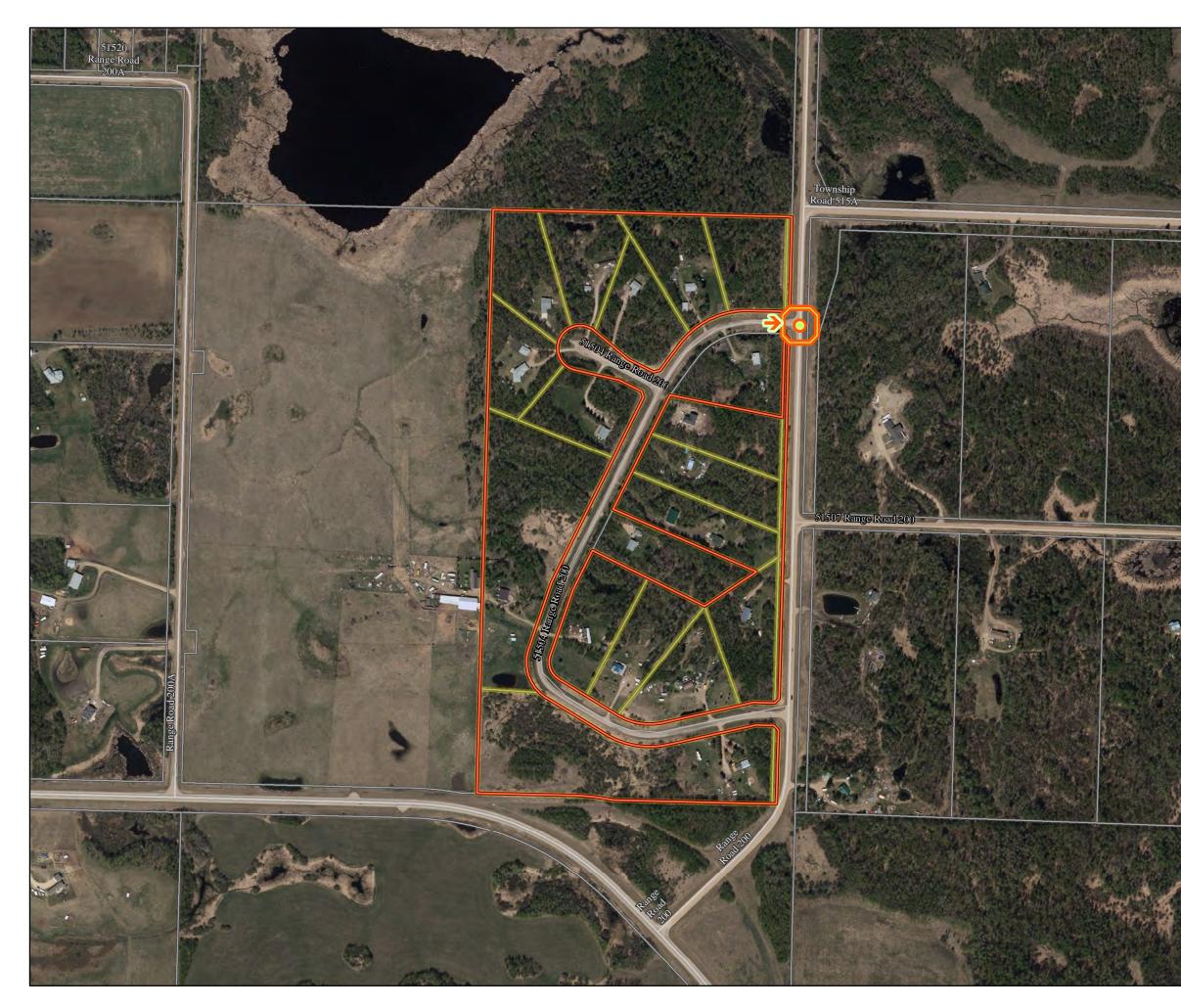


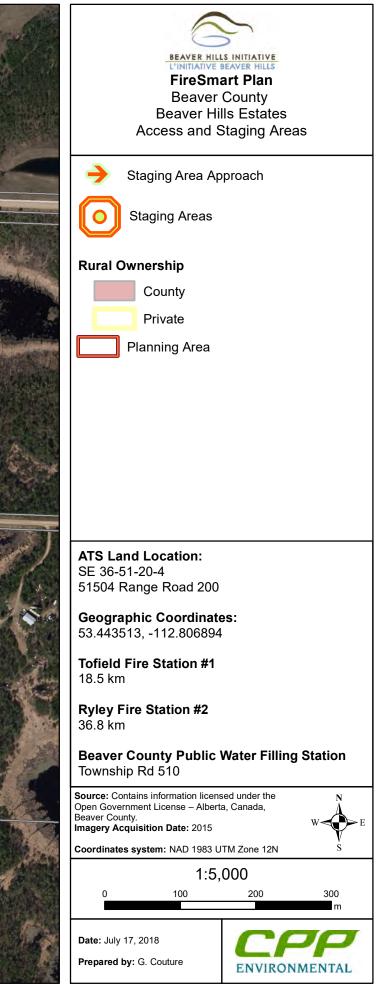


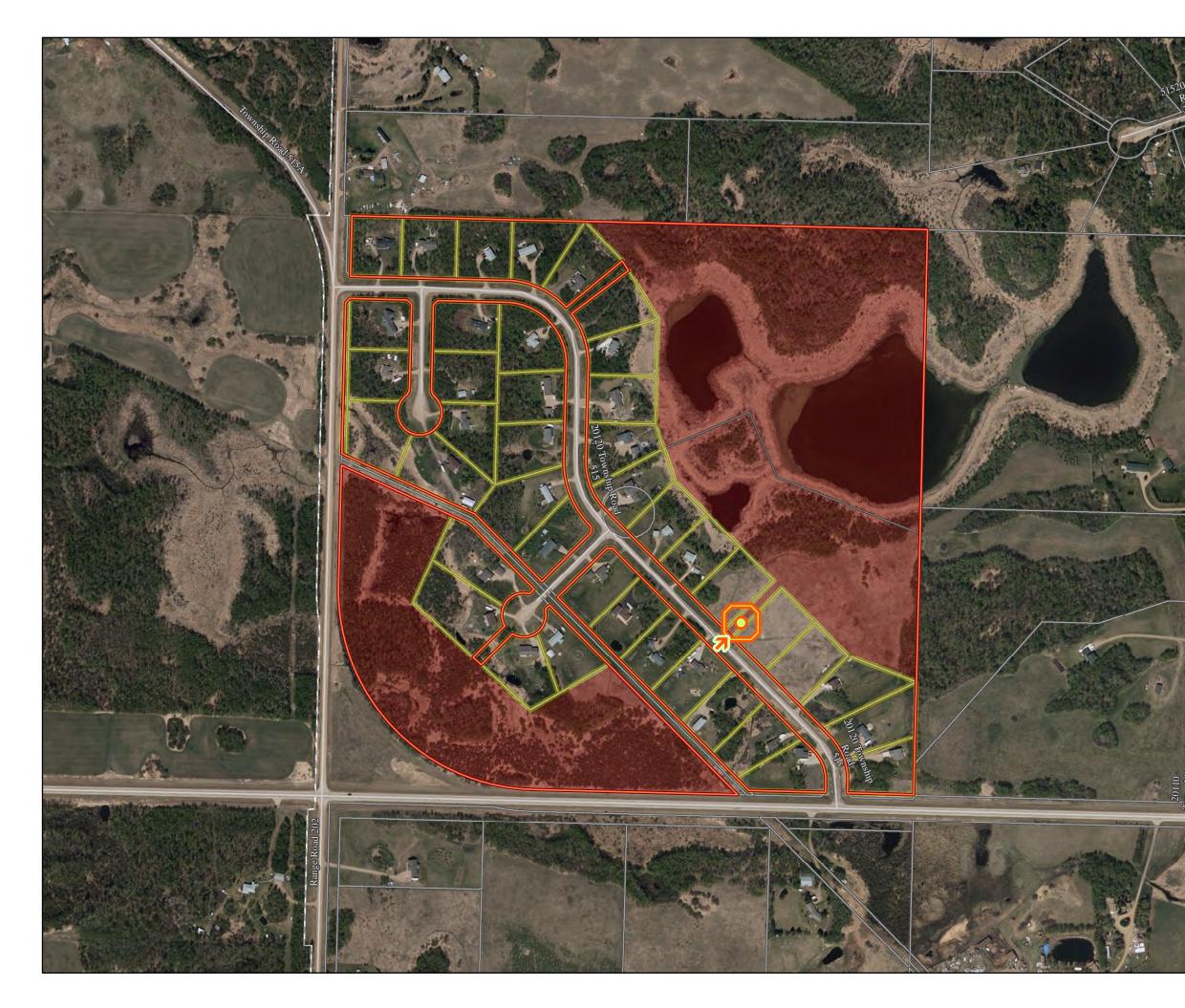


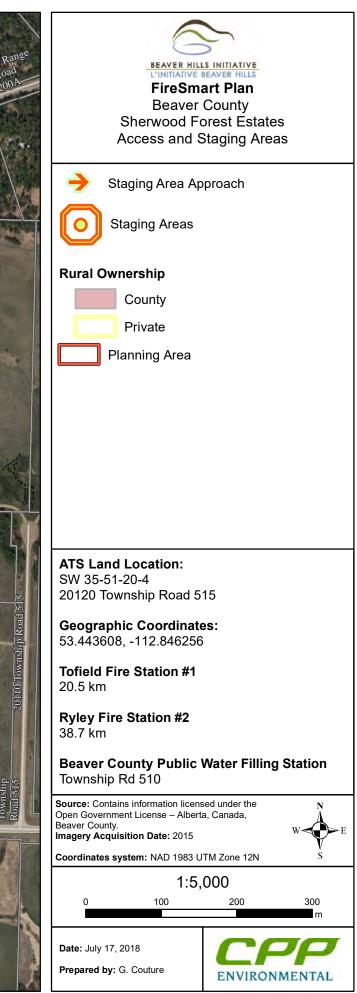


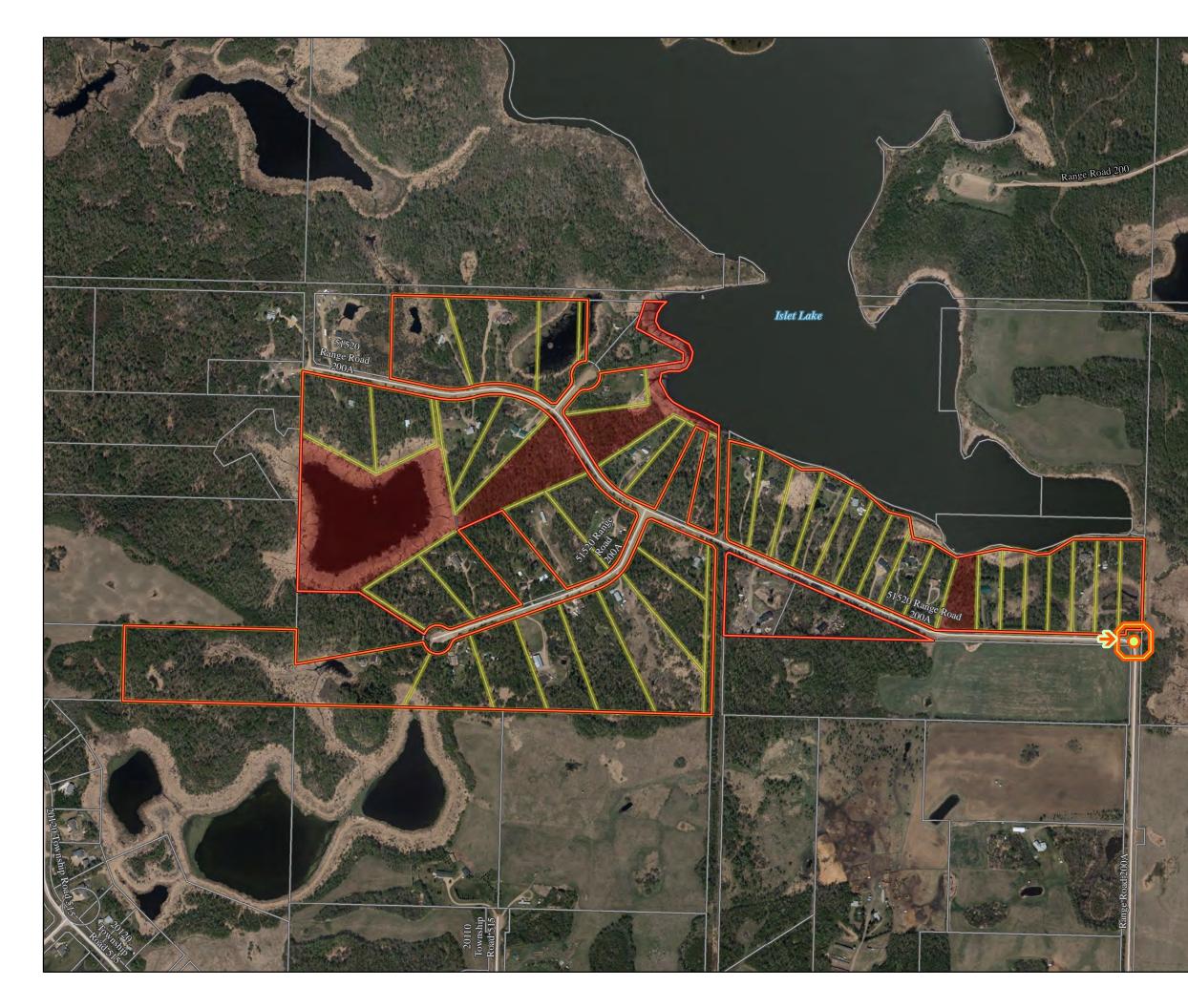


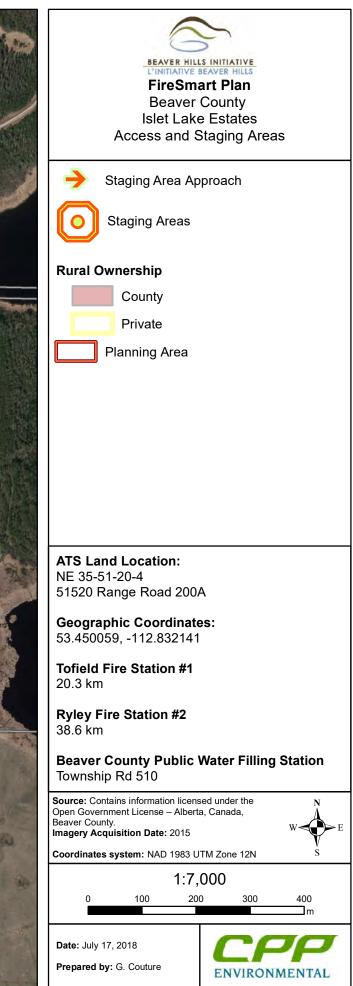




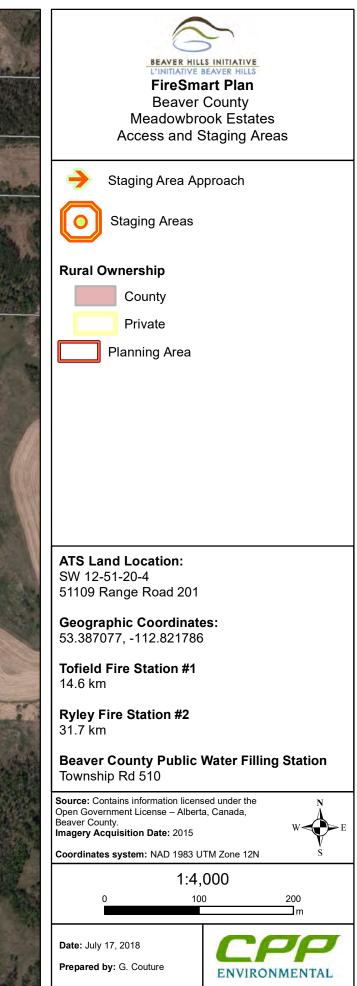


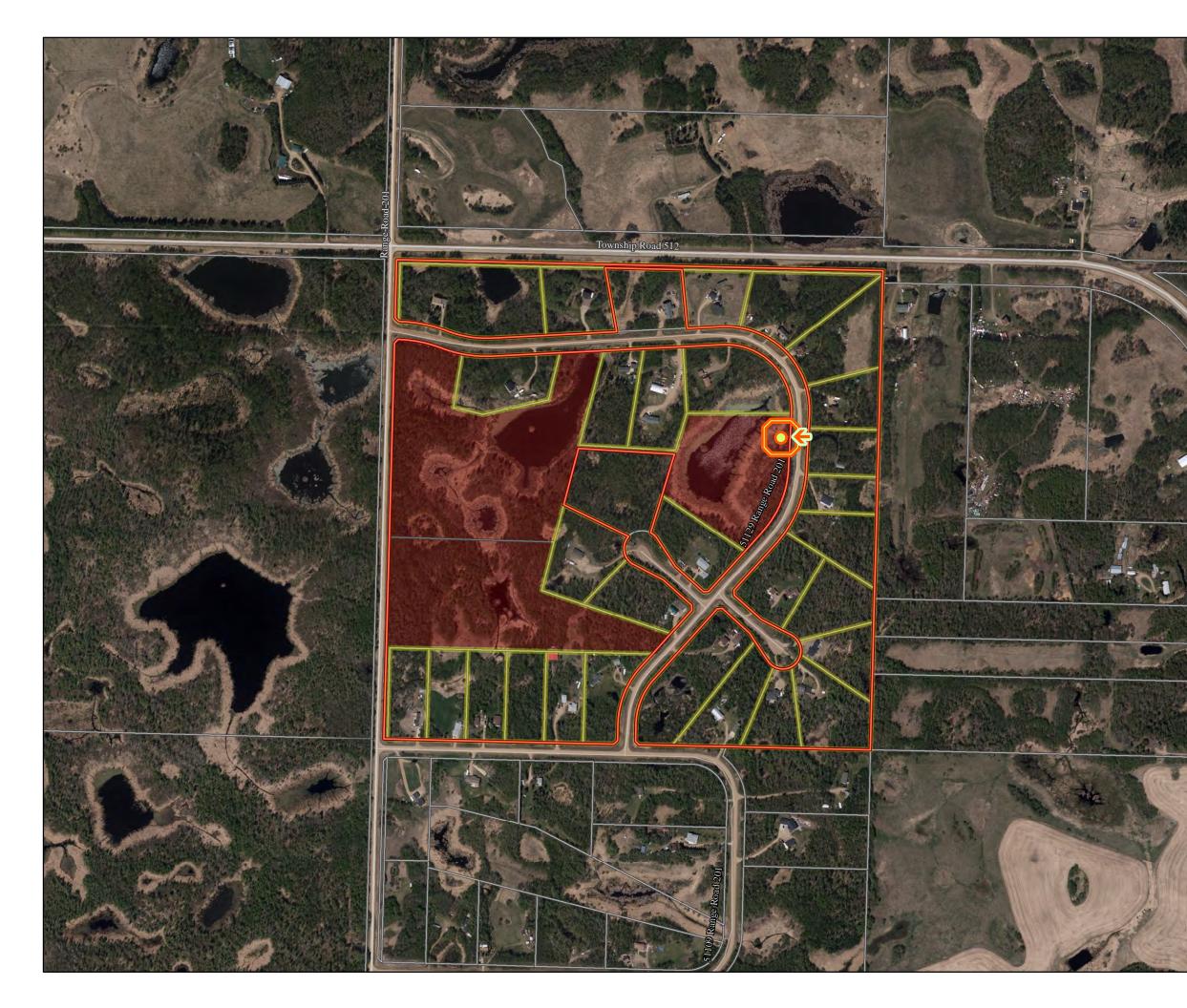


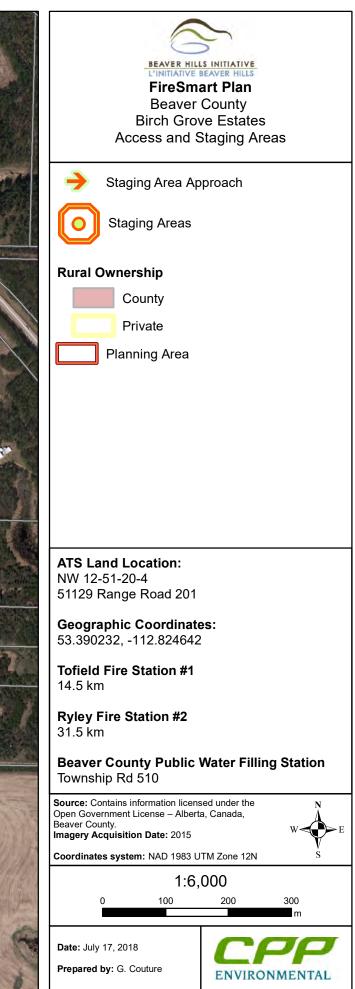




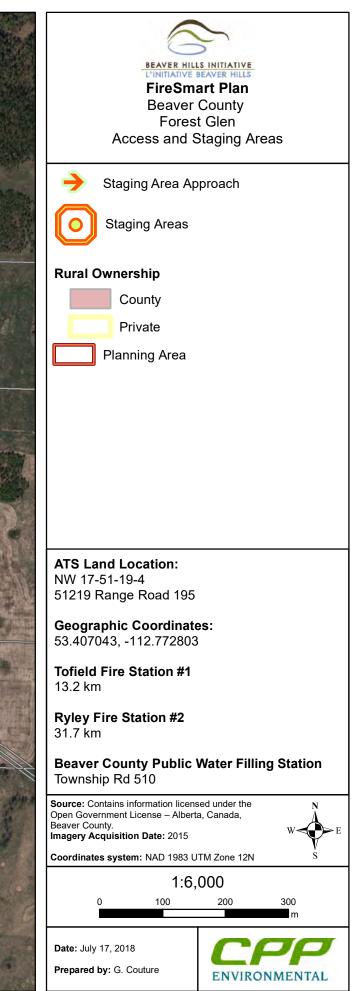


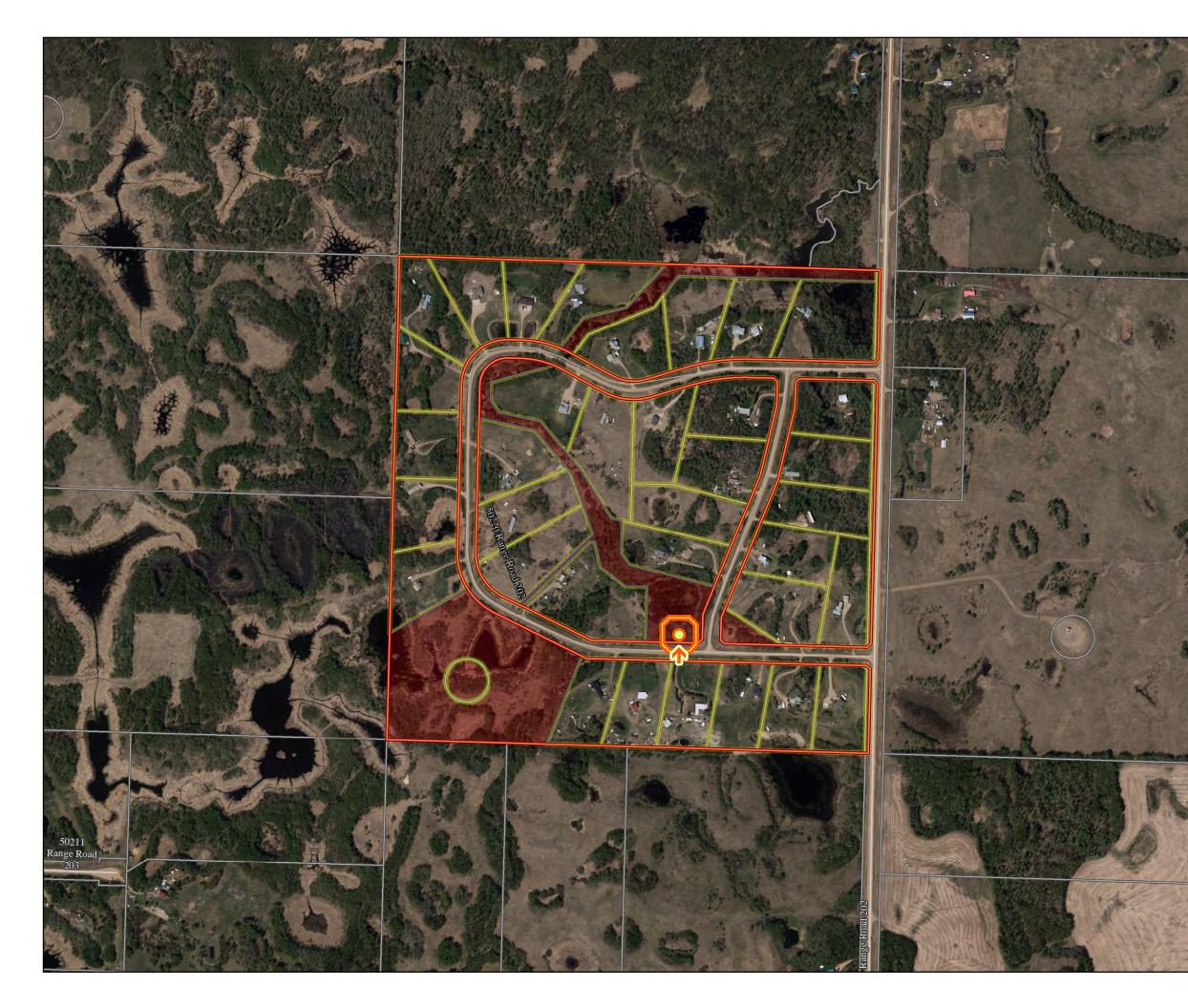


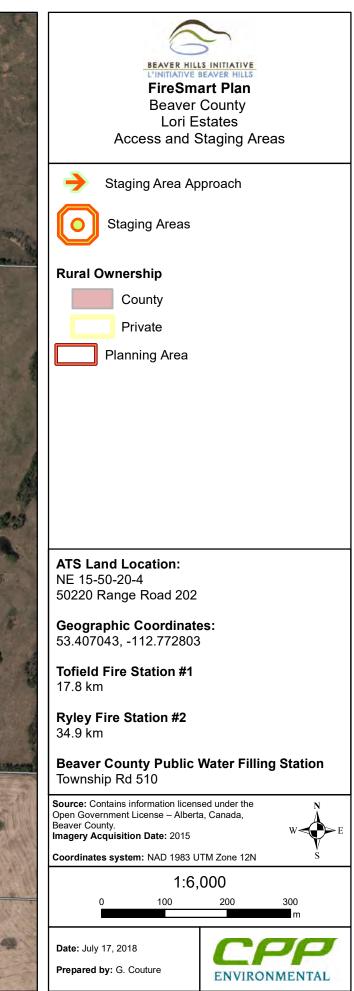




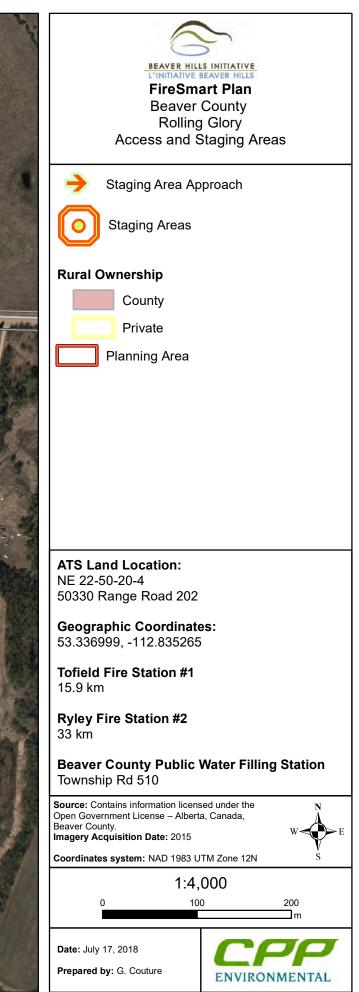




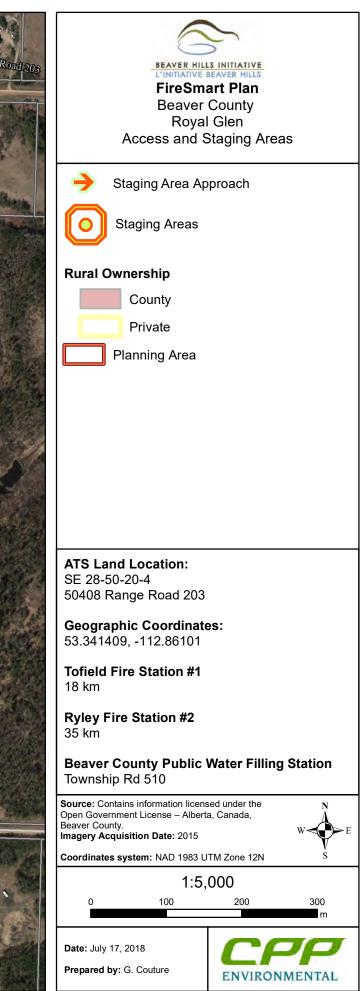


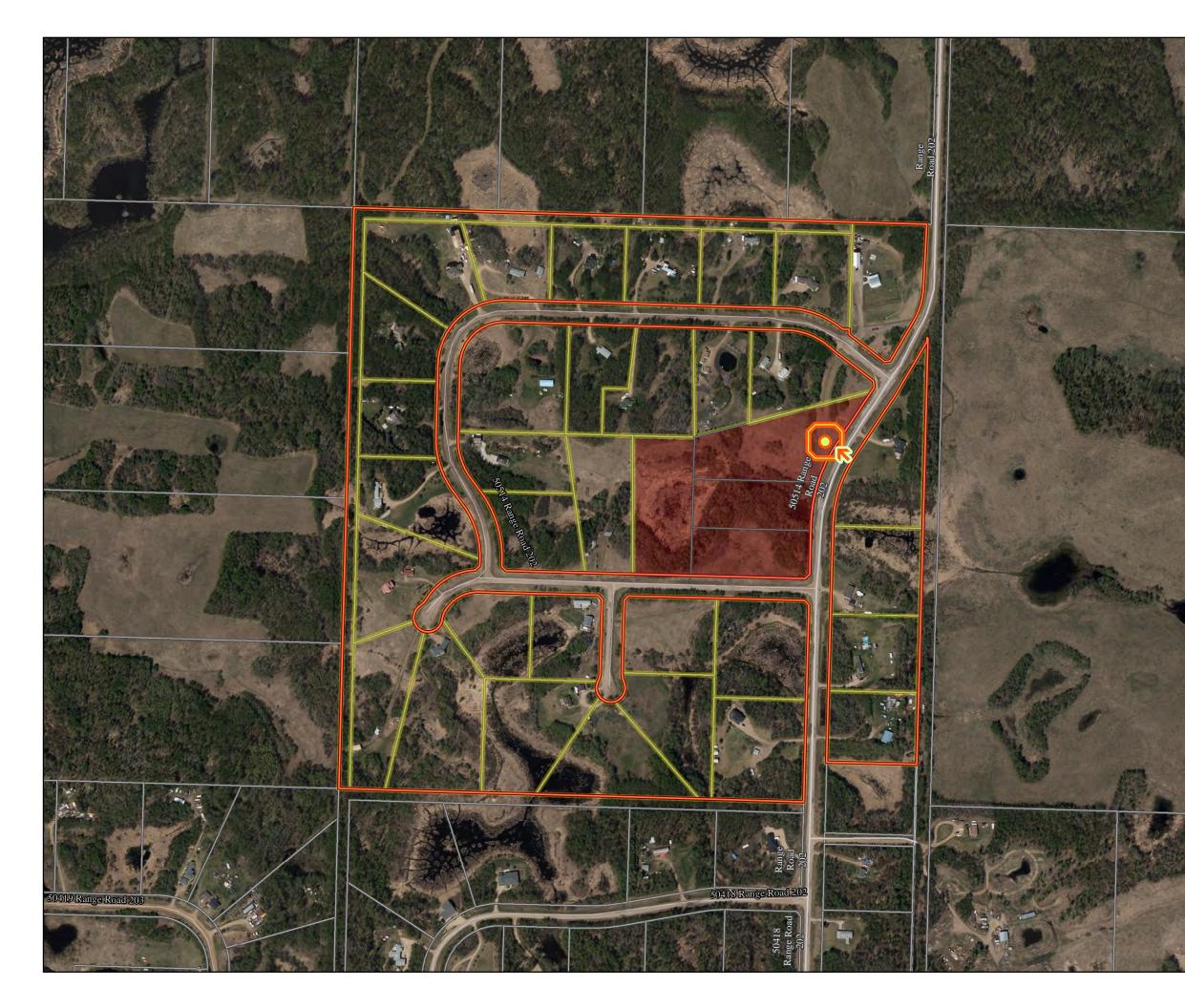


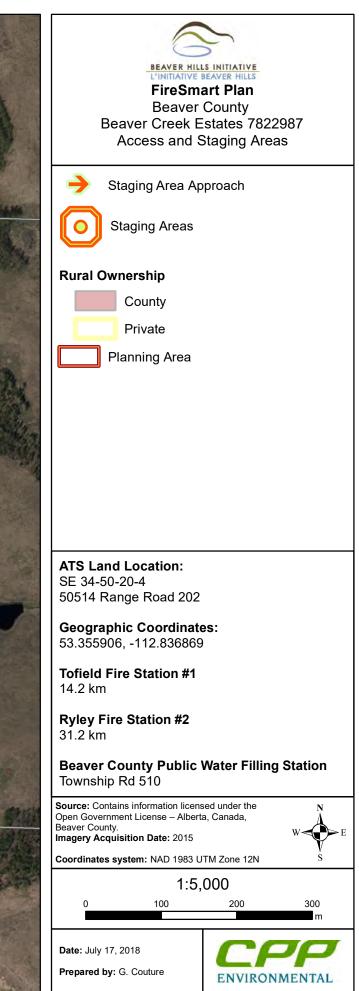


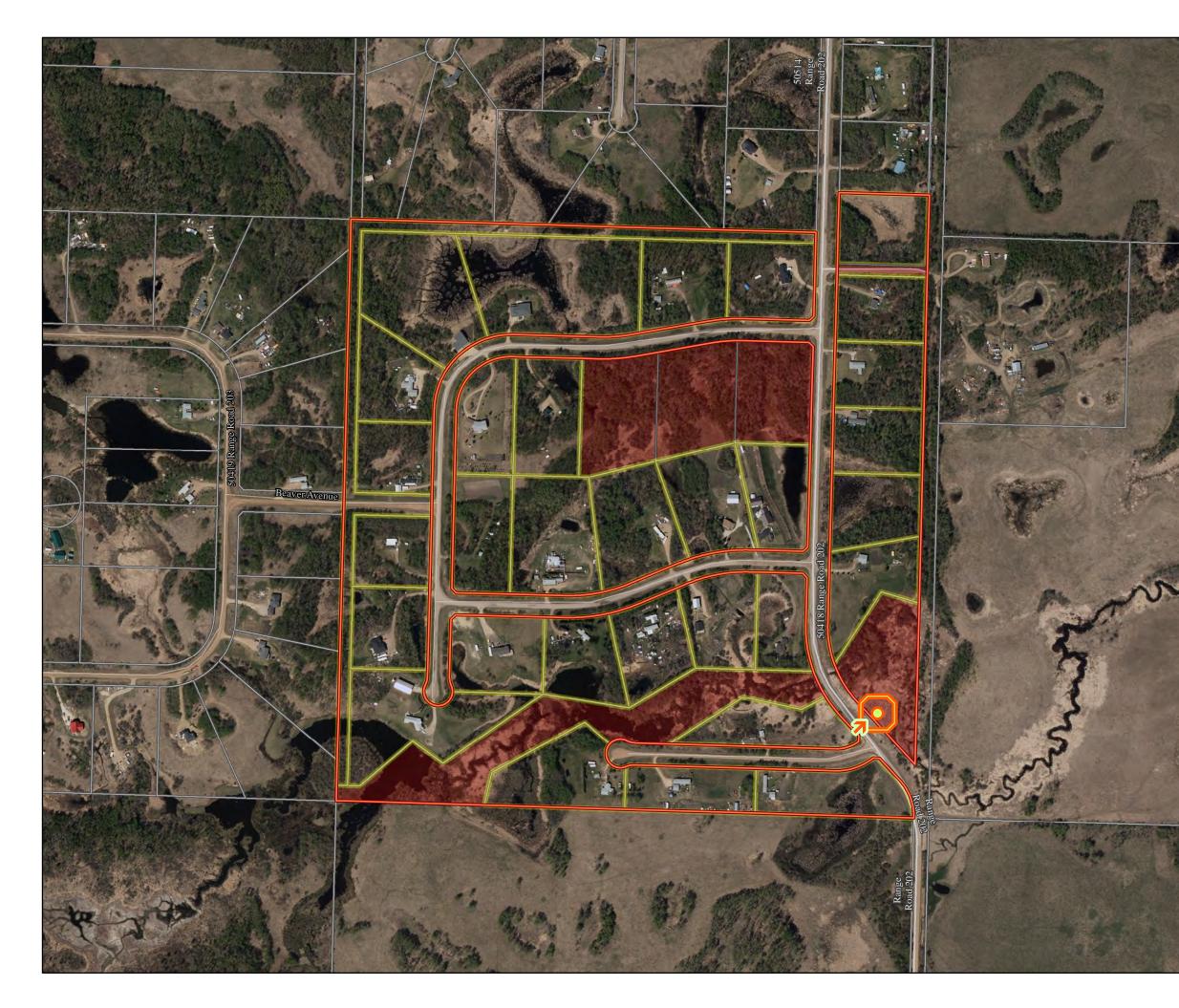


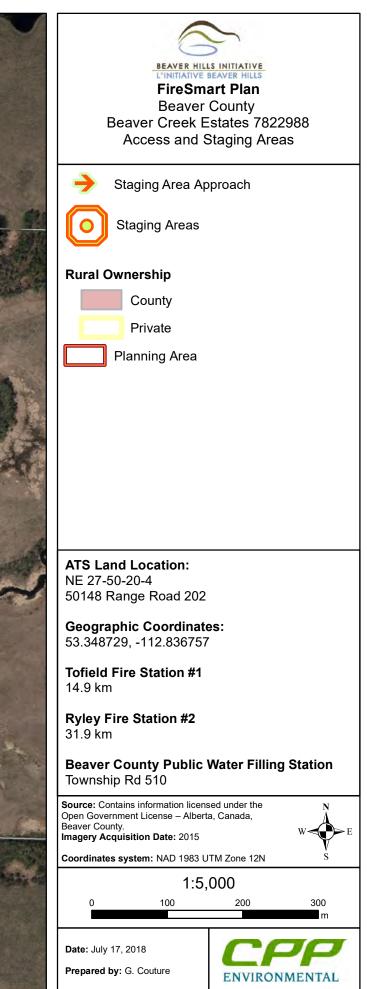


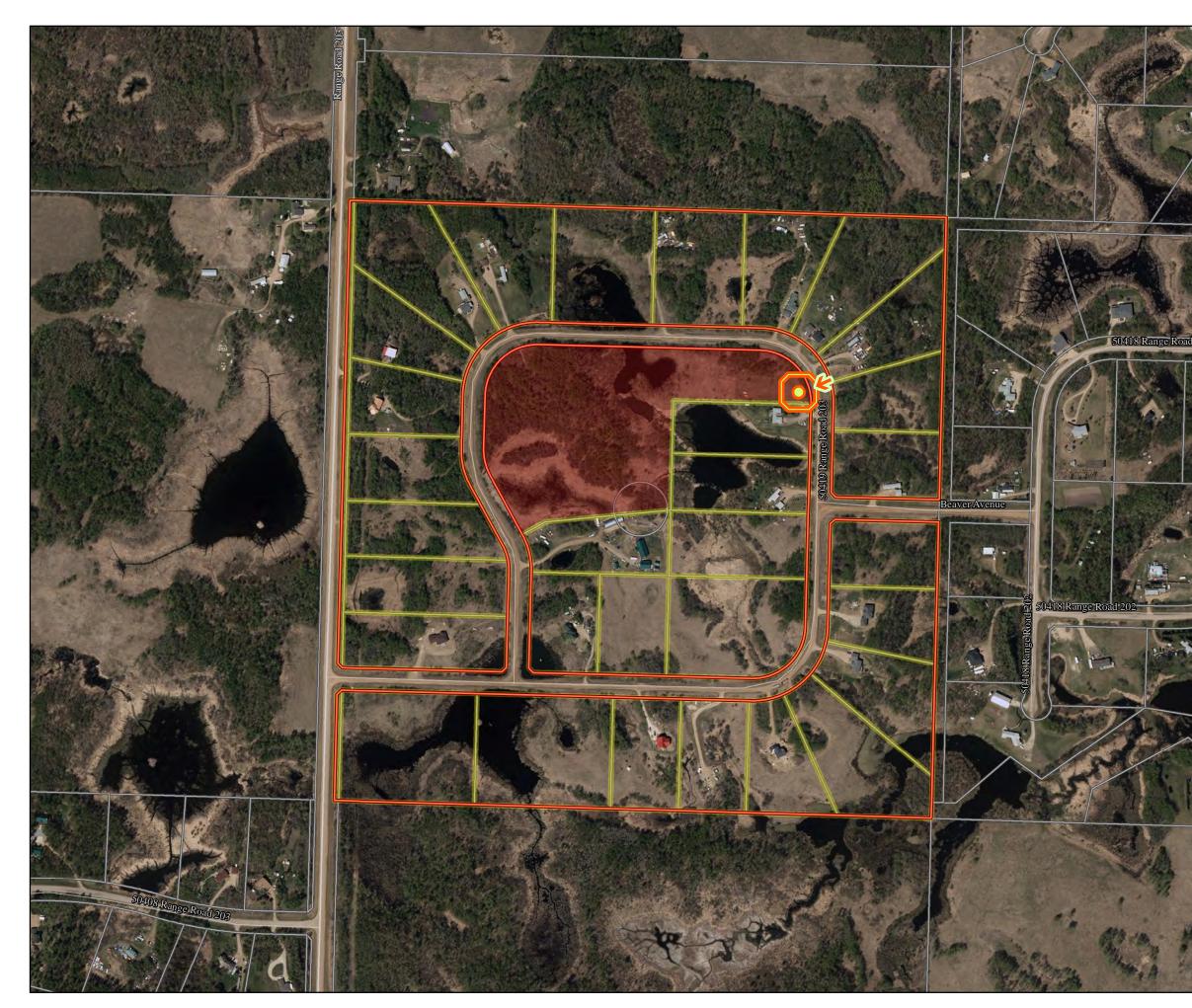


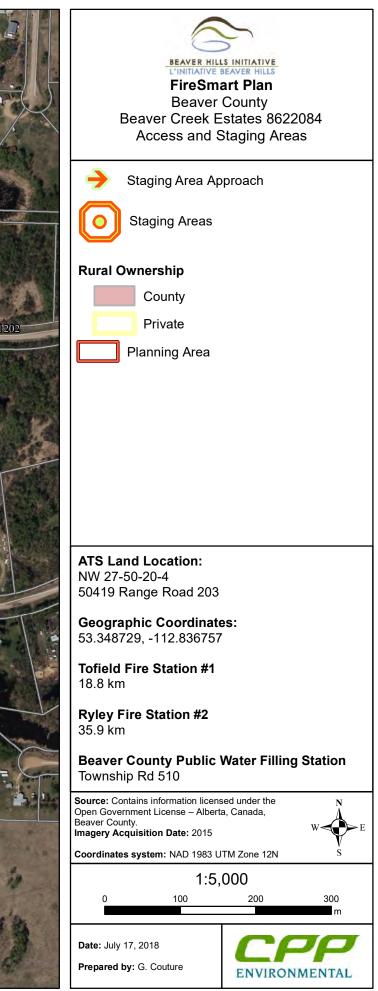


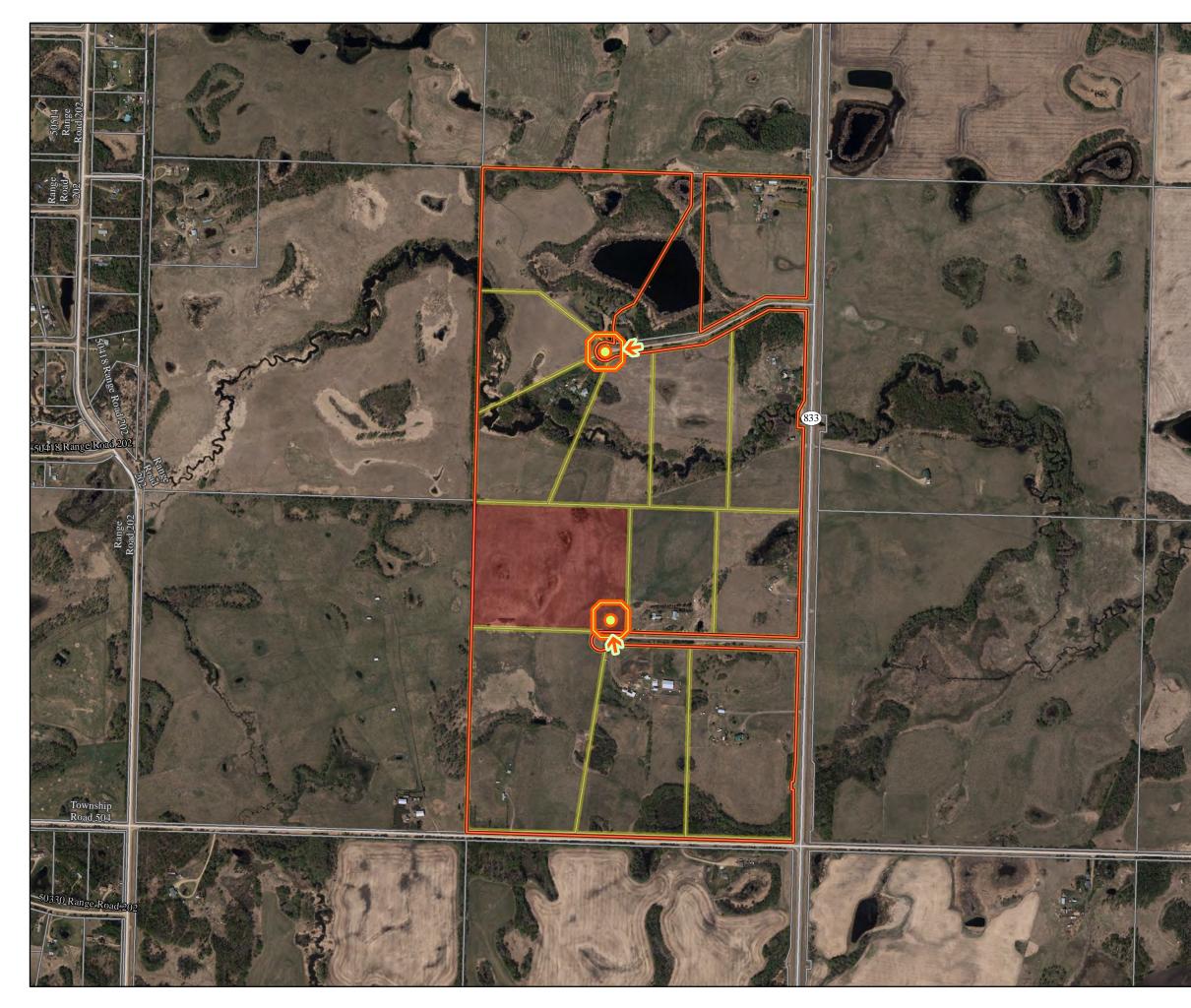


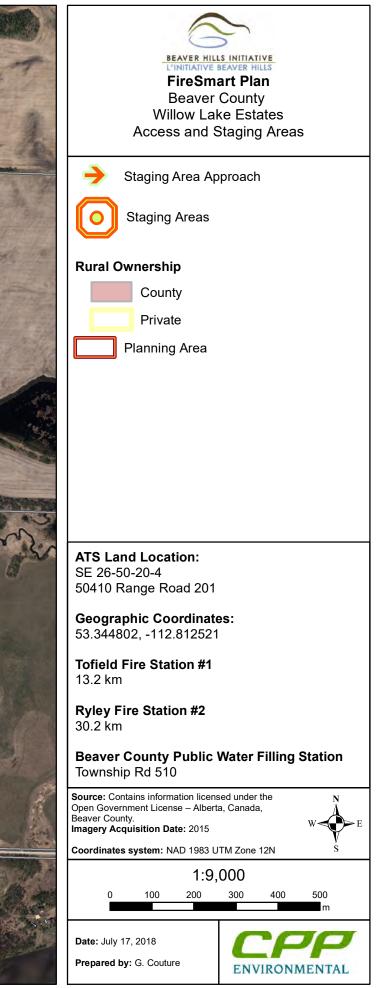


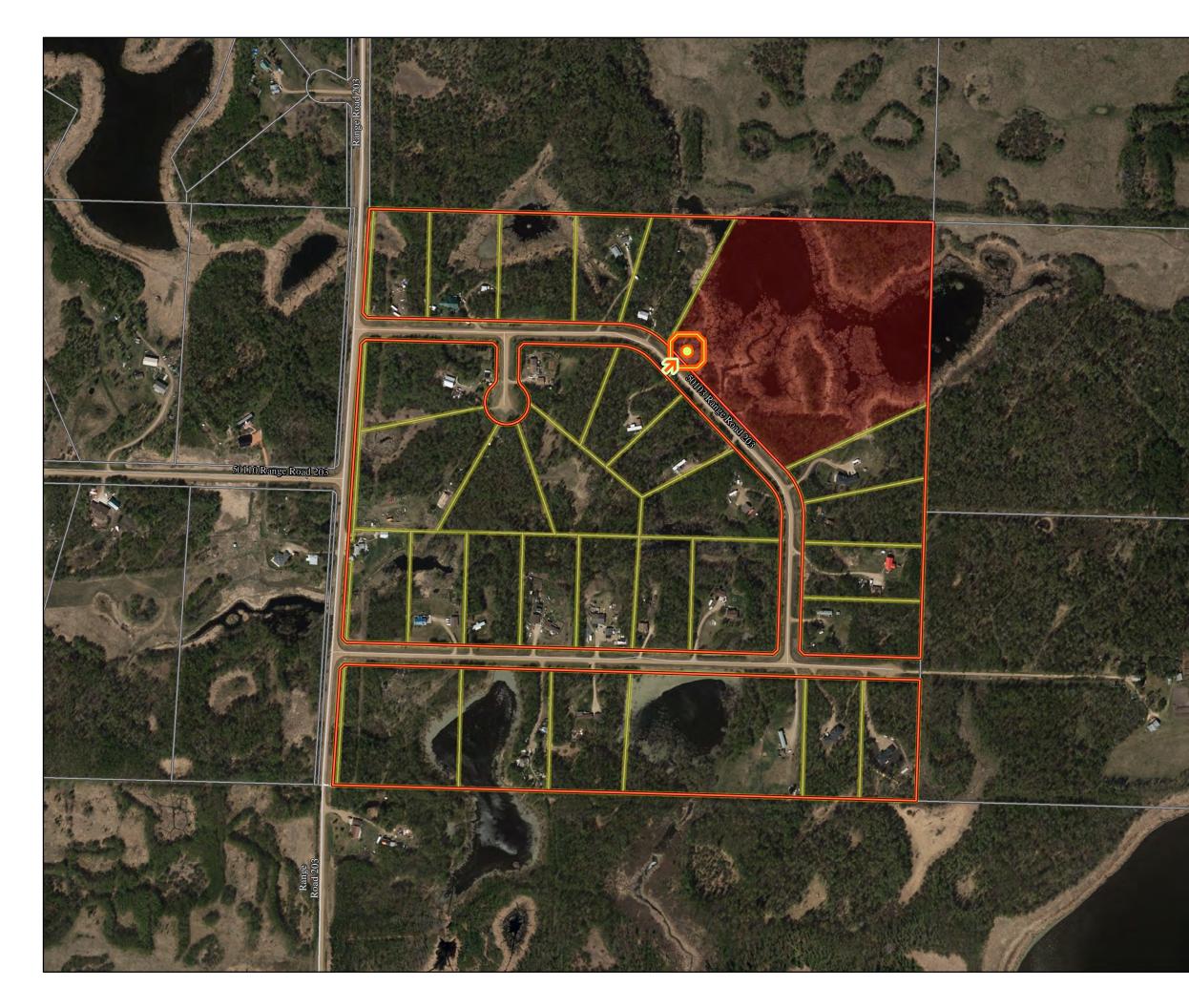


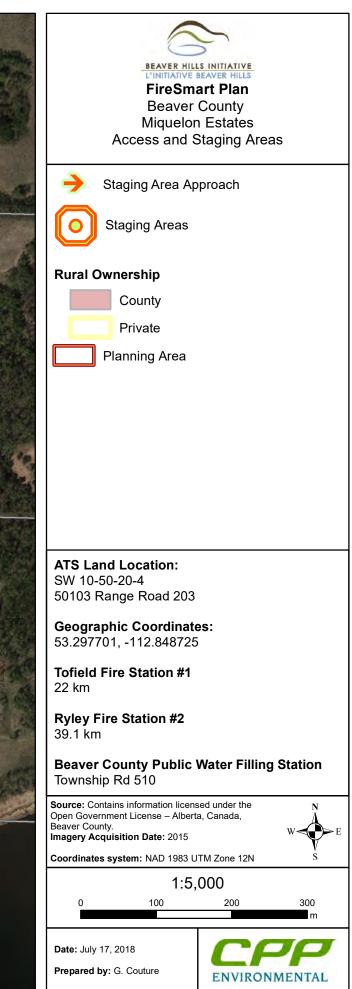


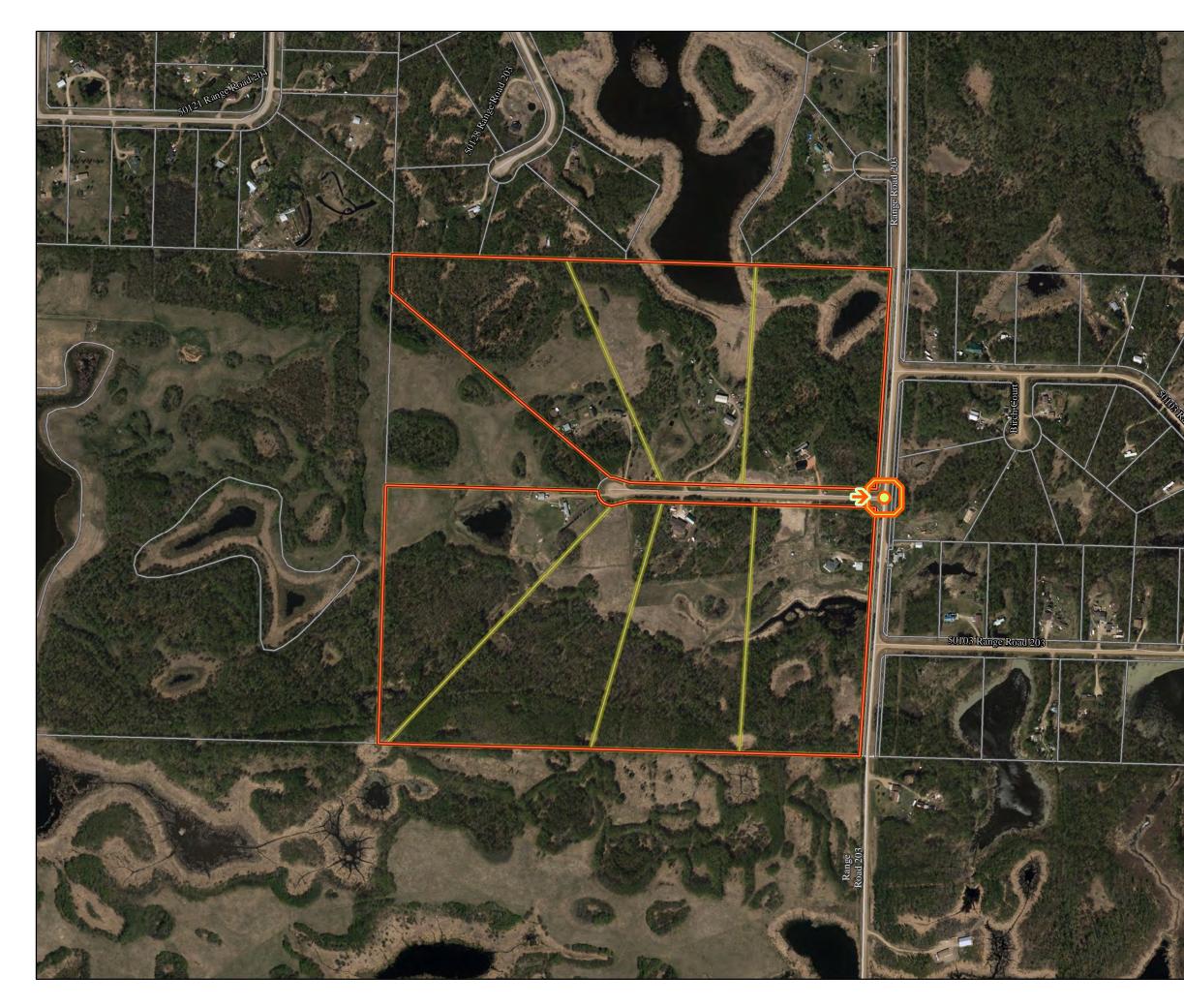


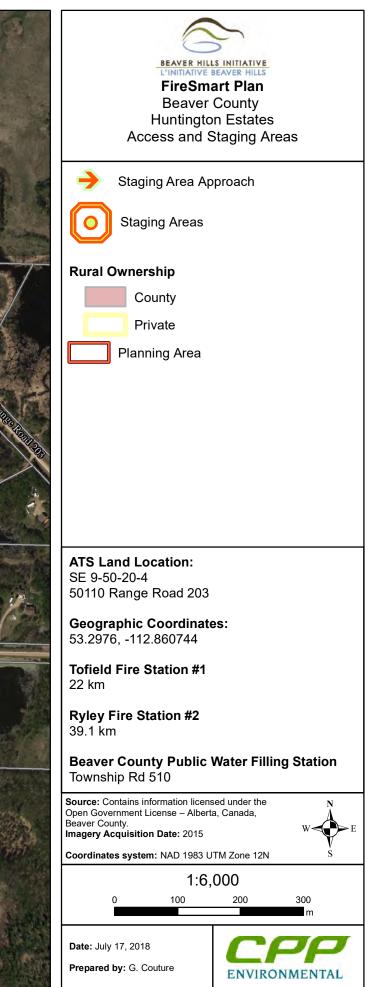




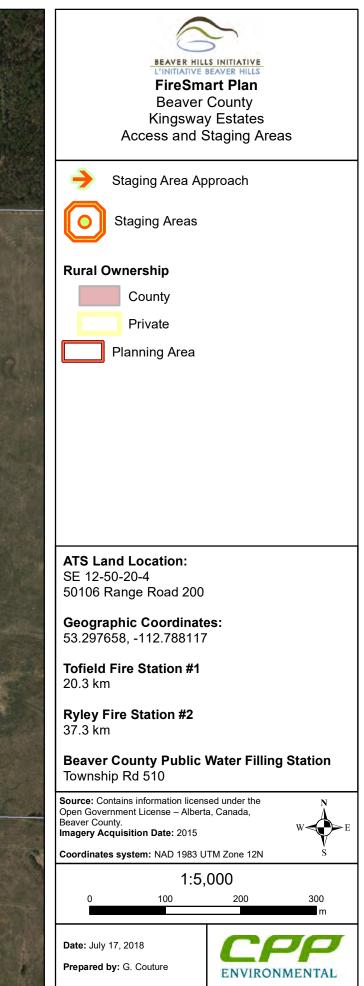


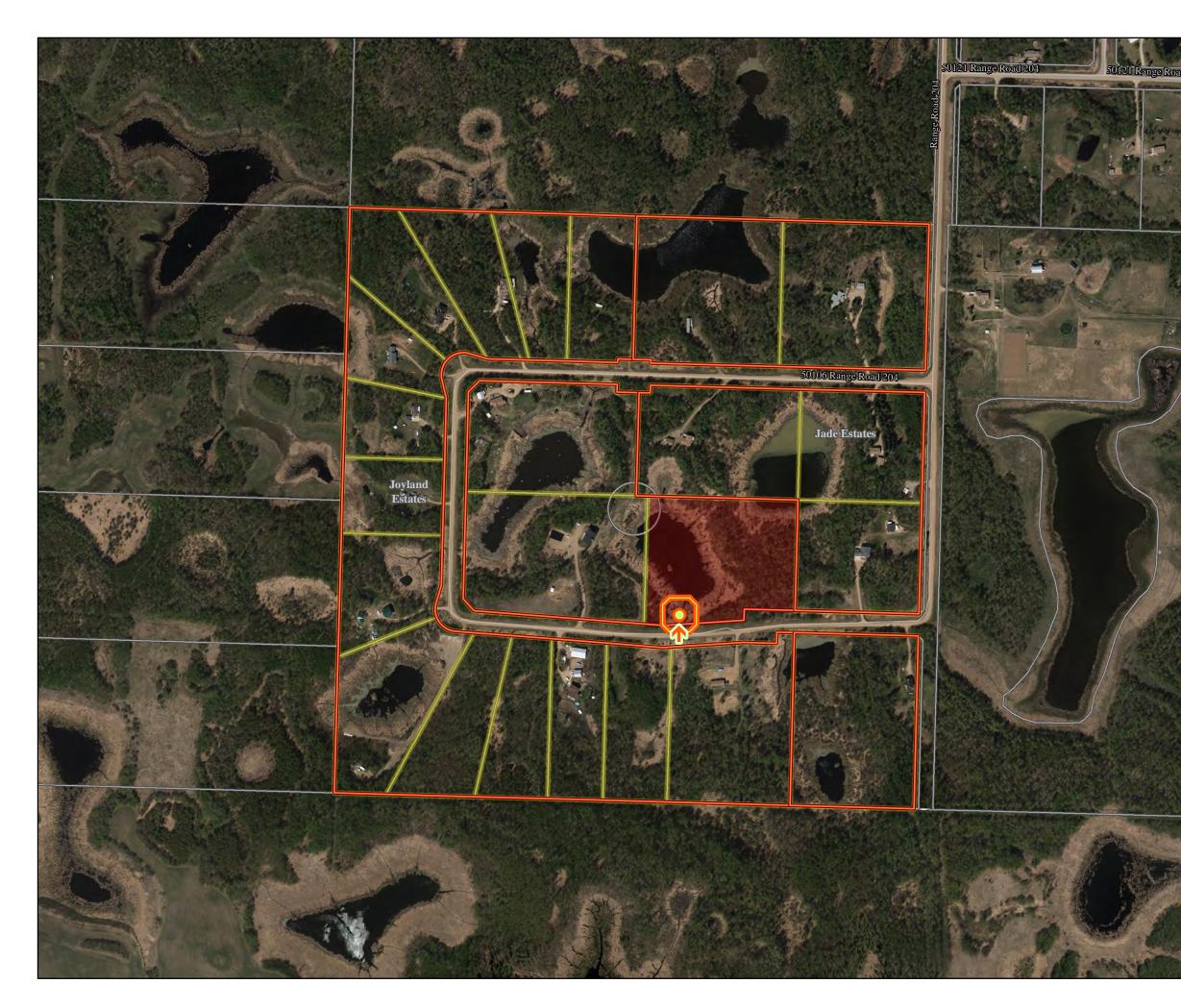


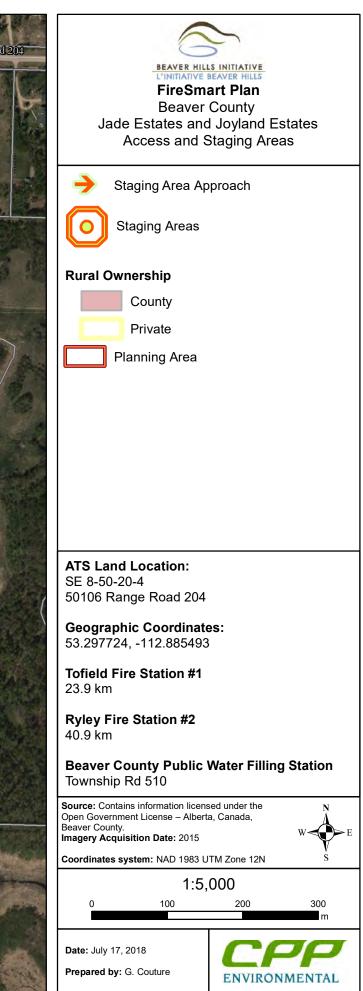


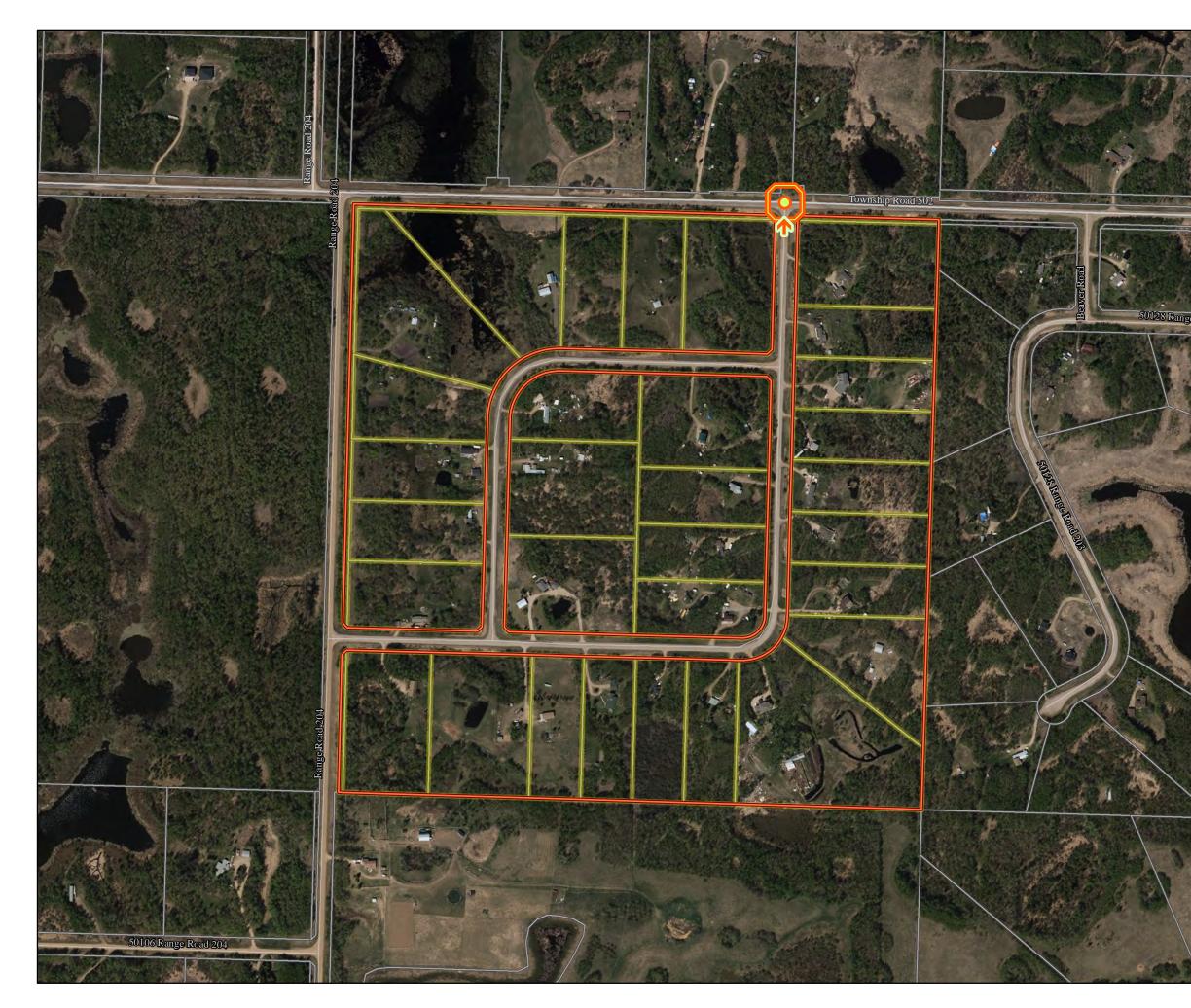


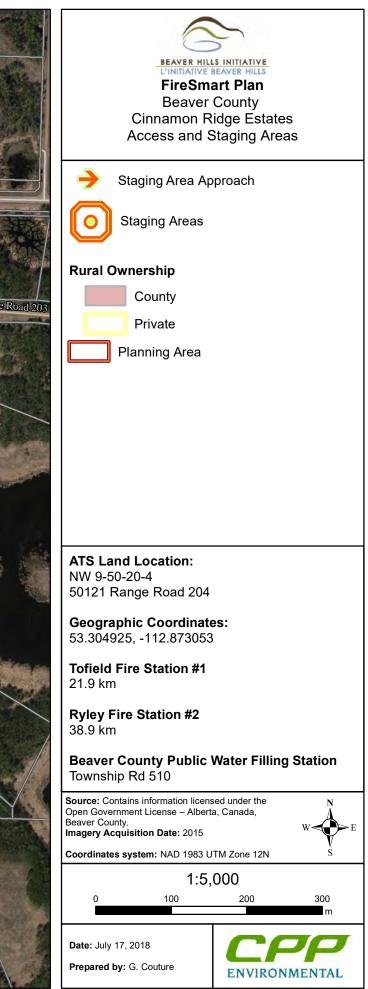


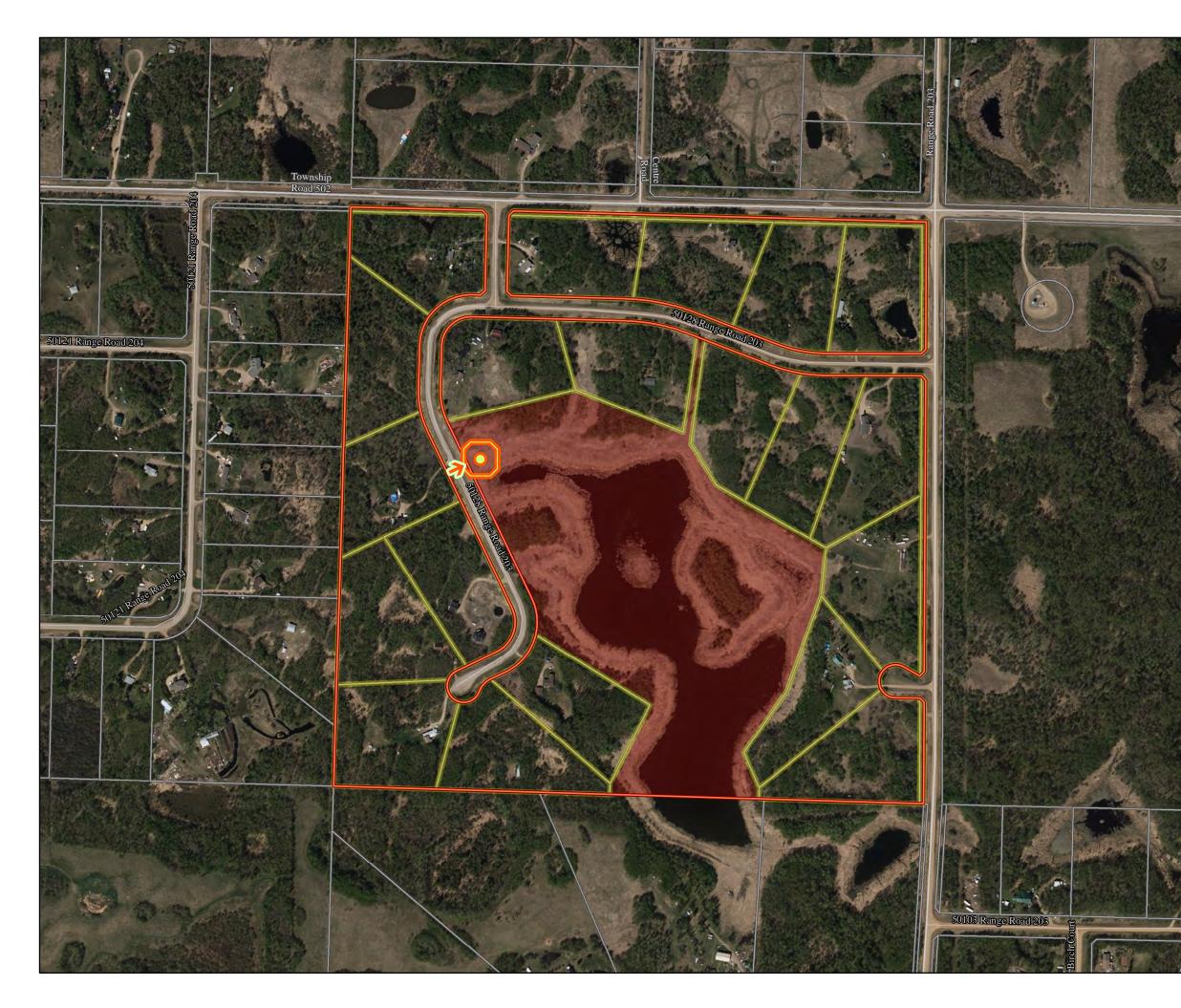


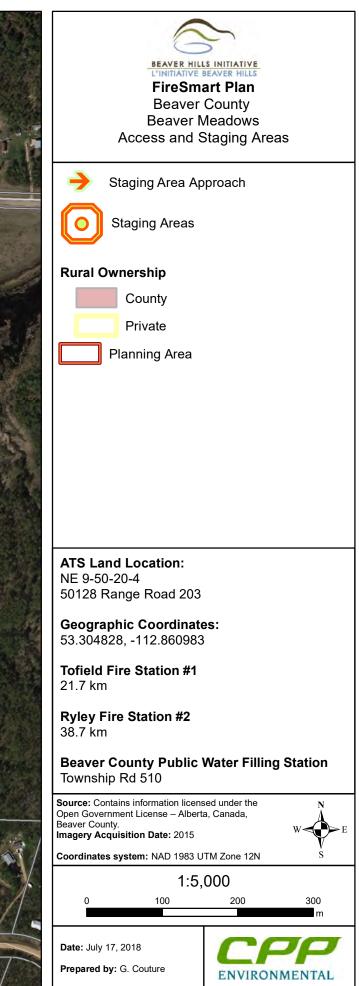




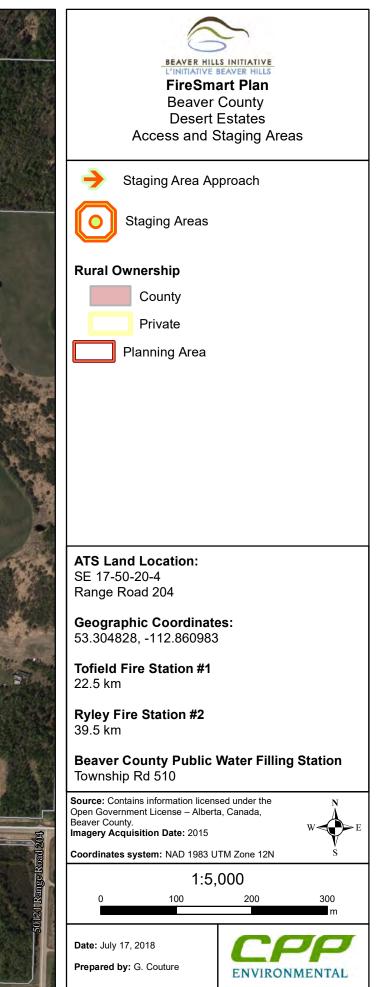


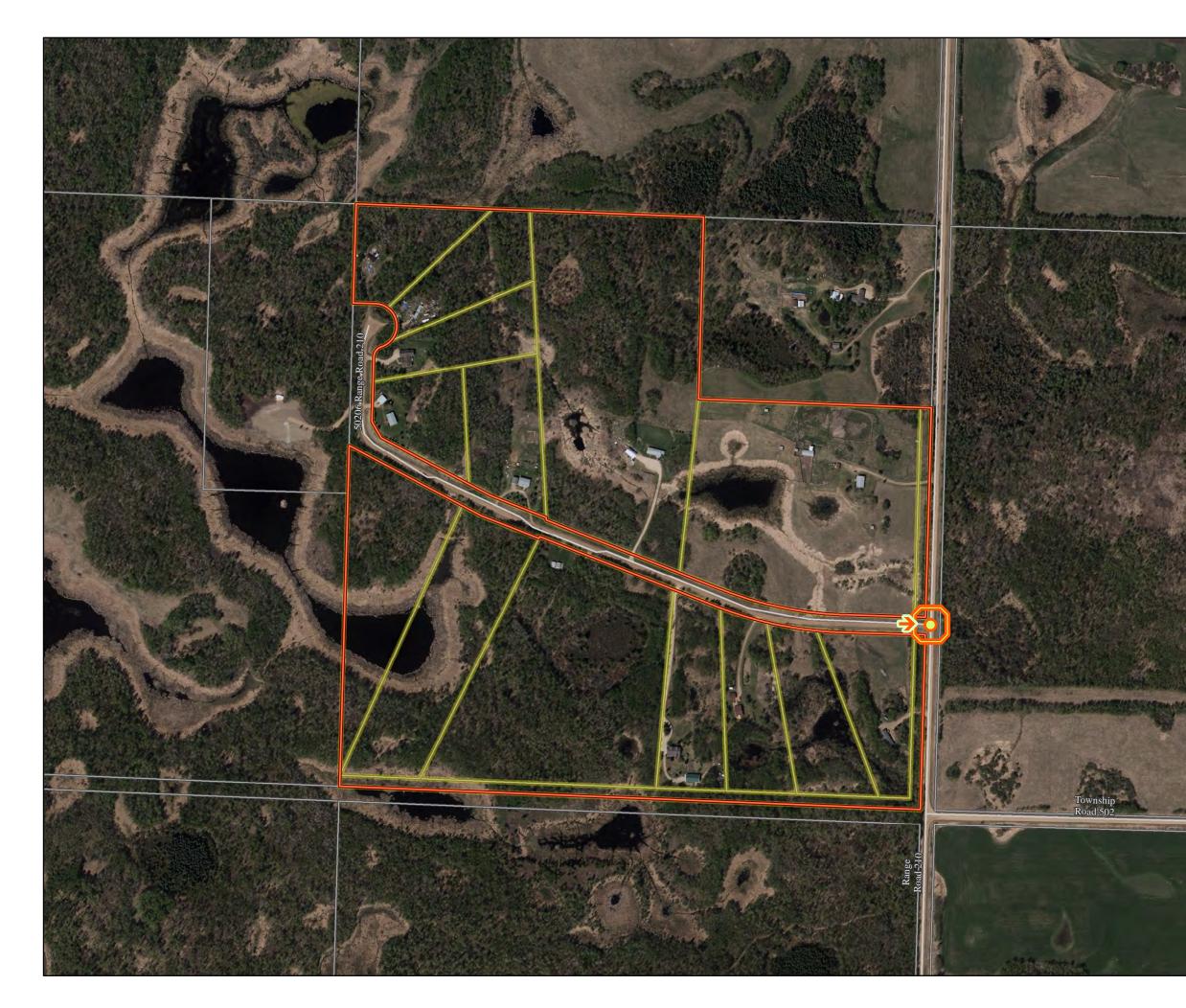


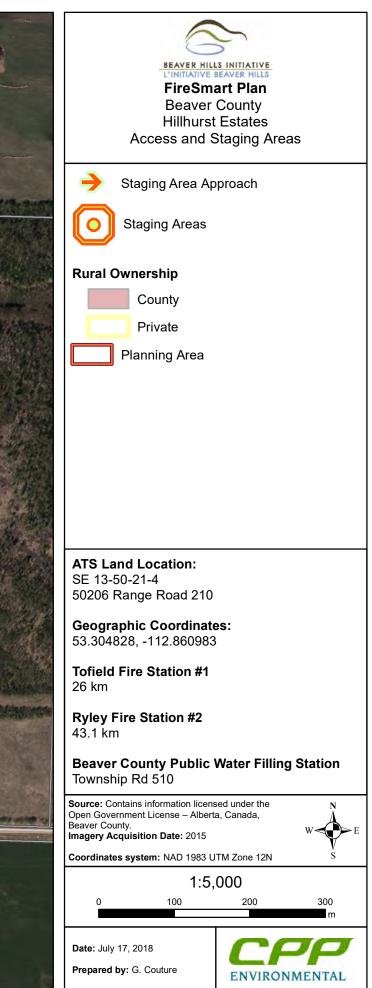




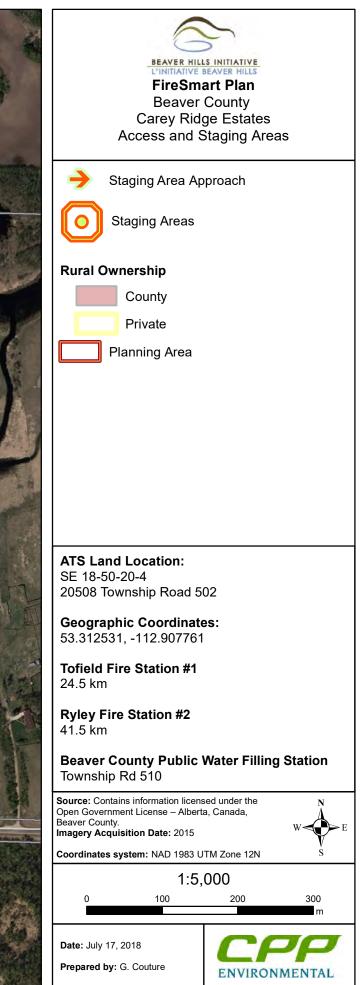




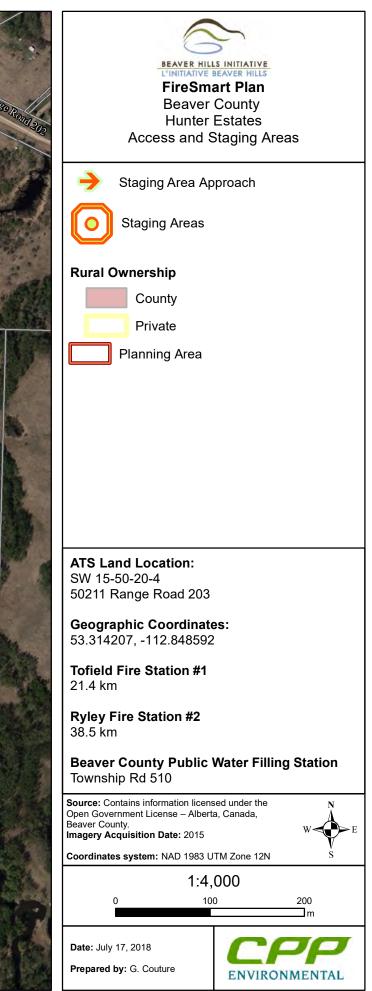


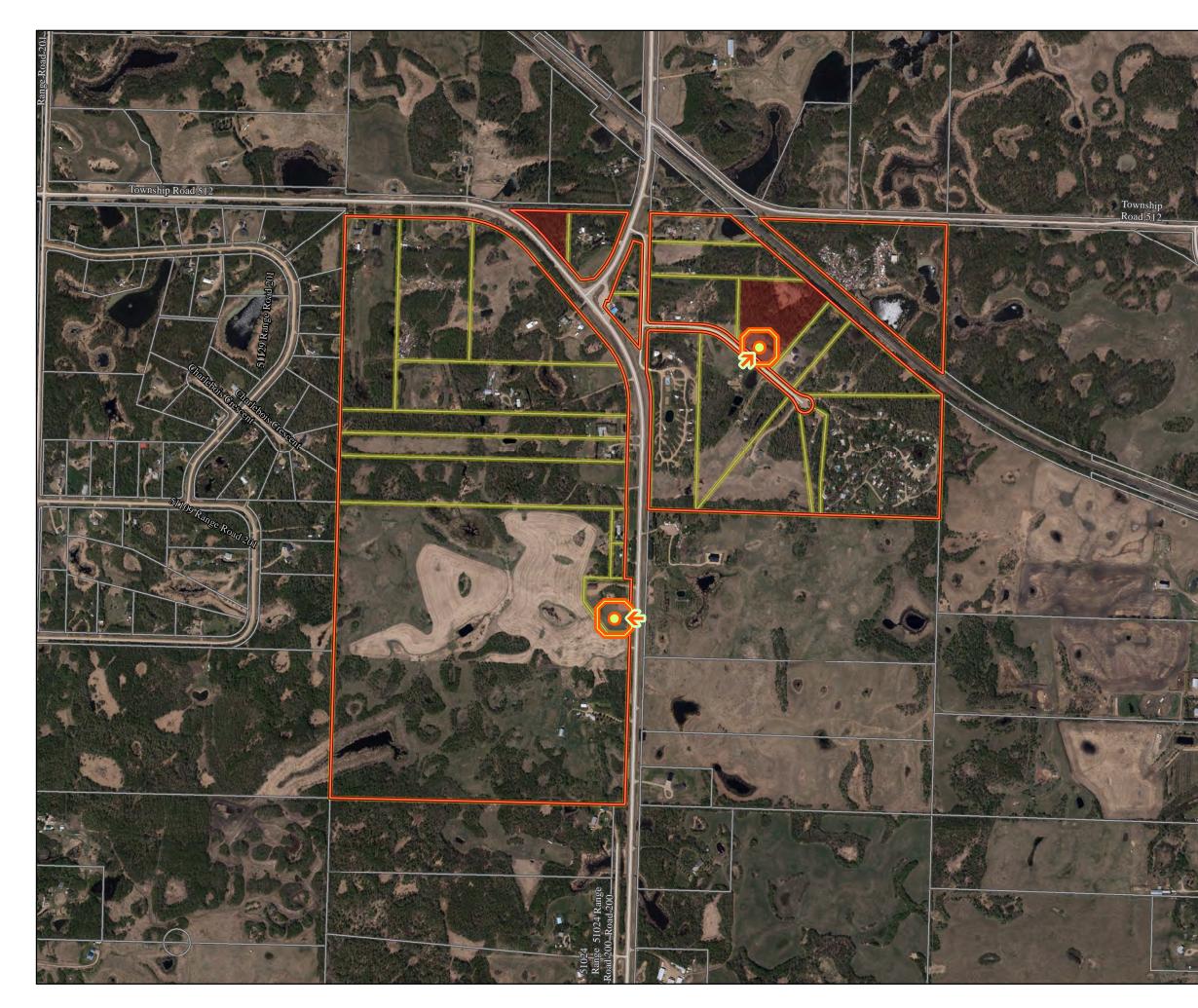


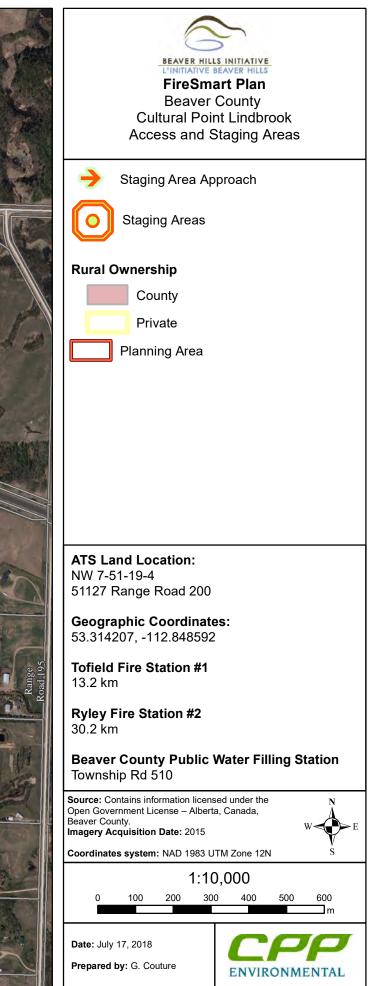


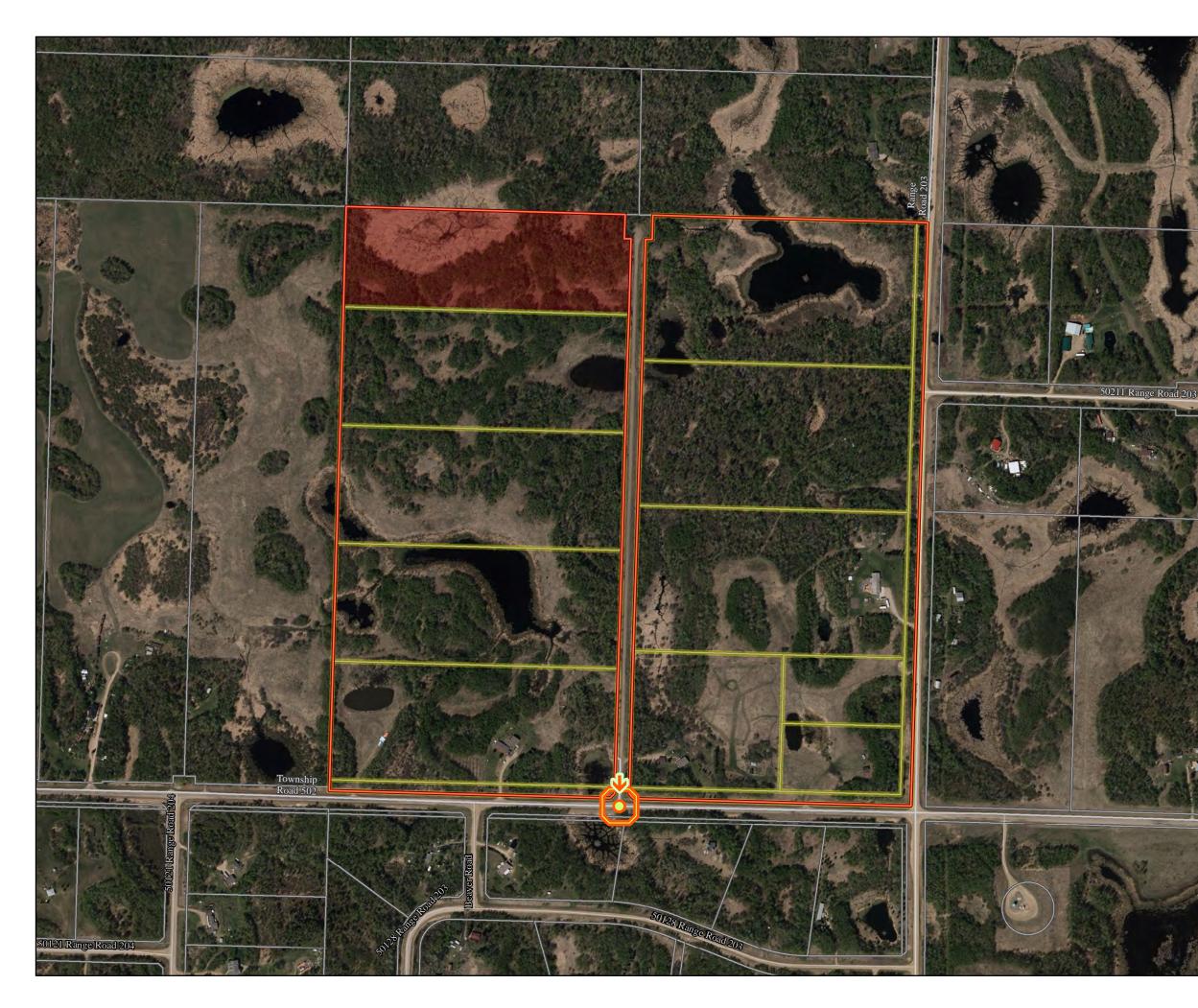


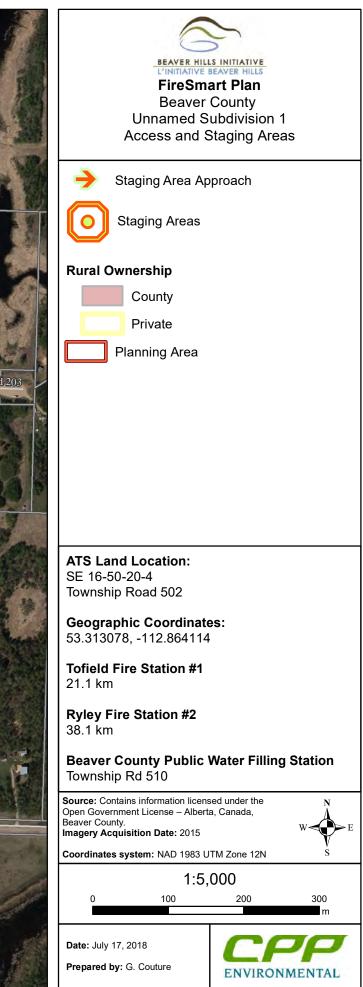




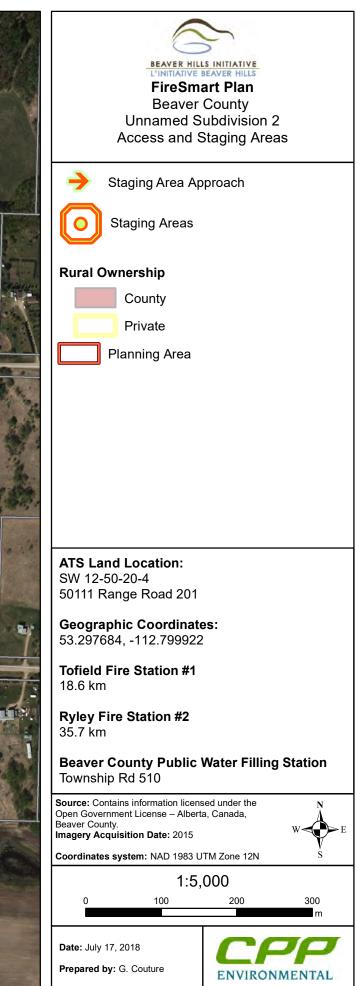


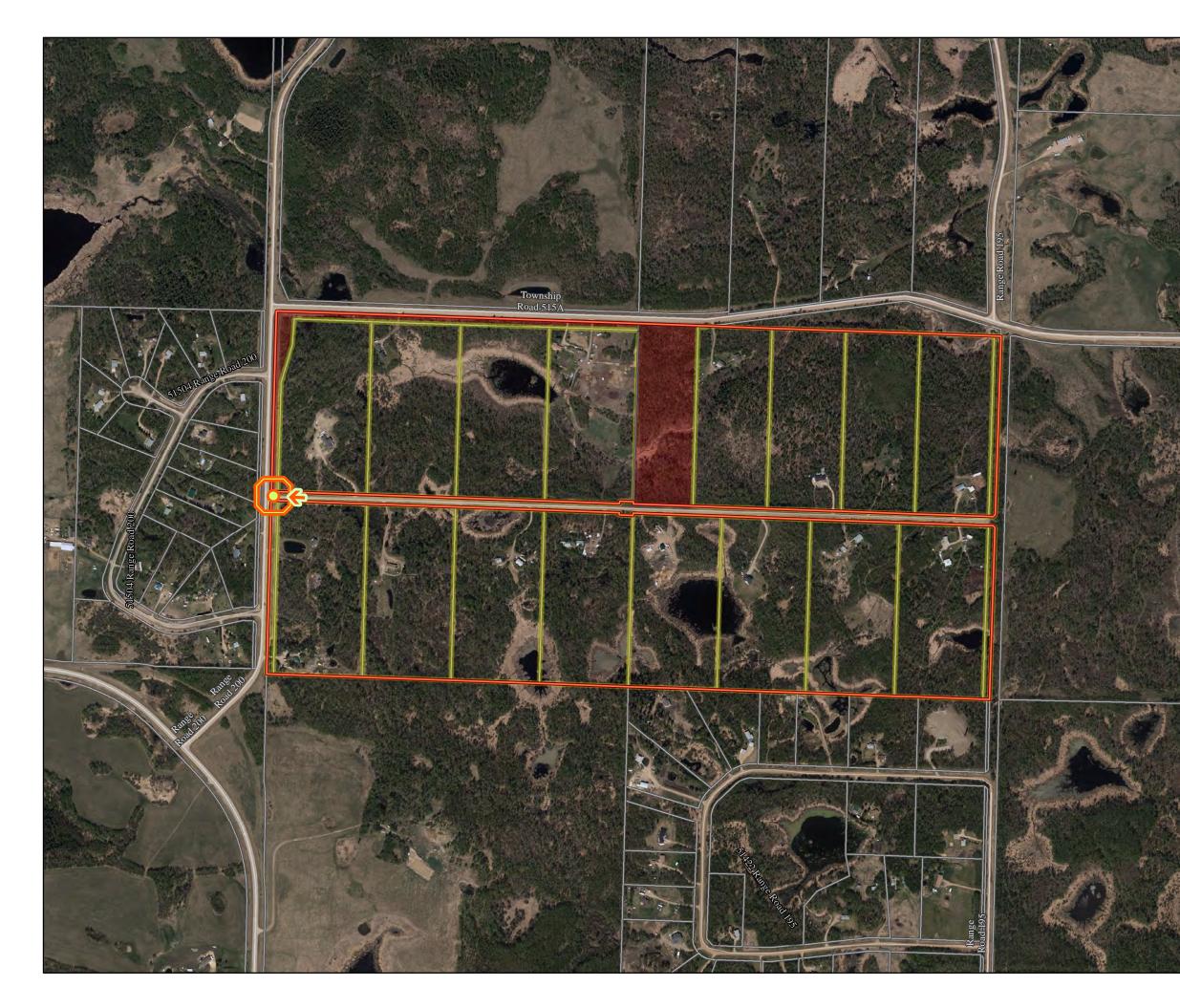


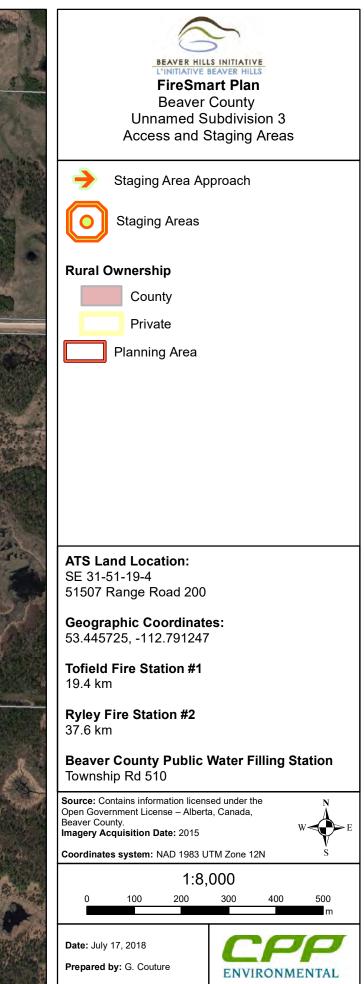




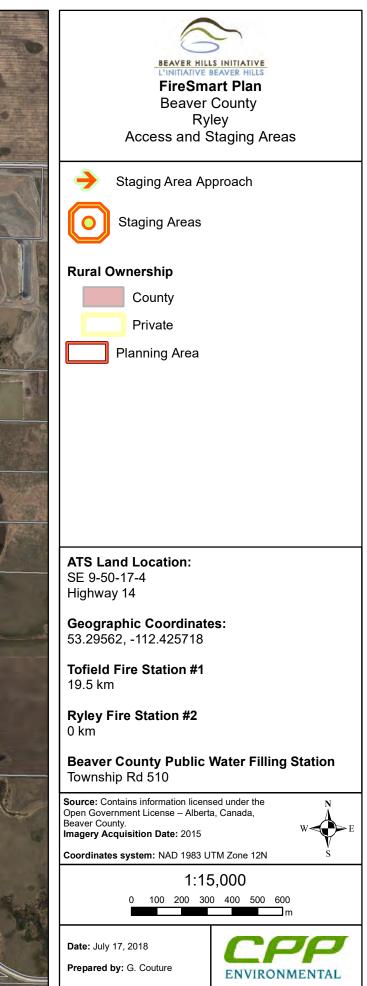




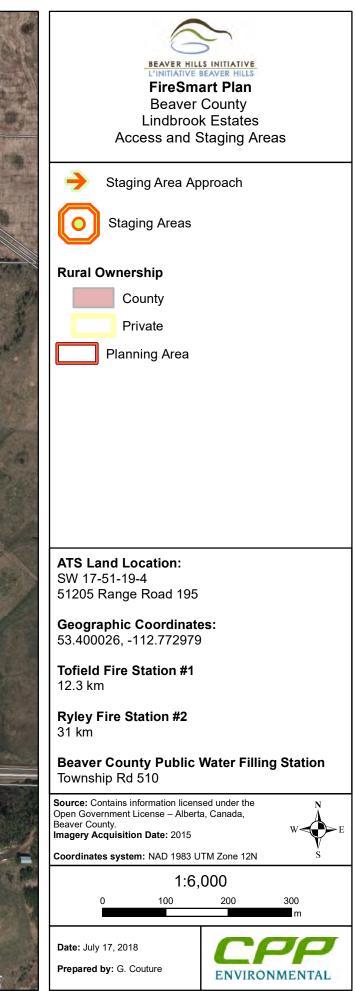












Section B. Camrose County





Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies Camrose County

Prepared for: Beaver Hills Initiative August 2018



Charette Pell Poscente

Executive Summary

The Wildfire Hazard and Risk Assessment and the Wildfire Mitigation Strategies for Camrose County was developed as part of as part of the overall FireSmart Plan for the Beaver Hills Initiative (BHI). The Wildfire Hazard and Risk Assessment was used to identify the landscape wildfire risk in communities within the study area.

As part of the Wildfire Hazard and Risk Assessment, five rural subdivisions and two hamlets were assessed individually for wildfire risk using the Community Wildfire Risk Assessment tool. The assessment allows Camrose County to compare the wildfire risk of rural communities relative to each other. Communities can then be ranked and prioritized for implementation of mitigation as needed.

The *Guidebook for Community Protection* (Alberta Environment and Sustainable Resource Development, 2013), and *FireSmart: Protecting your Community from Wildfire* (Partners in Protection, 2013), were essential in the development of this section of the plan.

The Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies section were prepared in collaboration with Camrose County representatives.

- Mike Kuzio (Protective Services Manager)
- Vern Kovac (Fire Chief for Round Hill)

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Appendix B6: Wildfire Threat Rating Maps

- Spring
- Summer
- Fall

Appendix B7: Wildfire Behaviour Potential Maps

- Spring
- Summer
- Fall

Appendix B8: Linear Disturbance and Water Sources Map

Appendix B9: Access and Staging Area Maps

1 Planning Area and Stakeholders

The planning area consists of the northern portion of Camrose County and focuses on five subdivisions and two hamlets within the BHI study area. Camrose County is located approximately 85 kilometers southeast of Edmonton, Alberta (Figure 1).

1.1 Planning Area

The Wildfire Hazard and Risk Assessment includes a two kilometer buffer surrounding the communities to take into account a wildfire entering and/or leaving the community. The planning area is entirely within the Non Forest Protection Area. The land uses within the planning area includes: agriculture (crop, hay, pasture), rural residences, and subdivisions. Forest fuels are fragmented on the landscape. See **Appendix B1** for Overview and Topography map.

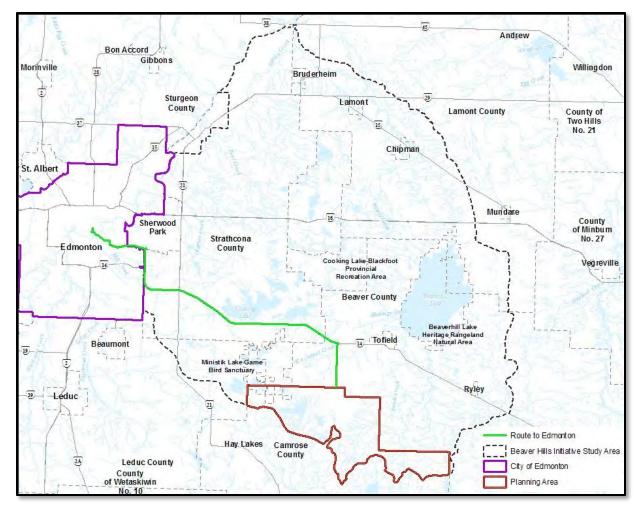


Figure 1: General Location of Camrose County, District 22, within Beaver Hills Initiative boundary

Туре	Name	Legal Land Description	
Hamlet	Kingman	N½ 6-50-20-W4M	
	Round Hill	N½ 19-48-18-W4M S½ 30-48-18-W4M	
Subdivision	Grouse Meadows	S½ 5-50-20-W4M	
	Macree Acres	NW 25-49-21-W4M	
	Miquelon Acres	SE 26-49-21-W4M	
	Sanctuary Estates	N½ 6-50-20-W4M	
	Whispering Hills	NW 35-49-20-W4M	

Table 1: List of Subdivisions and Municipalities in Camrose County that were assessed as part of the BHI study area

1.2 Stakeholders

To gain insight about the planning are, key stakeholders were involved in the process. **Table 2** lists the key stakeholders involved and their responsibilities in developing the Wildfire Risk and Hazard Assessment and Mitigation Strategies.

How do we get to a FireSmart landscape? Get the right people to participate. (Partners in Protection, 2003)

Table 2: List of Stakeholders and their respective responsibilities in the development of the Wildfire Hazard and Rik Assessment and Mitigation Strategies

Stakeholders	Responsibilities	
Beaver Hills Initiative	 Development and implementation of the project Provide resources to complete the project Provide funding for the project Contract administration 	
Camrose County	Provide local knowledge and inputs into the planReview and approve the plan	

2 Wildfire Hazard and Risk Assessment

The Wildfire Hazard and Risk Assessment analyzes Values at Risk, Wildfire Behavior Potential, wildfire incidence, and firefighting capabilities.

Table 3: Wildfire Hazard and Risk for the portion Camrose County that were assessed as part of the BHI planning area

SPRING	SUMMER	FALL
MODERATE	LOW	LOW

2.1 Values at Risk

Values at Risk are aspects within a community, man-made or natural, which have measurable or intrinsic worth, and have the potential to be negatively altered by fire (Alberta Agriculture and Forestry, 2011). Values at Risk encompass four broad types of values (Partners in Protection, 2003):

- Standard Values homes and other common structures found in communities
- **Critical Values** infrastructure that is vital to the wellbeing of those who reside in the planning area (e.g. major roads, power lines, etc.)
- Dangerous Goods Values anything which may pose a safety threat to emergency responders or the public
- Special Values areas that have natural, cultural, historical, or emotional importance to a community

Description Value Type Multiple houses and associated structures within identified the Standard communities in Camrose County. Cornerstone Christian Academy Post Office • • Kingman Community Hall Critical * Fire Hall Round Hill and District Community Centre • Round Hill Elks Recreation Centre • • Round Hill School Active Well (4) • Fuel Tanks (2) • **Dangerous Goods** Round Hill Lagoon • Gas Co-op Services • Salem Lutheran Church • Special Kingman Regional School Museum ٠ Round Hill Community Playground • **Trondhjem Lutheran Church** Wildlife Sanctuary

Table 4: Values at Risk within and surrounding the subdivisions and hamlets in the planning area.

* Pipelines, railways, and transmission lines are identified on Linear Disturbance and Water Sources maps (see **Appendix B8**)

2.2 Community Risk Assessment

The Community Wildfire Risk Assessment is a unique tool developed by CPP Environmental to compare wildfire risk between rural communities relative to one another. Each rural community is unique and contains different factors that influence the risk in the event of a wildfire.

Categories incorporated in the risk matrix are based on:

1. **Likelihood of Occurrence** focuses on variable such as: fuel types, slope, ignition sources, residential burning types allowed, and crossover days.

2. **Defensibility of Community** focuses on variable such as: structure density, fire spread barriers, forest fuel size, maintenance, access, and suppression capability.

2.2.1 Inherent Risk Score

The inherent risk encompasses finer community details; it identifies the natural or man-made fuel breaks, and fragmented fuels due to agriculture and rural road networks. Factors such as fuel breaks and fragmented fuels can affect how potential wildfires spread across the landscape. The matrix takes into account conditions within and adjacent to the community. Each section of the matrix is weighted differently and assists in determining the overall threat for that community. Once calculated, the risk scores were ranked from highest to lowest to assist in prioritization of communities. See **Appendix B3** for the Inherent Risk Score map and Community Risk Assessment Results.

Risk Score Ranking Matrix			
1350-2520	Wildfire Hazard Rating: Extreme		
702-1349	Wildfire Hazard Rating: High		
300-701	Wildfire Hazard Rating: Moderate		
0-299	Wildfire Hazard Rating: Low		

Table 5: Inherent Risk Score and ranking for the Community Risk Assessment

Community	Inherent Risk Score	
Grouse Meadows	592	
Hamlet of Round Hill	544	
Hamlet of Kingman	462	
Whispering Hills	459	
Sanctuary Estates	405	
Macree Acres	403	
Miquelon Acres	320	

2.3 Wildfire Behavior Potential

Wildfire behavior is defined as "the manner in which fuel ignites, flame develops, and fire spreads and exhibits other related phenomena as determined by the interaction of fuels, weather, and topography" (Canadian Interagency Forest Fire Centre, 2002).

To better understand seasonal wildfire potential within the planning areas, fuels data, historical weather data, and fire weather indices were analyzed. The analysis included: vegetation types, temperature, relative humidity, precipitation, wind speed and wind direction, Fire Weather Index (FWI), Fine Fuel Moisture Code (FFMC), and Initial Spread Index (ISI).

2.3.1 Vegetation Fuel Types

Camrose County is located in the central parkland and dry mixedwood sub-regions of Alberta. Forests within these sub-regions are characterized by trembling aspen (*Populus tremuloides*), white spruce (*Picea glauca*),

balsam poplar (*Populus balsamifera*), black spruce (*Picea mariana*), and white birch (*Betula papyrifera*). The area is part of the Cooking Lake Moraine, which is comprised of hummocky "knob and kettle" terrain that creates variable fuel types and a large quantity of pothole waterbodies.

Fuel types within the planning area consist mainly of deciduous-dominated vegetation. Forest vegetation is present in higher amounts in the northwest section. Agricultural land is common on the landscape and makes up most of the vegetated non-fuel fuel type. Grass vegetation is common throughout the planning area, including: all utility corridors, open fields, right-of-ways, water course channels, and ditches. Grass fuels throughout the county are in various states of maintenance.

Vegetation fuel data was acquired from the Alberta Agriculture and Forestry (AAF) FireWeb website. Since fuel data for Camrose County is outside the Forest Protection Area, field assessments, satellite imagery, and Google Earth were used to verify the provincial vegetation fuel data.

See Appendix B4 for fuel maps.

Table 6: Canadian Forest Fire Danger Rating System Fire Behavior Prediction (CFFDRS FBP) System Fuel Types within Camrose County planning area

CFFDRS FBP System	Common Language	Fuel Coverage in Planning Area		
Fuel Types	Equivalent	ha	%	
D1/D2	Aspen	7,725	28.1	
M1/M2	Boreal Mixedwood-50% conifer	1,700	6.2	
O1 Grass		10,389	37.8	
C1/C2	Boreal Spruce	542	2.0	
Vegetated Non-Fuel	Vegetated Non-Fuel	5,381	19.6	
Non-Fuel	Non-Fuel	1,804	6.6	

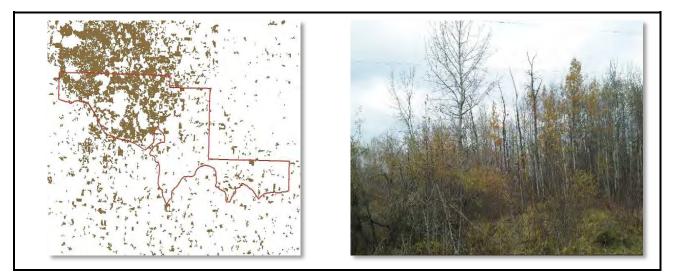


Figure 2: D1/D2 Fuel Distribution and Vegetation example

Deciduous stands consist of aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*). These stands are most likely to burn prior to green-up in the spring due to the resin in the buds being highly

flammable or during the fall after the leaves drop. The wildfire intensity in deciduous stands is lower compared to coniferous stands since deciduous stands are unlikely to have a crown fire due to the lack of ladder fuels. Instead, a vigorous surface fire is most likely to be experienced in these stands due to the grasses and forbs that make up the composition of the ground vegetation. Within the planning area, deciduous stands are varied in size and are concentrated along the western section. The D1/ D2 fuel types make up the second largest percentage and consist of approximately 28.1% of the planning area.



Figure 3: M1/M2 Fuel Distribution and Vegetation example

Mixedwood stands are comprised of a mixture of deciduous and coniferous vegetation. Coniferous trees are associated with being volatile fuels and have a higher probability of ignition than deciduous trees. The presence of conifers in a mixedwood stand increases the potential for spotting as well as crown fires due to an increased presence of ladder fuels. Consequently, a wildfire in a mixedwood stand may have a higher degree of difficulty in controlling. Within the planning area, mixedwood stands are varied in size and are concentrated along the west section the planning area. The M1/ M2 fuel types consist of approximately 6.2% of the planning area.

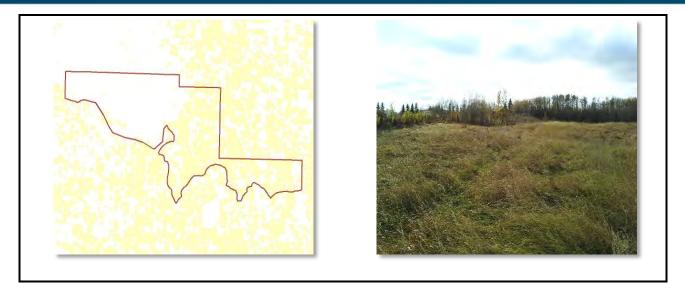


Figure 4: O2 Fuel Distribution and Vegetation example

A concern for the planning area is the ignition risks for grass fires. Grass fuels are a concern in the spring and fall when grass is dead and dry (cured fine fuel conditions). During these times, ignition becomes very easy and the Rate of Spread (ROS, m/min) will be high. The O1 fuel types make up the largest percentage and consist of approximately 37.8% of the planning area.

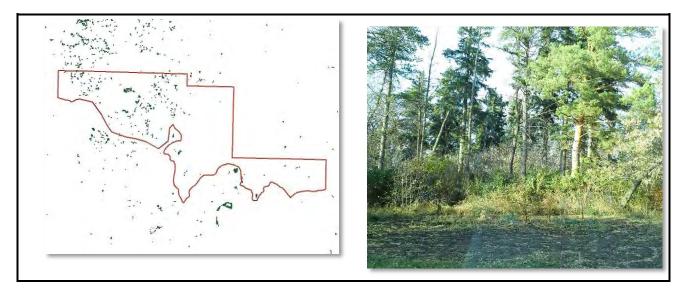


Figure 5: C1/C2 Fuel Distribution and Vegetation example

Coniferous species such as white spruce (*Picea glauca*) and black spruce (*Picea mariana*) are considered volatile fuels. Conifer fuels are considered a high risk due to: the ability to burn throughout the fire season, the likelihood and high potential for spotting, and the likelihood and high potential for crown fires. The planning area contains some stands dominated by white spruce and/or black spruce. The C1/C2 fuel types consist of approximately 2.0% of the planning area.

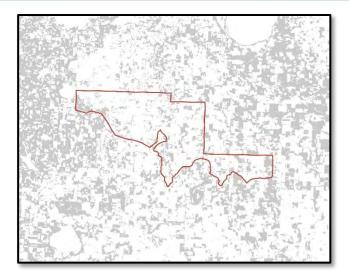


Figure 6: Vegetated Non-Fuel Distribution

Vegetated non-fuels include areas of maintained grass and managed agriculture land. Vegetated non-fuels cover approximately 19.6% of the planning area.

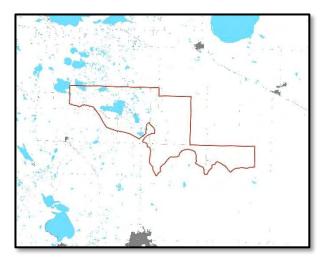


Figure 7: Non-Fuel Distribution

Non-fuels include road networks, waterbodies, and anthropogenic features. Non-fuels cover approximately 6.6% of the planning area.

2.3.2 Fire Season Weather

The analysis of the historical weather included: temperature, relative humidity, precipitation, wind speed, and wind direction.

Crossover days were used to identify periods of high fire concern. Crossover is wildfire term that identifies days when the minimum daily relative humidity (RH) becomes lower than the ambient temperature. As RH lowers, fuels dry at a quicker rate. The combination of low RH and higher temperatures reduces the moisture

content of fine fuels (grasses, needles, herbaceous vegetation within forested stands), which can impact the Rate of Spread (ROS) of wildfire. Crossover days are easily identifiable by Emergency Services personnel when monitoring weather conditions during the fire season. The majority of crossover days occur in May during the spring fire season. This will be a period of high concern for wildfire as dead fine fuels are dry and the new vegetation has yet to mature. The second season of concern is September when vegetation begins to die, the temperature is still high, and the RH drops significantly during the day. Burning periods in the fall decrease as the days get shorter although the low RH and higher temperatures amplify the wildfire risk.

Using daily noon actuals, the temperature, relative humidity, precipitation, and wind speed were averaged. The data reflects the fire season weather by using data from 2009 to 2017 during the months of March to October. Temperature, relative humidity, precipitation, and wind speed were calculated by averaging the monthly totals.

See Table 7 and Appendix B5.

Weather Stations: Camrose and Holden AGDM March 1, 2009 - October 31, 2017								
Month	Average Temp. (°C)	Average Relative Humidity (%)	Average Wind Speed (km/h)	Average Precip. (mm)	Average Crossover (days/yr)	Average 90 th Percentile FWI (days/yr)	Average 90 th Percentile FFMC (days/yr)	Average 90 th Percentile ISI (days/yr)
March	-5	79	14	11	N/A	N/A	N/A	N/A
April	3	70	16	23	0	1	2	4
Мау	11	60	16	38	2	5	8	6
June	15	70	14	67	1	3	2	2
July	17	76	13	81	0	1	1	0
August	16	75	11	42	0	1	1	1
September	11	70	13	24	2	7	6	5
October	4	77	14	15	0	4	0	2

Table 7: Summary of data from two Weather Stations for the planning area

*FWI/Daily data for April-October only due to snow cover

**Temp/RH/WS/Precip data based on hourly data

Wind roses depict the distribution of wind speed and direction. **Figure 8** illustrates the proportion of wind direction and speed for the days associated with the FWI 90th percentiles per season. The seasons represent the following months: spring (March to May), summer (June to August), and fall (September and October).

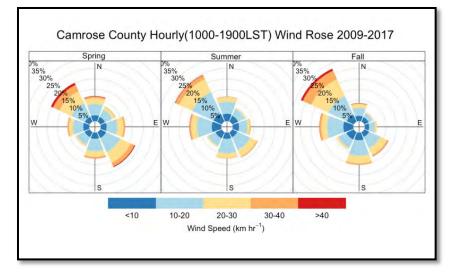


Figure 8: Camrose County Hourly (1000-1900) Wind rose (2009-2017) for spring, summer, and fall

Spring: Winds are predominately from the northwest and southeast. Wind speeds are generally greater than 20 km/hr and gusts may reach upwards of 40 km/hr. Southerly winds are often referred to as drying winds as moisture can be easily removed from fine fuels. The stronger the wind, the faster a fire will spreads due to more oxygen being supplied for combustion and drier surface fuels. Stronger wind speeds may result in spotting.

Summer: Winds are predominately from the northwest. Gusts may reach upwards of 30-40 km/hr.

Fall: Wind events are predominately from the northwest. Wind speeds are usually greater than 20 km/hr and gusts may reach upwards of 40 km/hr. Strong wind speeds may result in spotting.



Figure 9. Illustration of spotting during a wildfire (Adopted from <u>http://www.firewise.org</u>). Spotting occurs when embers from burning material gets transported by the wind which has the potential to start new secondary fires.

2.3.3 Fire Weather Indices

Being outside of the Forest Protection Area, there is limited access to fire weather indices. Three measures that provide further insight to wildfire situation are: Fire Weather Index (FWI), Fine Fuels Moisture Code (FFMC), and the Initial Spread Index (ISI).

The FWI is used as a general index of fire danger throughout forested areas in Canada (Natural Resources Canada, 2016). The daily FWI is calculated using temperature, relative humidity, wind speed, and precipitation at a specific time index (13:00). The 90th percentile FWI was calculated to better understand what months are at a higher risk of sustaining a wildfire in the planning areas. **Appendix B5** illustrates the distribution of days that are within the FWI 90th percentile.

The FFMC was also analyzed since grass fires have historically been a large concern for local Fire Departments. The FFMC considers the dryness of small and fine forest fuels like grass. Daily FFMC is calculated using temperature, relative humidity, wind speed, and precipitation based on the previous day's weather information. The planning area is located within the central parkland and the dry mixedwood natural sub-region where standing or matted grass vegetation is common. **Appendix B5** shows the distribution of days that are within the FFMC 90th percentile.

The ISI is a key component in fire behavior in regards to the Canadian Forest Fires Danger Rating System (CFFDRS). The ISI integrates fuel moisture for fine dead fuels and surface wind speed to estimate a spread potential. ISI is a key input for fire behavior predictions in the FBP system. The rate of spread predicts the speed of the fire and takes into account of the potential for spotting and crowning fires. **Appendix B5** shows the distribution of days that are within the ISI 90th percentile.

Table 8: 90th Percentile FWI, FFMC, and ISI rating results for the Camrose County planning area based on Weather Station: Camrose and Holden AGDM (March 1, 2009 - October 31, 2017)

	FWI	FFMC	ISI
Hazard Rating	35.1	92	16
	(Extreme)	(Extreme)	(Extreme)

2.3.4 Topography

Topography influences fire behaviour similar to wind where the degree of slopes directly impacts the rate of spread of a fire.

The topography in the planning area consists of mainly flat terrain. Camrose County has minimal elevation changes throughout the county except on the northern boundary that borders Beaver County. The greater slope percentages present in this area could increase the rate of spread of a wildfire. The subtle elevation changes throughout the remaining location of the planning area will have little effect on fire behaviour. The coniferous fuels as well as the dead and down woody debris present on the steep slopes may further increase the rate of wildfire spread, increasing the overall risk in these areas.

See Appendix B1 for the Overview and Topography map.

2.4 Wildfire Behavior Analysis

Fire weather predictions are based on the analysis of fuels, weather, and topography. Three methods were utilized to predict fire behavior: Wildfire Behaviour Potential, Wildfire Threat Rating, and the Prometheus Wildfire Model.

2.4.1 Wildfire Behaviour Potential and Wildfire Threat Rating

Wildfire Behaviour Potential and Wildfire Threat Rating maps were acquired from the Alberta FireWeb (AAF). The Alberta FireWeb is a spatial tool that allows wildfire planners to better understand wildfire threat in an area. Wildfire Threat Rating and Fire Behaviour Potential maps for spring, summer, and fall from FireWeb were analyzed.

It is important to note that Wildfire Threat Rating calculations were not intended to be used outside the Forest Protection Area. The rating calculations do not account for the municipal firefighting resources and the potential for quick response times from the fire halls.

The Fire Behaviour Potential varies seasonally within the planning area. The Fire Behavior Potential for spring is predominately <u>low</u> with the southeast section at <u>moderate</u>. During the summer and fall season, the fire potential is <u>low</u>. During the summer season, Fire Behaviour Potential is reduced to mainly a low rating due to the fact the fuels area no longer cured/dried.

Wildfire Hazard and Risk ratings depict seasonal ranges in the Wildfire Threat Rating. The Wildfire Threat Rating during spring is <u>moderate</u> with isolated patches of extreme where the coniferous fuel types reside. The summer season is mainly <u>low</u> where the fall is intermixed between <u>low and moderate</u> threat ratings. As the planning area is outside of the Forest Protection Area, the overall risk could decrease thus lowering the Wildfire Threat Rating.

See Appendix B6 and B7 for Wildfire Threat Rating and Fire Behaviour Potential maps.

2.4.2 Prometheus Wildfire Model

Prometheus runs were completed at a landscape scale that included the entire BHI study area. Historical fire season weather was modelled and the 90th FWI percentile was used to identify burning days. Ignition points were selected based on dominate wind direction, continuity of fuels, and the potential to impact communities within the study area. The Prometheus models are discussed in further detail in Section 3 of the BHI FireSmart Plan.

3 Wildfire Incidents

Camrose County has documented that the majority of wildfire incidents within the County have resulted from anthropogenic activities ranging from agriculture to recreation. Fire response statistics (2015-2017) were analyzed to determine when a wildfire occurred, the cause of ignition, and the total count of occurrences. **Table 9** summarizes the total amount of wildfire incidences from 2015-2017. Hay Lakes fire department lies outside the BHI study area but would respond to a wildfire event if it was closer than the Hamlet of Round Hill. No response calls have been issued from this fire hall responding to a wildfire event within the BHI study area (2015-2017).

Camrose County Grass/Brush Fire Incidences between 2015-2017						
Station	Cause	Count				
	2015	Grass fires in ditch	2			
Round Hill	2016	Grass fire in farmers field	1			
	2017	Grass and tree fire on private farm land	3			
Hay Lakes	No recorded wildfire events within BHI study area.					

Table 9. Camrose County Wildfire Incidence Statistics

4 **Firefighting Capabilities**

Firefighting capabilities within the planning area are adequate and are able to respond to wildfire events that occur in the section of the County. Mutual aid agreements exist between neighbouring counties such as: Ponoka County, Lacombe County, Flagstaff County, Stettler County, Wetaskiwin County, and Beaver County. In addition, the municipalities that have mutual aids include: Tofield, Bawlf, Ferintosh, Edberg, Bashaw, Heisler, Daysland, Hay Lakes, Bittern Lake, and Rosalind. If county resources are dedicated to other incidents, Camrose County can request assistance through mutual aid agreements.

Along with mutual aid agreements, Camrose County has a standard inventory of firefighting resources at its disposal. **Table 10** is a brief list of available equipment based out of Round Hill and Hay Lakes fire stations.

Fire Stations	Equipment Type	Quantity
Round Hill	Pumpers (800 gallons)	2
	¾ ton Brush Truck (200 gallon)	1
	Tanker (1800 gallon)	1
	1992 GMC Pumper	1
Hay Lakes	2012 International Pumper	1
	³ ⁄ ₄ ton Brush Truck (200 gallons)	1

Table 10: Camrose County Fire Department Resources

5 Wildfire Mitigation Strategies

5.1 Education

Recommendation 1a:	Educate and encourage community member involvement in FireSmart activities.		
Recommendation 1b:	ation 1b: Distribute information regarding FireSmart priority zones.		
Recommendation 1d:	Promote residences to use the "Alberta Emergency Alert" App for up to date information on wildfire emergencies.		

Education of local residents will assist in mitigating wildfires occurrences within the county. Through platforms such as social media, open houses, rural newsletters, and local school presentations/events, FireSmart objectives can be highlighted, explained and/or demonstrated. These platforms will encourage engagement with surrounding residents on issues revolving around those tasks and methods. It is recommended that Camrose County develops an educational program that focuses on fire prevention and fire safety when conducting operations such as slash burning.

Information distributed should focus and highlight Non-combustible Zone and Priority Zone 1. These areas should have priority. Information should also include, but not be limited to, fuel removal, fuel reduction, and conversion of the property.

Encouraging the download and use of the Alberta Emergency Alert app allows for a simple way for residents to have access to, and stay updated with, necessary information during potential emergencies.

5.2 Development

The Camrose County Public Works department oversees functions related to road maintenance and other land use planning matters. Infrastructure affects a community's resilience to wildfire. Current aspects of development to consider for possible improvements to further mitigate wildfire risks include:

- Access
- Water availability
- Signage
- Utilities
- Staging Areas

5.2.1 Access

Recommendation 2a:

Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services.

Within and surrounding Camrose County, there are multiple means of ingress/egress to allow for safe movement of traffic during an emergency. The main means of access is Hwy 21 that runs along the western planning area boundary of study area boundary along with Hwy 617, 623, and 833. A network of township

and range roads are also available as a means of ingress/egress during an emergency. The roads are designed to accommodate two-way traffic and are wide enough to allow for evacuating vehicles to pass responding emergency personnel and equipment.

Road maintenance is required during spring melt and on newly constructed roads suffering from deep ruts, large puddles, and or a washboard surface. It is recommended that Camrose County develops and implements Best Management Practices for road construction to ensure suitable access for emergency services. Best Management Practices may include:

- enhancement of driving surface widths
- improvement of ditch slopes to improve driving surface stability
- installment of "No Parking" signage on roads critical for evacuation
- installment of designated evacuation route signs

5.2.2 Water Availability

The planning area subdivisions and hamlets do not have fire hydrants. The closest water truck fill station available for firefighting purposes is located near the transition of Hwy 21 to Secondary Hwy 617. The fill station is referred to as 'Hays Lakes' Water Well. The northwest section of the selected BHI study area has the highest concentration of standing waterbodies which can assist the local fire department in drawing water for firefighting purposes.

5.2.3 Utilities

Recommendation 2b: Ensure that the primary and secondary power lines are maintained.

Single, secondary, and three phase power lines are present within Camrose County. Fortis Alberta owns and oversees the maintenance along the distribution right of ways. The majority of the lines have been maintained, but in certain locations vegetation management will be required. Secondary lines are prominent in the rural subdivisions and although these lines conduct less voltage in comparison to the other distribution lines, wildfires can result from these lines under the right conditions.

5.2.4 Staging Areas

Staging areas are for the purpose of the Fire Department to setup and run operations. They are determined on a case by case basis and consider key elements such as fire location and direction of burn. Possible staging areas have been identified in **Appendix B9**. Criteria for selecting possible staging area locations included adequate space to marshal equipment and equipment turn arounds, solid surfaces capable of supporting the fire trucks, and are close or within the community. Emergency Services may also utilize the County office or other facilities present in the Town of Camrose.

5.3 Vegetation Management

Recommendation 3a:

Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1.

Recommendation 3b:

Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities.

Vegetation management has four FireSmart priority zones: Non-combustible Zone and Priority Zones 1, 2, and 3. Application of vegetation management within the four priority zones will reduce hazards and improve the defensibility of a structure. <u>Vegetation should not be modified</u>, reduced, or removed if considered within the riparian zone, or other sensitive areas.

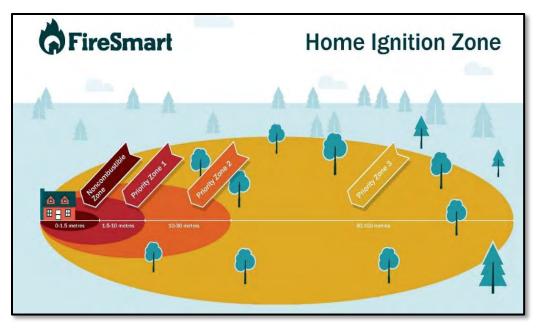


Figure 10: FireSmart Zones (http://www.firesmartcanada.ca/resources-library/firesmart-home-ignition-zone-graphic)

The Non-combustible Zone is the area that is 0 to 1.5 meters immediately around a structure and is considered the most critical area. This zone prevents flammable fuels from doing immediate damage to the structure.

Priority Zone 1 has a radius of 1.5 to 10 meter radius around the structure. Keeping this area clear of flammable vegetation and debris can reduce the risk of the structure igniting during a wildfire and increases the defensibility of the structure.

Priority Zone 2 has a radius of 10 to 30 meter around the structure. Maintenance of Priority Zone 2 aids in lowering the intensity and the rate of spread of a wildfire.

Priority Zone 3 extends out from 30 meters. Priority Zone 3 modification may be necessary if there are high threat levels due to heavy continuous vegetation and steep topography that could not be sufficiently reduced by fuel management in Priority Zone 2. Fuel management options for Zone 2 and 3 are most effective when conifer trees are present.

Within the Camrose County planning area, the need for fuel treatment within Priority Zone 3 may be required, but should be conducted on a case by case basis for mitigating wildfire threat to values at risk on the landscape.

Priority Zone	Fuel Management Option
Non-combustible Zone and Zone 1	Mow grass (10 centimeters or less)
	Remove ground litter and downed trees
	Remove over mature, dead and dying trees
	Plant fire resistant vegetation
	Thin and/or prune existing vegetation
	Remove piled debris
Zone 2 and 3	Thinning understory
	Pruning lower branches (within two meters from the ground)

Table 11: FireSmart Priority Zones Fuel Management options to improve defensibility of structures in the event of wildfire

5.4 Legislation

Bylaws are an important aspect of a community. The purpose of bylaws are that "they are understandable, enforceable, and accomplish the council's desired goal" (Municipal Affairs, 2013). The review of the Bylaws included current regulations and an investigation of recommendations that could be undertaken to address specific issues to aid in meeting FireSmart goals.

5.4.1 Land Use Bylaw

Recommendation 4b: Develop a land use bylaw that incorporates FireSmart principles.

Incorporating FireSmart principals into the development process will ensure that the community grows in a manner that will facilitate mitigating wildfire risk within the community. The bylaw should also consider FireSmart practices as per Chapter 3 of Partners in Protection's *FireSmart: Protecting Your Community from Wildfire* (2003). Inclusion of FireSmart assessments prior to building a structure or developing an area will identify the hazards and risks for the sites. Based on the assessments, recommendations on setbacks from top of slopes, landscaping, and driveway or road development would be important to identify prior to development.

5.4.2 Fire Permit Bylaw

Recommendation 4c: Adjust the issuing of fire permits as a year round requirement.

Residents occupying rural subdivisions who burn organic materials must obtain a fire permit. Currently, a fire permit allows the individual to commence open burning activities from April 1 to October 31. Burning activities that fall outside the proposed season do not require a burning permit. It is recommended that Camrose County issue fire permits as a year round requirement.

5.5 Inter-Agency Cooperation

Recommendation 5a:

Coordinate a pre-fire season meeting with other agencies to discuss the upcoming wildfire season.

Wildfires around rural communities may exceed the capabilities of local emergency responders. When Fire Service Agreements are in place, additional resources of personnel, equipment, and specialized equipment are made available. Currently, Camrose County has mutual aid agreements in place with Ponoka County, Lacombe County, Flagstaff County, Beaver County, Stettler County, and Wetaskiwin County Fire Departments. It is recommended that Camrose County continue to maintain current mutual aid agreements. Camrose Emergency Services should conduct an annual pre-season meeting with mutual aid agreements holders to discuss interagency cooperation during a wildfire incident.

5.6 Cross-Training

Recommendation 6a: Create desktop scenarios to test out and understand protocols durin wildfire emergencies.	
Recommendation 6b:	Participate in joint wildfire exercises with Alberta Agriculture and Forestry.

It is recommended that the fire department execute desktop scenarios as part of their training regime. Desktop scenarios will help firefighters to work through relevant scenarios relating to Camrose County and test out and understand protocols during emergencies.

Camrose County fire department should participate in joint exercises with AAF Wildfire Management Branch in the Rocky Mountain House District. These exercises should emphasize mutual aid scenarios. Having multiple agencies participate in these training exercises will benefit all parties by illustrating key differences in strategies, tactics, and equipment.

5.7 Emergency Planning

Recommendation 7a:	Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies.
Recommendation 7b:	Create Wildfire Preparedness Guides for communities.

Camrose County has an Emergency Response and an Evacuation Plan already drafted in relation to wildfire incidents. The Evacuation Plan can be referenced in Section 3.1 and Section 3.11 of the Wildfire Plan in Camrose County's Regional Emergency Plan. It is recommended once the Emergency Response Plan is updated, that the plan incorporates wildfire incidents in regards to emergency response and evacuation plans. It is recommended that the Emergency Response Plan be updated to incorporate wildfire emergency response and evacuation planning. In addition, it is recommended that Wildfire Preparedness Guides be developed for each individual subdivision and municipalities within the Camrose County planning area.

6 Summary of Recommendations

Each of the recommendations is ordered upon urgency and effort to assist each of the communities in making a working plan. Urgency and effort levels were set using the following criteria:

Urgency is a measure of timeliness and is rated as high, moderate, or low. The rates of timeliness mean:

Hi	igh	The recommendation is critical and should be commenced as soon as possible.
Mod	lerate	Recommendation is important and may be worked on as a staged approach to program improvement.
Lo	ow	The recommendation may be completed as resources become available.

Effort is a measure of resources required over a period of time and is rated as high, moderate, or low. The rates of resources mean:

High	Requires direct project funding (for contracted services), possibly a multi-year project, preferably managed through dedicated resources for the term of the project, involves significant external stakeholder involvement.
Moderate	May require direct project funding (for contracted services), generally completed within one business year, managed with assigned resources and possibly involves external stakeholder input.
Low	Generally will not require direct project funding, managed through existing resources as routine business, often can be completed within one or two business quarters and generally does not involve external stakeholders.

Note: The following tables contain the recommendations, indicating their respective urgency and level of effort required for implementation.

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	 1a. Recommendation Educate and encourage community member involvement with FireSmart Activities. Involvement can be through social media, open houses, rural newsletters, or through local school events. Project Lead BHI Committee Representative Benefits Increase community education and involvement. 	Annually	5.1
High	Moderate	 1b. Recommendation Distribute information regarding FireSmart priority zones. Project Lead BHI Committee Representative Benefits Reduce flammable fuels nearest to the structure. 	Annually	5.1
Moderate	Moderate	 1d. Recommendation Promote residences to use the "Alberta Emergency Alert" App for up to date information on wildfire emergencies. Project Lead BHI Committee Representative Benefits Community alertness if emergencies arise. 	Annually	5.1

Public Education

Development

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	 2a. Recommendation Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services. Project Lead Public Works Department Benefits Improve emergency response times. 	One Time	5.2.1
High	Moderate	 2b. Recommendation To ensure that the primary and secondary power lines are maintained. Project Lead Public Works Department Benefits Preventative measures to maintain community safety. 	Annually	5.2.3

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	 3a. Recommendation Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1. Project Lead Planning and Development Department Benefits Decrease fire hazards. 	Annually	5.3
Moderate	Moderate	 3b. Recommendation Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities. Project Lead Public Works Department Benefits Preventative measures to maintain community safety. 	One Time	5.3

Vegetation Management

Legislation

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	 4b. Recommendation Develop a land use bylaw that incorporates FireSmart principles. Project Lead Public Works Department Benefits Preventative measures to maintain community safety. 	One Time	5.4.1
Moderate	Moderate	 4c. Recommendation To adjust the issuing of fire permits to a year round requirement. Project Lead Administration Members Benefits Decrease fire hazards.	One Time	5.4.2

Inter-Agency Cooperation

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	 5a. Recommendation Coordinate a pre-fire season meeting with other agencies to discuss the upcoming wildfire season. Project Lead Public Works Department Benefits Improve and maintain mutual aid agreements 	Annually	5.5

Cross-Training

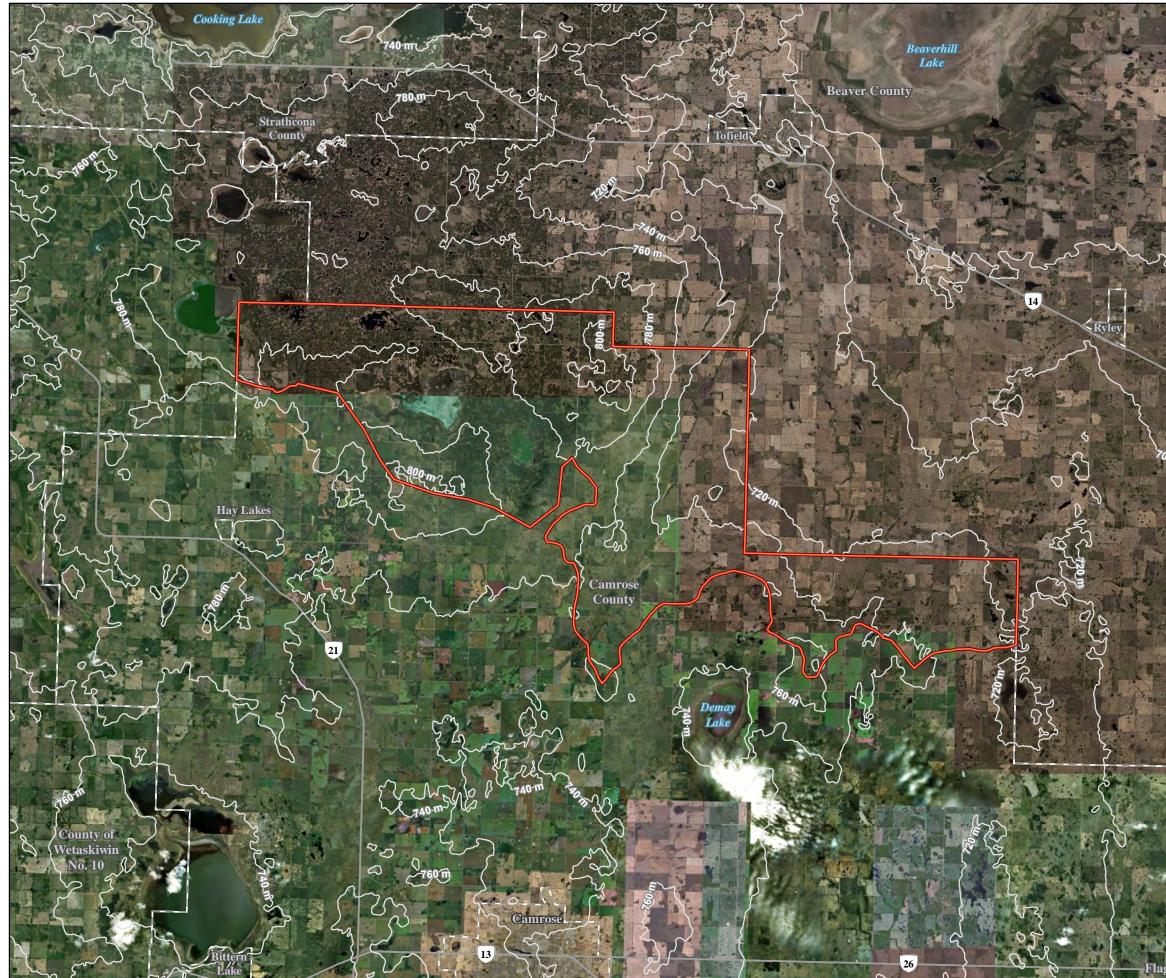
Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	 6a. Recommendation Create desktop scenarios to test out and understand protocols during wildfire emergencies (example: Wildfire CD's). Project Lead Fire Department, Alberta Agriculture and Forestry Benefits Increase fire preparedness for the season. 	Annually	5.6
Moderate	Low	 6b. Recommendation Participate in joint wildfire exercises with Alberta Agriculture and Forestry. Project Lead Fire Department, Alberta Agriculture and Forestry Benefits Increase fire preparedness for the season. 	Annually	5.6

Emergency Planning

Urgency	Effort	Recommendation	Frequency	Section
Low	Moderate	 7a. Recommendation Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies. Project Lead Public Works Department Benefits Improve Emergency Preparedness. 	Annually	5.7

Urgency	Effort	Recommendation	Frequency	Section
Low	Moderate	 7b. Recommendation Create Wildfire Preparedness Guides for communities. Project Lead Public Works Department. Benefits Improve Emergency Preparedness. 	One Time	5.7

Appendix B1: Overview and Topography Map

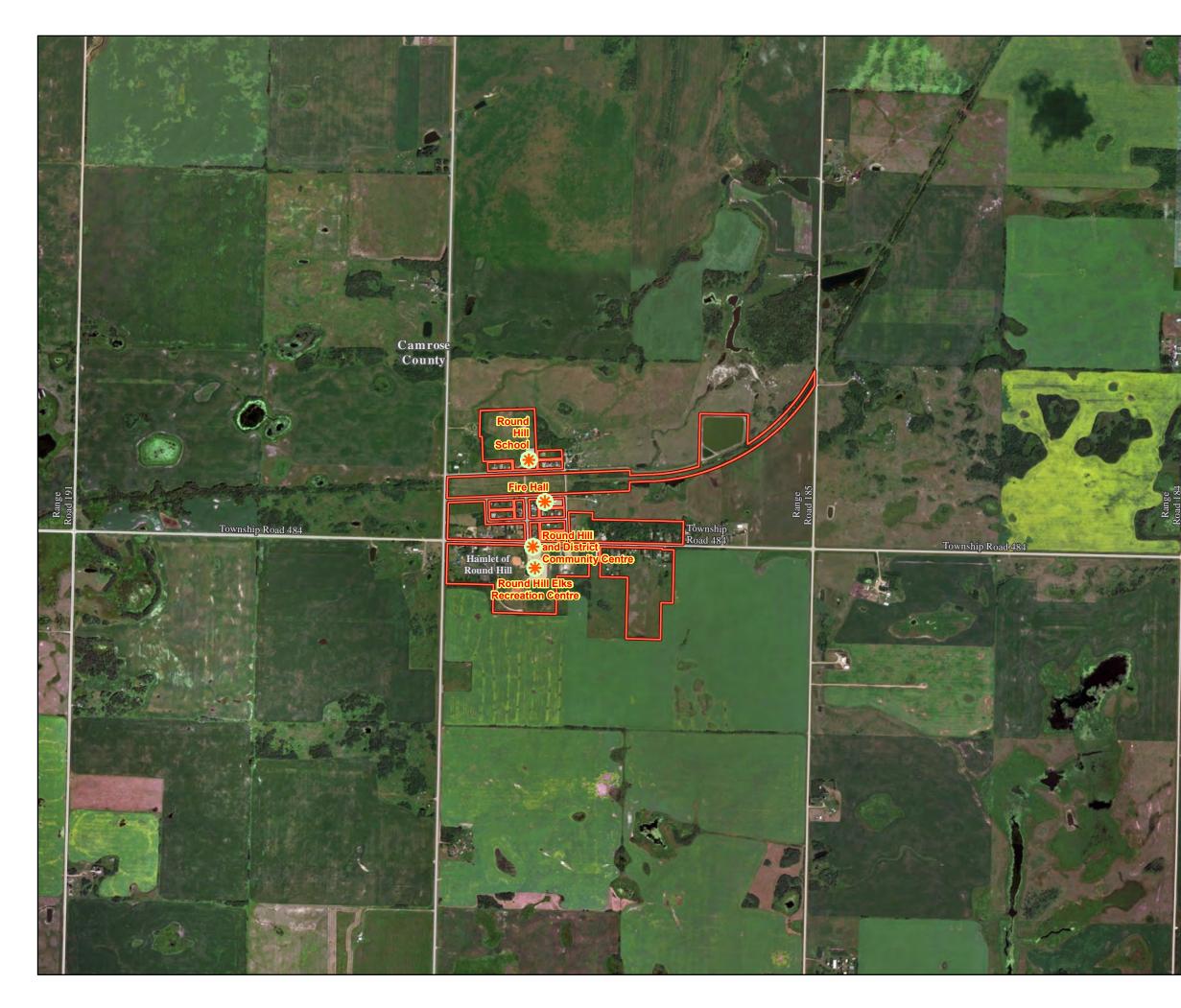


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- Children	Source: Contains information licensed under the N Open Government License – Alberta, Canada, Beaver County, City of Edmonton, DigitalGlobe,
	GeoEye, Strathcona County. Imagery Acquisition Date: 2011-2016 Coordinates system: NAD 1983 UTM Zone 12N
c c	Coordinates system: NAD 1983 UTM Zone 12N 5 1:180,000
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c	Date: June 25, 2018
gstaff-County	Prepared by: G. Couture ENVIRONMENTAL

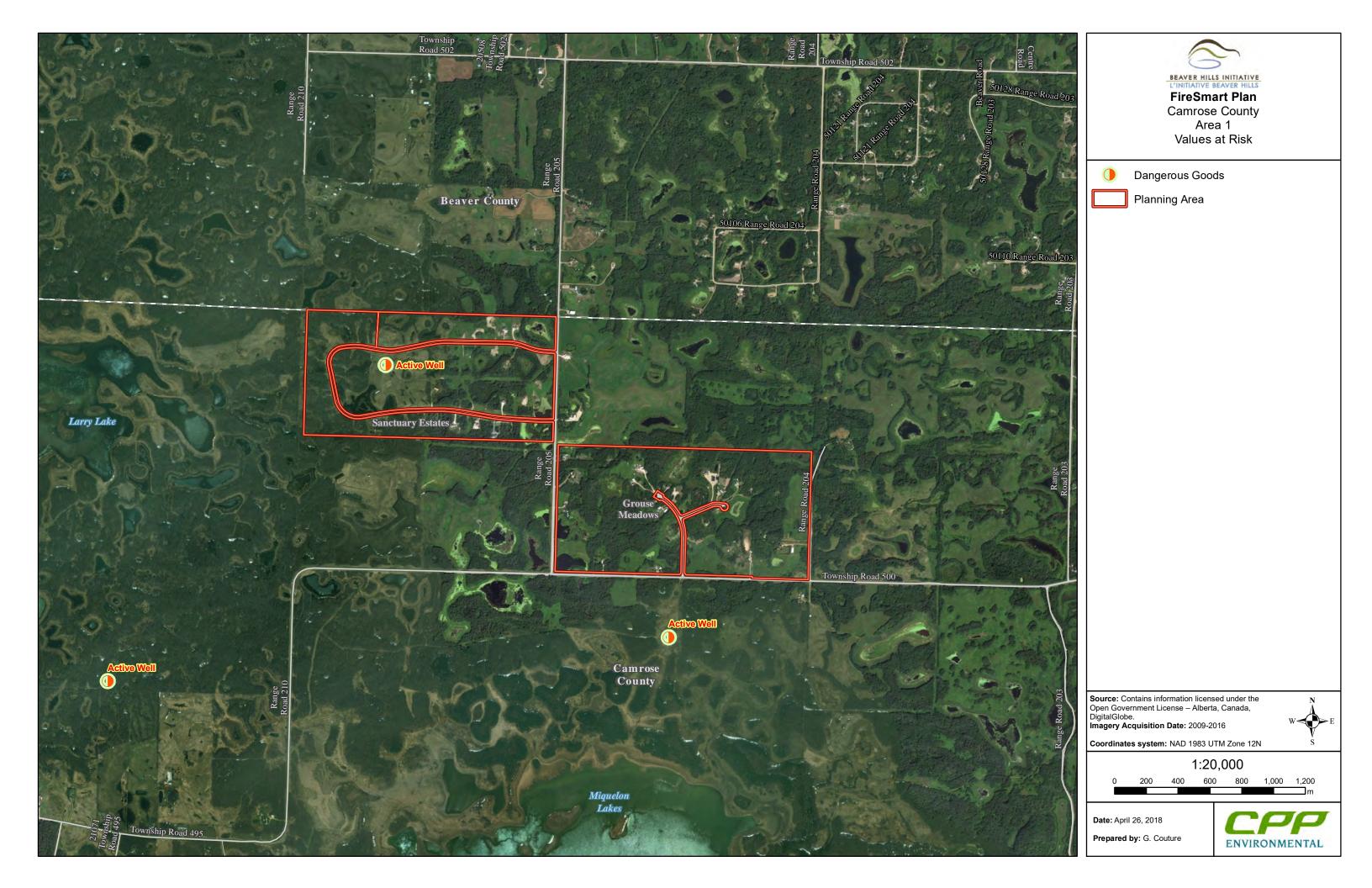
Appendix B2: Values at Risk Maps

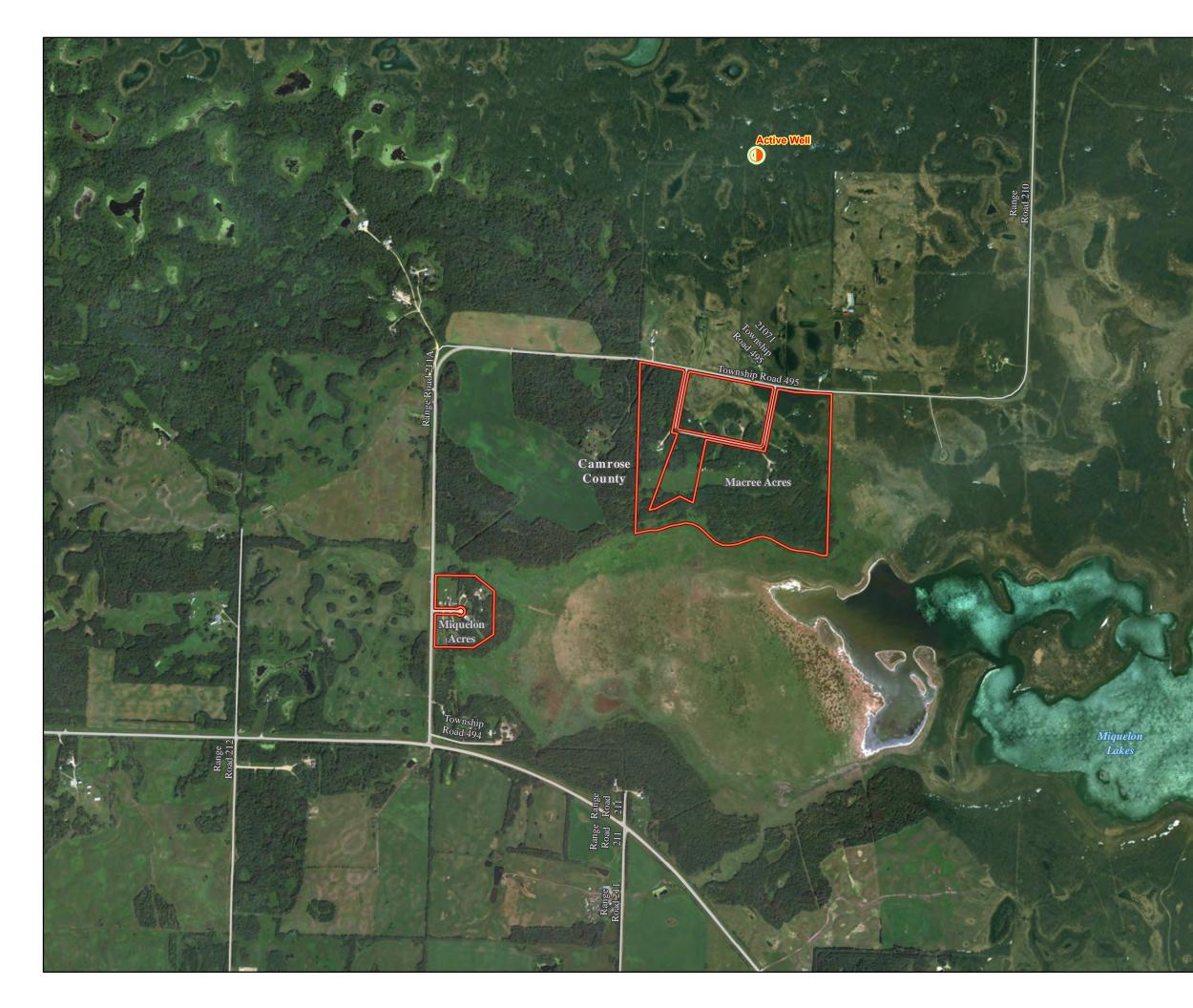


	BEAVER HILLS INITIATIVE L'INITIATIVE BEAVER HILLS FireSmart Plan Camrose County Hamlet of Kingman Values at Risk	
100	* Critical Infrastructure	
	Planning Area	
	Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe. Imagery Acquisition Date: 2009-2016	
Coordinates system: NAD 1983 UTM Zone 12N		
	1:8,000 0 100 200 300 400 500	
1	Date: April 26, 2018 Prepared by: G. Couture	



No Con B	FireSma Camrose Hamlet of Values	e County Round Hill at Risk	
100	* Critical Infrastru	cture	
	Planning Area		
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	Open Government License – Albert DigitalGlobe. Imagery Acquisition Date: 2009-2		
1000	Coordinates system: NAD 1983 UTM Zone 12N S		
-	1:16,000 0 100 200 300 400 500 600		
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19	Date: April 26, 2018	CPP	
1	Prepared by: G. Couture	ENVIRONMENTAL	





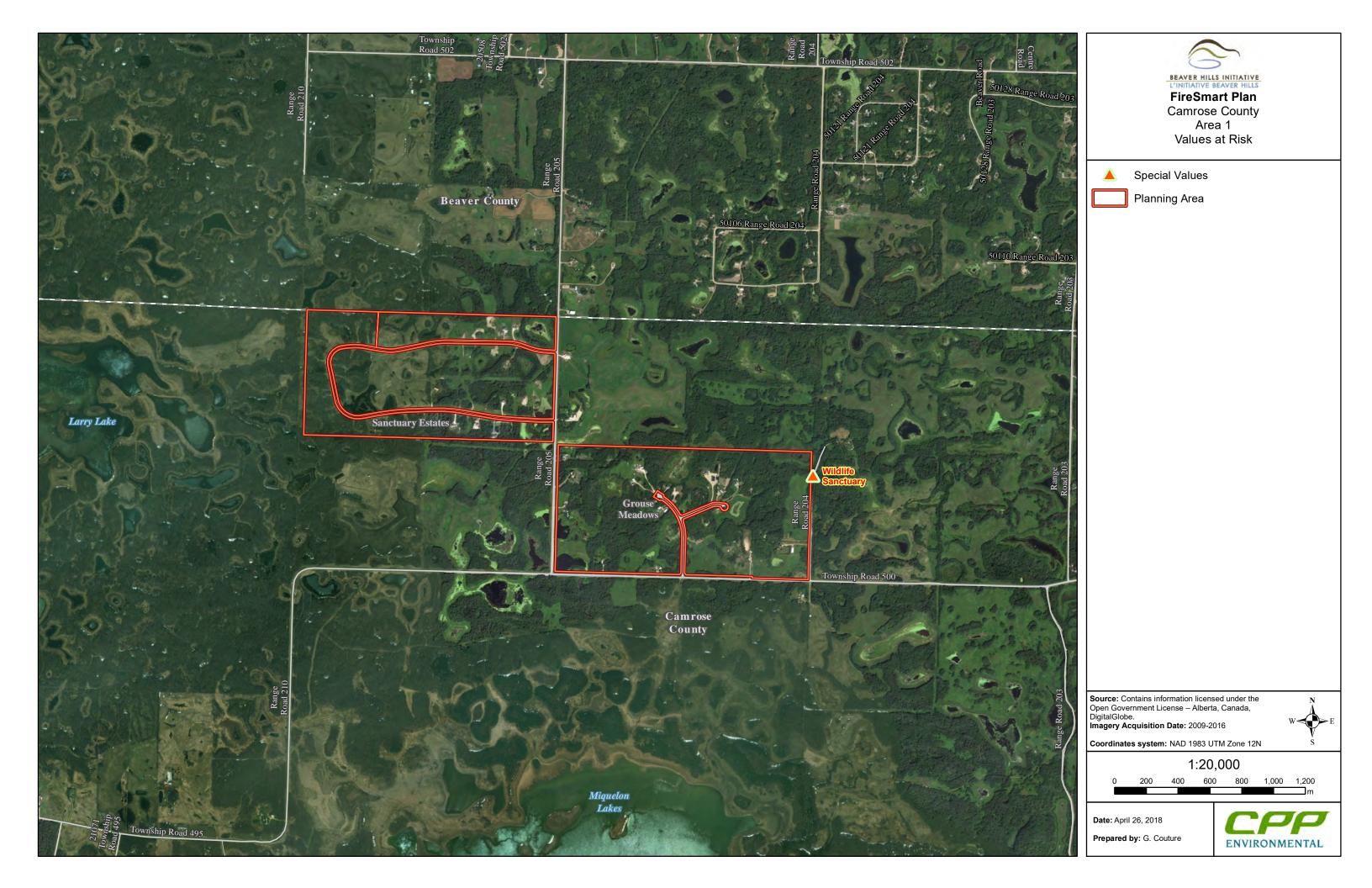
Y	6	5		
-	FireSma	LS INITIATIVE BEAVER HILLS art Plan		
		e County a 2		
T		at Risk		
V	🕕 🛛 Dangerous Goo	ds		
100	Planning Area			
A.C.				
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	Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe. Imagery Acquisition Date: 2009-2016			
4	Coordinates system: NAD 1983 UTM Zone 12N S			
	1:15,000 0 100 200 300 400 500 600 m			
Six.	Date: April 26, 2018	Caa		
	Prepared by: G. Couture	ENVIRONMENTAL		



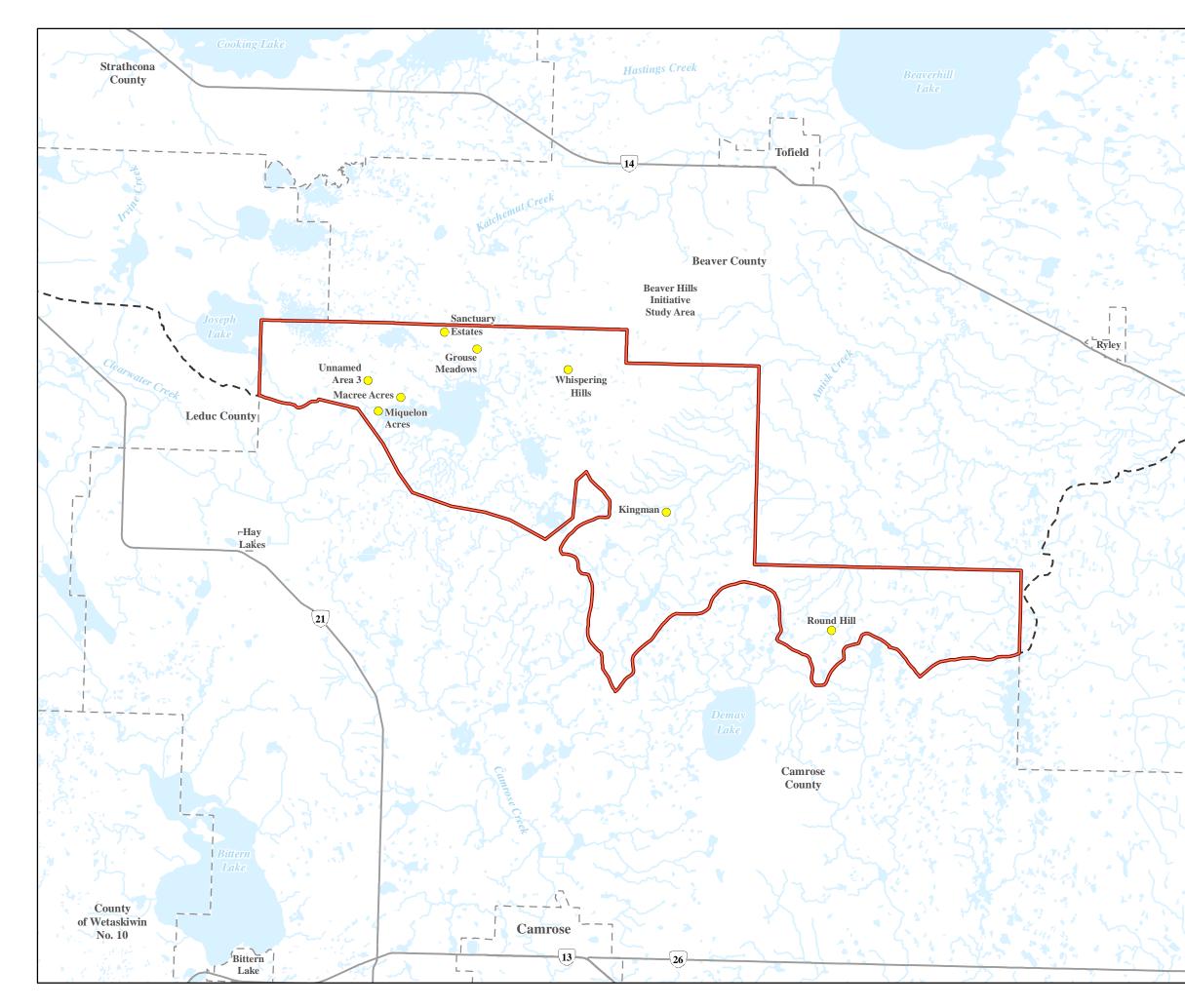
	FireSma Camrose Hamlet of Values	art Plan e County Round Hill at Risk
St all	Dangerous Goo	as
S III	Special Values	
	Planning Area	
Active Well		
ab	Source: Contains information licens Open Government License – Albert DigitalGlobe. Imagery Acquisition Date: 2009-2	a, Canada, 016 W E
		TM Zone 12N S ,000 400 500 600 m
	Date: April 26, 2018 Prepared by: G. Couture	ENVIRONMENTAL

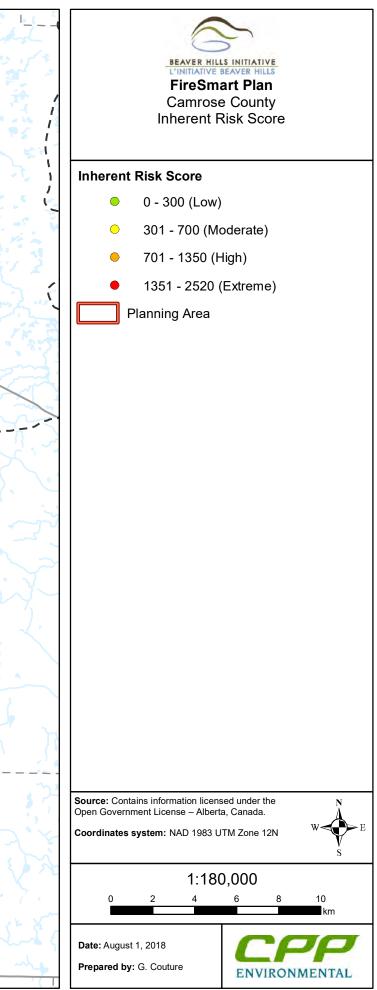


BEAVER HILLS INITIATIVE L'INITIATIVE BEAVER HILLS FireSmart Plan Camrose County Hamlet of Kingma Values at Risk	/
 🔺 Special Values	
Planning Area	
Source: Contains information licensed under the Open Government License – Alberta, Canada, DigitalGlobe. Imagery Acquisition Date: 2009-2016	W E
Coordinates system: NAD 1983 UTM Zone 12	N S
1:8,000 0 100 200 300	400 500
Date: April 26, 2018 Prepared by: G. Couture ENVIE	RONMENTAL



Appendix B3: Inherent Risk Map and Community Risk Assessment Results





Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hamlet of Kingman	INHE	RENT
		Hannet of Kingman	Rating	Scores
H	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	, e	Fuel Surface	0 or 3	0
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	0
ZC	D County Roa		0 or 3	0
ACC	E Subdivisior	N KOad	0 or 3	0
1	A 0.4- 20		/15	3
ц.	A 0 to 30 B 31 to 60		1 2	2
ES	C 61 to 90		3	2
JMBER (HOMES	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
2	2 120		/5	2
	Average Property Valu	ie:		_
ECONOMIC RISK	A \$0 - \$300 0	00	1	1
C H	B \$300 001 -	\$500 000	2	
Σ	C \$500 001 -	\$750 000	3	
DNC	D > \$750 000		4	
EC	Avg Home	Cost: \$ 163,000		
	-		/4	1
4	Presence of:		0 0	2
VALUES AT RISK	A Critical Infr		0 or 3	3
RISK	, e	Goods Infrastructure	0 or 3	0
۸	C Special Val	ues	0 or 3	3
	A Local med	ia involvement and no structural impact to Emergency Services or	/9 1	6 1
×	programs	a involvement and no structural impact to emergency services of	T	T
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
SAL	programs	a involvement and internal structural changes to Emergency services of	-	
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
J D	-	Services or county government	-	
-			/3	1
	нs	A < 20 m between homes	3	3
	URE U	B 21 - 40 m between homes	2	
	SIT	C 41 - 100 m between homes	1	
	DENSITY OF STRUCTURES	D > 100m between homes	0	
	s: L		/3	3
	5 Q	A East w/ Barrier within 200m	0 or 2	0
	BARRIERS TO FIRE SPREAD	B West w/ Barrier within 200m	0 or 4	0
		C South w/ Barrier within 200m	0 or 4	4
		D North w/ Barrier within 200m	0 or 2	2
		A No forest patch present within community	/12	6
	UEL IZE		0	
	E N E N	 B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary 	1 3	
	FOREST FU PATCH SIZ	D Patch > 3 ha within community boundary	5	5
É	0 Z		/5	5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	4
۲. ۲	RT IAL	B 21-40 %	3	
8	NI	C 41-60 %	2	
ö	RESIDENTIAL FIRESMART	D 61-80 %	1	
È	FIF	E 81-100 %	0	
IBI			/4	4
ENS	ED	A Utility ROW maintenance	0 or 1	
GEFI	UIR N	B Fuel maintenance required - other agency	0 or 1	0
	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	1
	<u>.</u>	A Deed width is south a substant 1 - 7	/3	1
		A Road width is equal to or greater than 7 m	0 or 1	1
	ACCESS	 B Loop turnarounds/ cul-de-sacs are suitable for large fire C 2 or more means of egress 	0 or 1 0 or 1	0 0
	ACC	D Standard visible lot signage	0 or 1	0
			/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	z、	fires		2
		B Fire fighters have basic wildfire fighting training	0 or 1	0
	RES: ABII	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	su c	Within an adequate distance to fire station and water supply		
1			/4	0

COMMUNITY:			Hamlet of Kingman		INHE	RENT	
				Hamlet of Kingman		Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 		0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest o Fuel Type: <u>D1</u> Slope %: <u>0-109</u>		0 to 6 /6	2 2
RENCE		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 		0 1 3 /3	1 1	
OF OCCURR		FUEL STR	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 		0 3 5 /5	3 3
ГІКЕГІНОО	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 		0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0
PROBABILITY OF EXTREME FIRE BEHAVIOR ALLOWED ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 		0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	1 1	
	Consequer	nce x Likelih	nood = INH	ERENT RISK	462	TOTAL:	14
				Hazard Rating M	oderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Grouse Meadows	INHE	RENT
		Giouse meadows	Rating	Scores
LE VE	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	3
zC	D County Roa		0 or 3	0
ACO	E Subdivisior	1 Koad	0 or 3	0
	A 0 to 20		/15	9
ц.	A 0 to 30 B 31 to 60		1 2	1
NUMBER OF HOMES	C 61 to 90		3	
JMBER (HOMES	D 91 to 120		4	
≧ ¥	E > 120		4 5	
2	2 7 120		/5	1
	Average Property Valu	le:	7-	_
SK	A \$0 - \$300 0		1	1
СR	B \$300 001 -	\$500 000	2	
Σ	C \$500 001 -	\$750 000	3	
NO NO	D > \$750 000)	4	
ECONOMIC RISK	Avg Home	Cost: \$ 291,000		
_			/4	1
E.	Presence of:			
VALUES AT RISK	A Critical Infr		0 or 3	3
LUES RISK	•	Goods Infrastructure	0 or 3	3
VAI	C Special Val	ues	0 or 3	3
-			/9	9
~		ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs		2	
AL F		a involvement and internal structural changes to Emergency Services or	2	
20	programs		2	
OLI .	-	edia involvement, lack of public confidence, and external changes to	3	
ă	Emergency	Services or county government	12	
		$\Lambda \sim 20 \text{ m}$ between homes	/3 3	1
	OF	A < 20 m between homes B 21 - 40 m between homes	3 2	
	DENSITY OF STRUCTURES	C 41 - 100 m between homes	1	1
		D > 100 m between homes	0	1
	DE		/3	1
	0.0	A East w/ Barrier within 200m	0 or 2	0
	BARRIERS TO FIRE SPREAD	B West w/ Barrier within 200m	0 or 4	0
		C South w/ Barrier within 200m	0 or 4	0
		D North w/ Barrier within 200m	0 or 2	2
	BA		/12	2
	d y	A No forest patch present within community	0	
		B Patch 0.1 - 0.9 ha within community boundary	1	
	CH ST	C Patch 1 - 2.9 ha within community boundary	3	
≥	FOREST FU PATCH SI2	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	Ξ ⁴		/5	5
Ŵ		A 0-20 %	4	4
ΝC	LI AI	B 21-40 %	3	
μŬ	EN	C 41-60 %	2	
Ō	RESIDENTIAL FIRESMART	D 61-80 %	1	
L L	E	E 81-100 %	0	
SIBI	-		/4	4
Ë.	AIN CE ČED	A Utility ROW maintenance	0 or 1	1
DEF	UF M	B Fuel maintenance required - other agency	0 or 1	0
_	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1 /3	0
	<u> </u>	A Road width is equal to or greater than 7 m	/3 0 or 1	1
	ú	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1 0 or 1	1 0
	CES!	C 2 or more means of egress	0 or 1 0 or 1	0
	ACCESS	D Standard visible lot signage	0 or 1	1
			/4	3
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	z .	fires		Ŭ
	<u>Ģ</u> È;	B Fire fighters have basic wildfire fighting training	0 or 1	0
	KESS	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	Ω SU	Within an adequate distance to fire station and water supply		
			/4	0
			<i>,</i> .	U U

	COMMUNITY:			Grouse Meadows		INHE	RENT
				Ciouse meadows		Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 		0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 5
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest Fuel Type: D1 Slope %: 0-10		0 to 6	2 2
RENCE		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	js	0 1 3 /3	1	
OF OCCURR		FUEL STR	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 		0 3 5 /5	3
ГІКЕГІНОО	LIKELIHOOD OI RESIDENTTAL BURNING TYPES ALLOWED SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 		0 or 1 0 or 1 0 or 1 0 or 1 0 or 1	1 1 0 0 2
				 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 		0 or 1 0 or 1 0 or 1 /3	1 0 1 2
PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	1	
	Consequer	nce x Likelih	nood = INH	ERENT RISK	592	TOTAL:	16
				Hazard Rating	Noderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Whispering Hills		RENT
		••••••••••••••••••••••••••••••••••••••	Rating	Scores
AFE	A Lake	Fuel Confere	0 or 3	0
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	0
ZC	D County Roa		0 or 3	0
ACC	E Subdivision	Road	0 or 3	0
1	A 0.4- 20		/15	3
L.	A 0 to 30 B 31 to 60		1 2	1
R O ES	C 61 to 90		2	
JMBER (HOMES	D 91 to 120		5 4	
NUMBER OF HOMES	E > 120		4 5	
z	L > 120		/5	1
	Average Property Valu	ь.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-
sk	A \$0 - \$300 0		1	
C RI	B \$300 001 -		2	2
ый	C \$500 001 -		3	
ON NO	D > \$750 000		4	
ECONOMIC RISK		Cost: \$ 350,000		
ш	Ū		/4	2
L	Presence of:			
AT	A Critical Infr	astructure	0 or 3	3
LUES RISK		Goods Infrastructure	0 or 3	0
VALUES AT RISK	C Special Val	ues	0 or 3	0
>			/9	3
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs			
LRI	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
CA	programs			
	C Regional m	edia involvement, lack of public confidence, and external changes to	3	
О	Emergency	Services or county government		
			/3	1
	ES	A < 20 m between homes	3	
	DENSITY OF STRUCTURES	B 21 - 40 m between homes	2	2
		C 41 - 100 m between homes	1	
	IRU	D > 100m between homes	0	
	S		/3	2
	BARRIERS TO FIRE SPREAD	A East w/ Barrier within 200m	0 or 2	0
		B West w/ Barrier within 200m	0 or 4	0
		C South w/ Barrier within 200m	0 or 4	4
		D North w/ Barrier within 200m	0 or 2	2
			/12	6
	ظ <u>بر</u>	A No forest patch present within community	0	
	FOREST FUEL PATCH SIZE	B Patch 0.1 - 0.9 ha within community boundary	1	
	EST CH	C Patch 1 - 2.9 ha within community boundary	3	
≥	FOREST FU PATCH SI2	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	<u>ц</u> –		/5	5
ы	. .	A 0-20 %	4	4
No	TIA ART	B 21-40 %	3	
Ū L	EN.	C 41-60 %	2	
0 X	RESIDENTIAL FIRESMART	D 61-80 %	1	
L L	FI	E 81-100 %	0	
SIBI	<u> </u>		/4	4
ĒNG		A Utility ROW maintenance	0 or 1	0
DEF	FUEL MAIN. TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
	LEN	C Fuel maintenance required - municipality	0 or 1	0
	<u>ц'</u> <u>т</u>		/3	0
		A Road width is equal to or greater than 7 m	0 or 1	0
	ACCESS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACC	C 2 or more means of egress	0 or 1	0
	1	D Standard visible lot signage	0 or 1 /4	0
		A Decoording Fire Department has present assument for burgh		
	_	A Responding Fire Department has proper equipment for bush	0 or 1	0
	No ⊾	fires B Fire fighters have basis wildfire fighting training	0 or 1	0
	BILI	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	CA	D Within an adequate distance to fire station and water supply	0 or 1	0
	Ś	Within an adequate distance to fire station and water supply	/4	0
			-	
			TOTAL:	27

	COMMUNITY:			Whispering Hills	INHE	RENT
				Whispering this		Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 2 0
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: D1 Slope %: 0-10%	0 to 6	2 2 2
RENCE	NN RIAL		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ГІКЕГІНОО	PRESENT PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0 0
RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1
	Consequer	nce x Likelih	nood = INH		TOTAL:	17
				Hazard Rating Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Hamlet of Round Hill	INHE	RENT
		namet of Kound nim	Rating	Scores
Ë	A Lake		0 or 3	3
ts c	•	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3 0 or 3	0 0
ACCESS TO SAFE ZONES	D County Roa E Subdivisior		0 or 3	0
ACC	L Suburvision	i nodu	/15	6
	A 0 to 30		1	
ь.	B 31 to 60		2	
NUMBER OF HOMES	C 61 to 90		3	3
EN IOH	D 91 to 120		4	
Z Z	E > 120		5	
			/5	3
×	Average Property Valu A \$0 - \$300 0		1	1
RI SI	A \$0 - \$300 0 B \$300 001 -		1 2	T
ы	C \$500 001 -		3	
Q	D > \$750 000		4	
ECONOMIC RISK		Cost: \$ 160,000		
			/4	1
E.	Presence of:			
N X X	A Critical Infr		0 or 3	3
VALUES AT RISK	•	Goods Infrastructure	0 or 3	3
A ∨	C Special Val	ues	0 or 3	3
	A Local med	ia involvement and no structural impact to Emergency Services or	/9 1	9 1
×	programs	a involvement and no structural impact to Emergency services of	T	T
POLITICAL RISK		a involvement and internal structural changes to Emergency Services or	2	
CAL	programs			
Ē	C Regional m	edia involvement, lack of public confidence, and external changes to	3	
Q	Emergency	Services or county government		
			/3	1
	E S	A < 20 m between homes	3	3
	DENSITY OF STRUCTURES	B 21 - 40 m between homes	2	
		C 41 - 100 m between homes	1	
		D > 100m between homes	0 /3	3
		A East w/ Barrier within 200m	0 or 2	3
	BARRIERS TO FIRE SPREAD	B West w/ Barrier within 200m	0 or 2	0
		C South w/ Barrier within 200m	0 or 4	0
		D North w/ Barrier within 200m	0 or 2	0
	B/ FI		/12	0
	JEL ZE	A No forest patch present within community	0	
		B Patch 0.1 - 0.9 ha within community boundary	1	
	OREST FU	C Patch 1 - 2.9 ha within community boundary	3	_
È	FOREST FU PATCH SI	D Patch > 3 ha within community boundary	5 /5	5 5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	3
È	AL I	B 21-40 %	3	3
8	RESIDENTIAL FIRESMART	C 41-60 %	2	
ŭ.	iDE	D 61-80 %	1	
È	FIR	E 81-100 %	0	
IBIL			/4	3
ENS		A Utility ROW maintenance	0 or 1	1
DEF	A A N	B Fuel maintenance required - other agency	0 or 1	0
	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1 /3	1
	<u> </u>	A Road width is equal to or greater than 7 m	/3 0 or 1	2
	s	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1 0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	0
	ΨŪ	D Standard visible lot signage	0 or 1	0
			/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Z ≻	fires		
	SSIC	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	CAF	D Within an adaptista distance to fire station and water supply	0 or 1	0
	s	Within an adequate distance to fire station and water supply	/4	0
			74 TOTAL:	34
L			IOTAL.	54

COMMUNITY:			Hamlet of Round Hill	INHE	RENT	
						Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0
					/10	5
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: D1 Slope %: 0-10% A Absent- No dead or down material	0 to 6 /6 0	2 2
RENCE	STRUC STRUC	DEAD & DOWN MATERIAL	 B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	1 3 /3	1	
OF OCCURRI		FUEL STRU	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3 3
ГІКЕГІНООІ	PRESENT PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 0 2
RESIDENTTAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH	RENT RISK 544	TOTAL:	16
				Hazard Rating Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Macree Acres		RENT
			Rating	Scores
AFE	A Lake	Fuel Surface	0 or 3	0
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	0
ZC	D County Roa		0 or 3	0
ACC	E Subdivision	Road	0 or 3	0
1	A 0.4- 20		/15	3
L.	A 0 to 30 B 31 to 60		1 2	1
R O ES				
NUMBER OF HOMES	C 61 to 90 D 91 to 120		3 4	
N H	D 91 to 120 E > 120		4 5	
z	E > 120		/5	1
	Average Property Valu	e.	/5	1
SK	A \$0 - \$300 0		1	1
R	B \$300 001 -		2	-
MIC	C \$500 001 -		3	
ĪŌN	D > \$750 000		4	
ECONOMIC RISK		Cost: \$ 290,000		
ш	0		/4	1
	Presence of:			
VALUES AT RISK	A Critical Infr	astructure	0 or 3	3
LUES RISK		Goods Infrastructure	0 or 3	3
ALL	C Special Val		0 or 3	0
>			/9	6
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
X	programs			
R	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
POLITICAL RISK	programs			
Ē		edia involvement, lack of public confidence, and external changes to	3	
IO	-	Services or county government		
	с,		/3	1
	" s	A < 20 m between homes	3	
	JRE OF	B 21 - 40 m between homes	2	2
	ĔĔ	C 41 - 100 m between homes	1	
	DENSITY OF STRUCTURES	D > 100m between homes	0	
	ST D		/3	2
	REAL	A East w/ Barrier within 200m	0 or 2	2
		B West w/ Barrier within 200m	0 or 4	4
		C South w/ Barrier within 200m	0 or 4	0
	RE 3	D North w/ Barrier within 200m	0 or 2	0
	B A FII		/12	6
	ы Ш	A No forest patch present within community	0	
	SIZI	B Patch 0.1 - 0.9 ha within community boundary	1	
	CH C	C Patch 1 - 2.9 ha within community boundary	3	
7	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	5 L		/5	5
₽		A 0-20 %	4	4
N N	IAL RT	B 21-40 %	3	
23 	MA	C 41-60 %	2	
ö	RESIDENTIAL FIRESMART	D 61-80 %	1	
Ę	FIF	E 81-100 %	0	0
IBII	ļ,		/4	4
SNS	N H G	A Utility ROW maintenance	0 or 1	1
ĒFE		B Fuel maintenance required - other agency	0 or 1	0
Δ	FUEL MAIN. TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	0
	Е. Ri		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACCESS	C 2 or more means of egress	0 or 1	0
	Ă	D Standard visible lot signage	0 or 1	0
			/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Z >	fires		
	SSIC	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	AP AP	D	0 or 1	0
	SL SL	Within an adequate distance to fire station and water supply		
			/4	0
			TOTAL:	31

	COMMUNITY:			Macree Acres	INHE	RENT	
						Scores	
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3	
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: D1 Slope %: 0-10%	0 to 6	2 2 2	
RENCE	V V KIAL		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1	
OF OCCURR	FUEL STRUCTURE	FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3 3	
ГІКЕГІНОО	LIKELIHOOD OF OCCURRENCE PROBABILITY OF FUEL STRUCTUR PROBABILITY OF BURNING EXTREME FIRE FUEL STRUCTUR BEHAVIOR BURNING IGNITION FUEL STRUCTUR BEHAVIOR SOURCES FUEL DEAT			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
				 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1	
	Consequer	nsequence x Likelihood = INHERENT RISK 403					
				Hazard Rating Moderate			

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Miquelon Acres		RENT
		Miqueion Acres	Rating	Scores
H	A Lake		0 or 3	3
S SA	-	Fuel Surface	0 or 3 0 or 3	3
A Lake B Large Non- C Cleared Ar D County Ro E Subdivision		rea (Vegetation Maintained)		0
ZC	,		0 or 3	0
ACC	E Subdivisior	N KOad	0 or 3	0
1	A 0.4- 20		/15	6
ц.	A 0 to 30 B 31 to 60		1 2	1
NUMBER OF HOMES	C 61 to 90	31 to 60		
JMBER (HOMES	D 91 to 120		3 4	
≧ ¥	E > 120		4 5	
2	2 7 120		/5	1
	Average Property Valu	le:	7-	-
SK	A \$0 - \$300 0		1	1
СR	B \$300 001 -	\$500 000	2	
Σ	C \$500 001 -		3	
NO NO	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 200,000		
-			/4	1
F	Presence of:			
VALUES AT RISK	A Critical Infr		0 or 3	3
LUES RISK	-	Goods Infrastructure	0 or 3	0
VAI	C Special Val	ues	0 or 3	0
-			/9	3
~		ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs	a involvement and internal structure labor and the second state	2	
AL F		a involvement and internal structural changes to Emergency Services or	2	
2	programs		2	
G	-	edia involvement, lack of public confidence, and external changes to	3	
ă	Emergency	Services or county government	12	
			/3	1
	DENSITY OF STRUCTURES	A < 20 m between homes	3	2
		B 21 - 40 m between homes C 41 - 100 m between homes	2 1	2
	NSI	D > 100 m between homes	0	
	DE	D > 10011 between nomes	/3	2
		A East w/ Barrier within 200m	0 or 2	2
	C TC	B West w/ Barrier within 200m	0 or 4	0
	ERS PRE	C South w/ Barrier within 200m	0 or 4	4
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
	BAI FIR		/12	8
	LE LE	A No forest patch present within community	0	
		B Patch 0.1 - 0.9 ha within community boundary	1	
	ST I	C Patch 1 - 2.9 ha within community boundary	3	
>	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	5 2		/5	5
P		A 0-20 %	4	4
N N	'IAL	B 21-40 %	3	
Ŭ	EN1 MA	C 41-60 %	2	
ō	RESIDENTIAL FIRESMART	D 61-80 %	1	
E E	FII	E 81-100 %	0	0
181			/4	4
Ē		A Utility ROW maintenance	0 or 1	0
CEF	UIR N	B Fuel maintenance required - other agency	0 or 1	0
	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	0
	<u> </u>	A Dood width is sevel to an anatomic 7	/3	0
		A Road width is equal to or greater than 7 m	0 or 1	0
	ESS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	1
		D Standard visible lot signage	0 or 1 /4	0
		A Responding Fire Department has proper equipment for bush	/4 0 or 1	0
	-	fires	0011	0
	οĽ	B Fire fighters have basic wildfire fighting training	0 or 1	0
	ESS	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	SUP	Within an adequate distance to fire station and water supply	0011	U
		station and adequate distance to me station and water supply	/4	0
			TOTAL:	32
I	1			

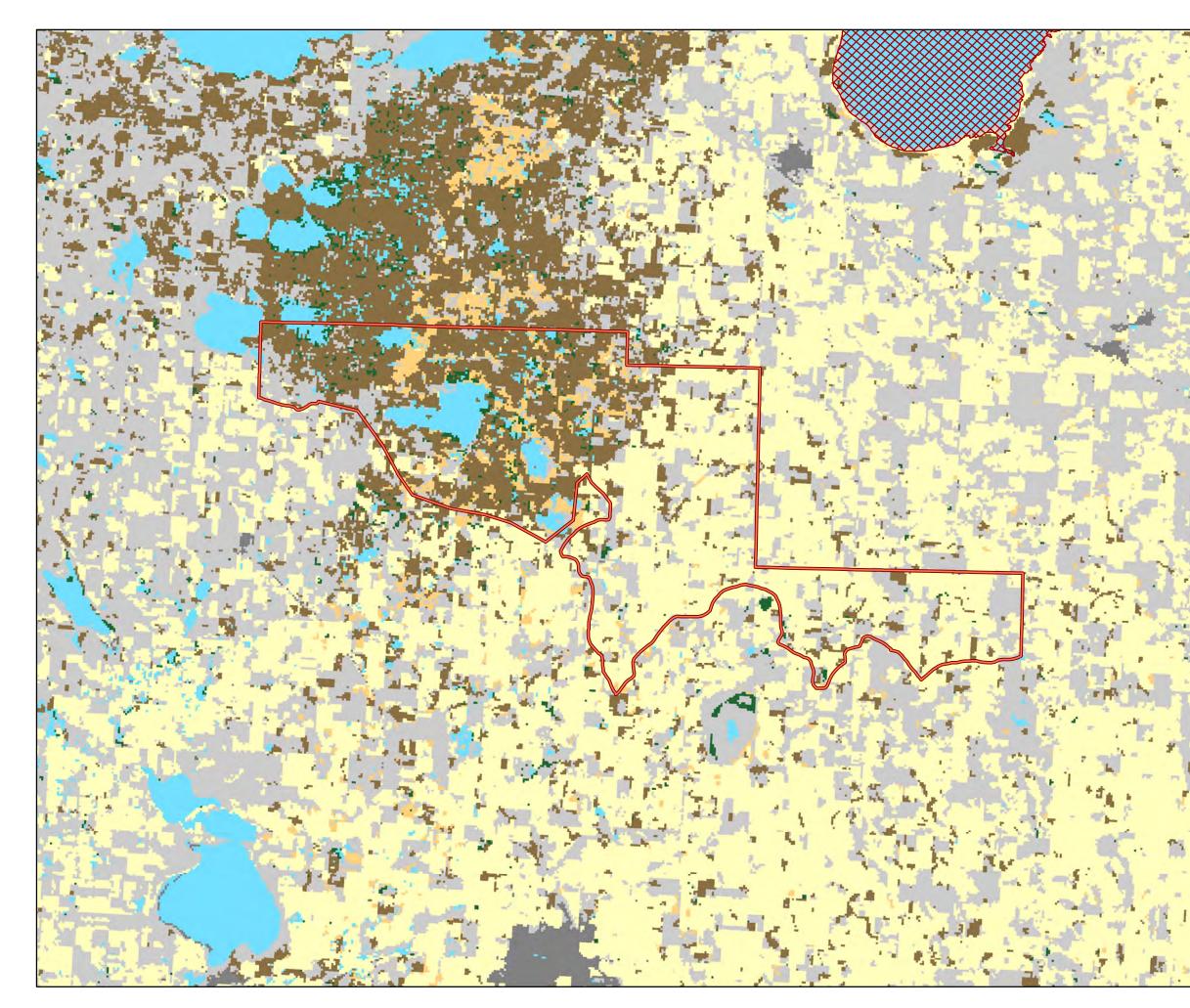
COMMUNITY:				Miquelon Acres		INHERENT	
						Scores	
		res		A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood	0 or 1 0 or 2 0 or 3	1 2 0	
	SLOPE & FUEL TYPES			D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 2 0 or 4 /10	0	
				VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	-	2 2 2	
RENCE	FUEL STRUCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1	
LIKELIHOOD OF OCCURRENCE		FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	0	
LIKELIHOOD PROBABILITY OF BURNING LANDSCAPE EXTREME FIRE TYPES IGNITION BEHAVIOR ALLOWED SOURCES		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2		
			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1		
	Consequence x Likelihood = INH			RENT RISK 320	TOTAL:	10	
				Hazard Rating Moderate			

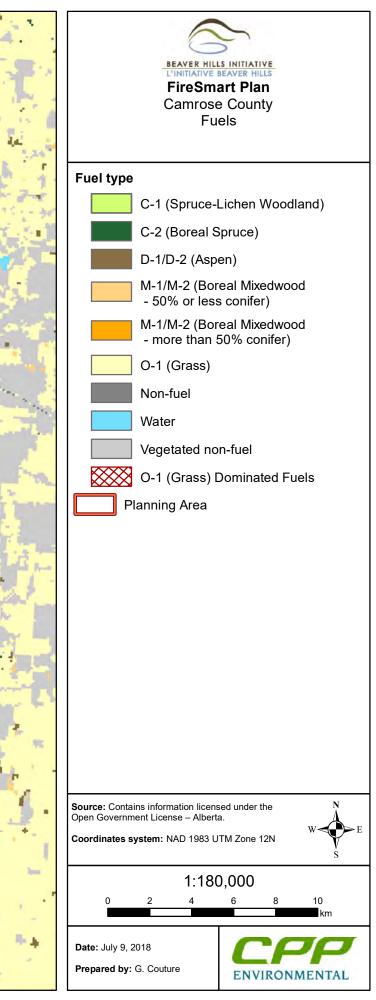
Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Sanctuary Estates		RENT
			Rating	Scores
Ë	A Lake		0 or 3	0
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO (ZONES		ea (Vegetation Maintained)	0 or 3	0
ESS	D County Roa		0 or 3 0 or 3	0
ACC	E Subdivision	Road		0
4			/15	3
LL.	A 0 to 30		1	1
r o S	B 31 to 60		2	
JMBER (HOMES	C 61 to 90		3	
NUMBER OF HOMES	D 91 to 120		4	
ž	E > 120		5	
	Average Property Valu		/5	1
X	A \$0 - \$300 0		1	
R	B \$300 001 -		2	2
0IV	C \$500 001 -		3	2
Ĩ	D > \$750 000		4	
ECONOMIC RISK	1	Cost: \$ 499,000	-	
ŭ	Avg home		/4	2
	Presence of:		74	-
АТ	A Critical Infr	astructure	0 or 3	3
LUES RISK		Goods Infrastructure	0 or 3	0
VALUES AT RISK	C Special Val		0 or 3	0
>			/9	3
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
X	programs		-	-
POLITICAL RISK	1 0	a involvement and internal structural changes to Emergency Services or	2	
AL	programs		-	
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
ğ	-	Services or county government	-	
-			/3	1
	10	A < 20 m between homes	3	
	DENSITY OF STRUCTURES	B 21 - 40 m between homes	2	
		C 41 - 100 m between homes	1	1
		D > 100m between homes	0	_
			/3	1
	9.0	A East w/ Barrier within 200m	0 or 2	0
	S T(B West w/ Barrier within 200m	0 or 4	4
	BARRIERS TO FIRE SPREAD	C South w/ Barrier within 200m	0 or 4	4
	RRI RE 5	D North w/ Barrier within 200m	0 or 2	0
	BA FIF		/12	8
	L H	A No forest patch present within community	0	
		B Patch 0.1 - 0.9 ha within community boundary	1	
	5 2	C Patch 1 - 2.9 ha within community boundary	3	3
≻	FOREST FUEI PATCH SIZE	D Patch > 3 ha within community boundary	5	
DEFENSIBILITY OF COMMUNITY	5 4		/5	3
N		A 0-20 %	4	4
ž	IAL	B 21-40 %	3	
No.	NT	C 41-60 %	2	
ö	RESIDENTIAL FIRESMART	D 61-80 %	1	
È	FIF	E 81-100 %	0	
BIL			/4	4
SN		A Utility ROW maintenance	0 or 1	0
EE	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
<u> </u>	EN/	C Fuel maintenance required - municipality	0 or 1	0
	3 4 8		/3	0
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACCESS	C 2 or more means of egress	0 or 1	0
	AC	D Standard visible lot signage	0 or 1	0
			/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Z ≻	fires		
	SUPPRESSION CAPABILITY	B Fire fighters have basic wildfire fighting training	0 or 1	0
		C Mutual Aid Agreements are present	0 or 1	0
	AP AP	D	0 or 1	0
	SL SL	Within an adequate distance to fire station and water supply		
			/4	0
			TOTAL:	27

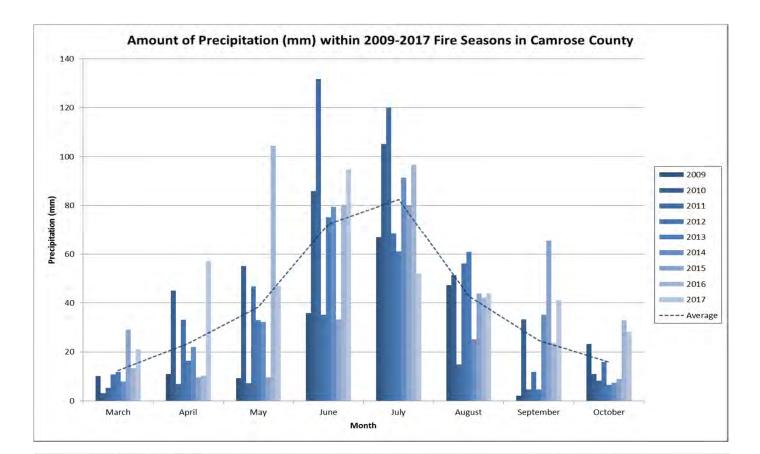
COMMUNITY:				Sanctuary Estates		INHERENT	
			Scores				
	SLOPE & FUEL TYPE			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 2 0 8	
				VAR on the sustained slope or within 100 m of the top crest of a slo Fuel Type: D1 Slope %: 0-10%	pe 0 to 6 /6	2 2	
RENCE	UCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1	
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	0	
ГІКЕГІНОО	RESIDENTIAL PRESENT BURNING LANDSCAPE TYPES IGNITION ALLOWED SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	1 0 0 0 1	
				 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1		
	Consequence x Likelihood = INHE			RENT RISK 405	TOTAL:	15	
				Hazard Rating Modera	te		

Appendix B4: Fuels Map

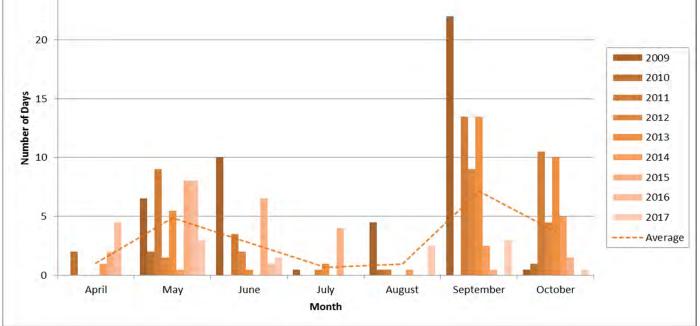


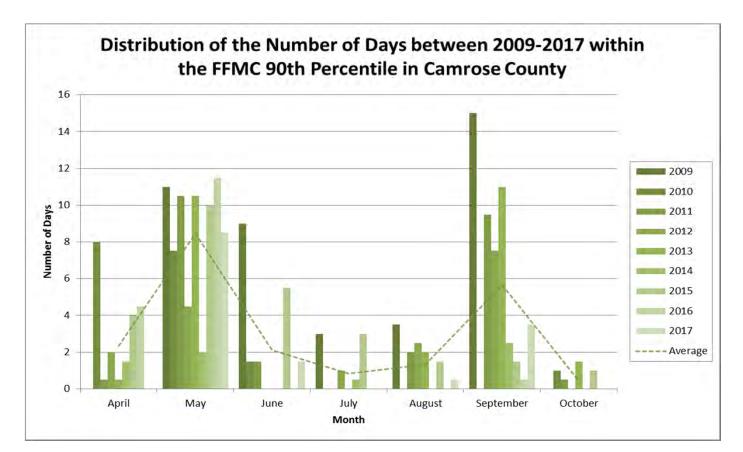


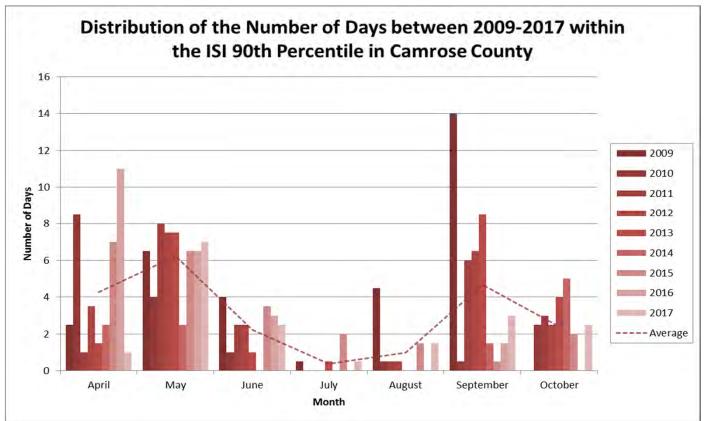
Appendix B5: Fire Season Weather and Fire Indices Charts



Distribution of the Number of Days between 2009-2017 within the FWI 90th Percentile in Camrose County

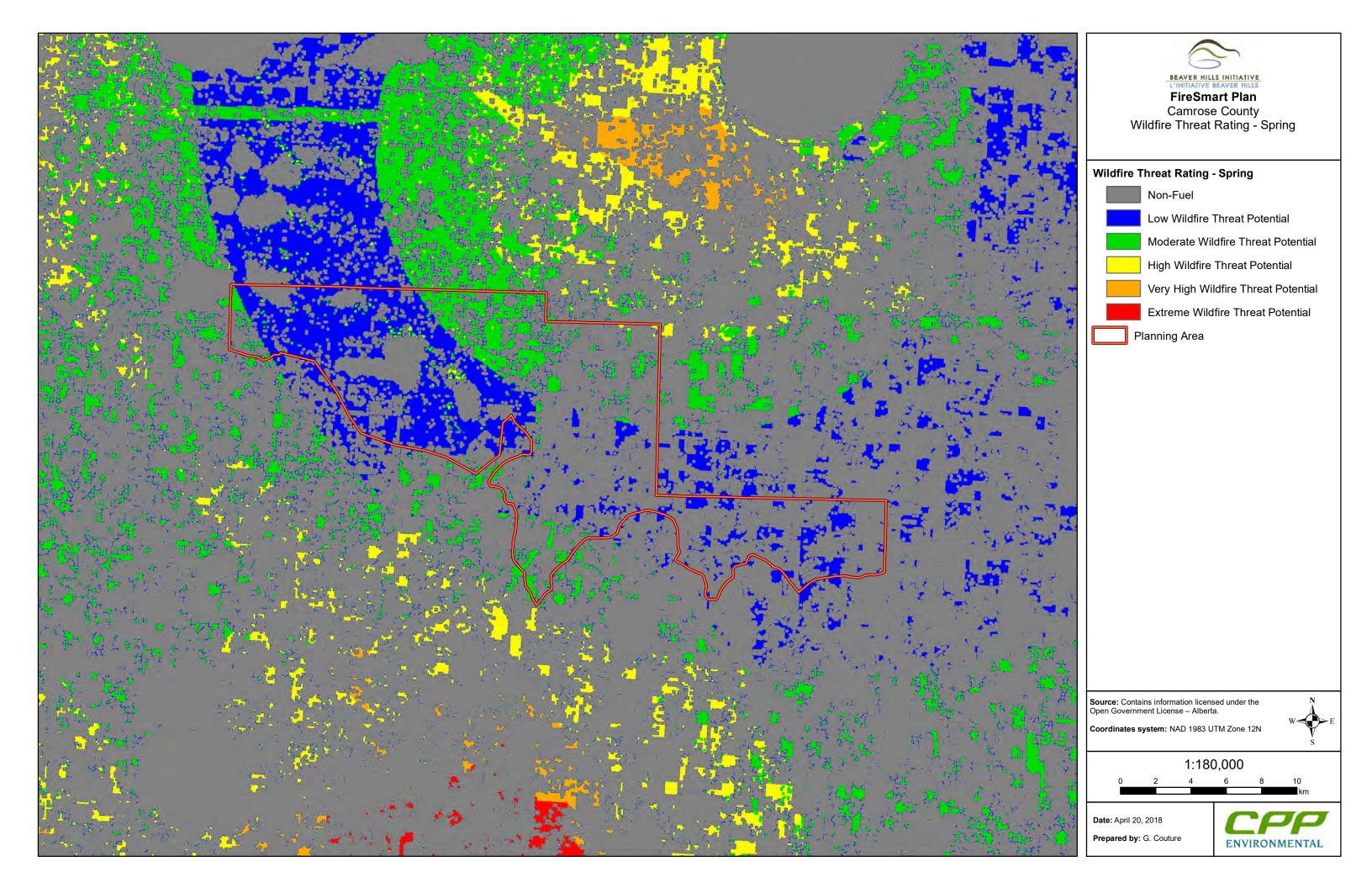


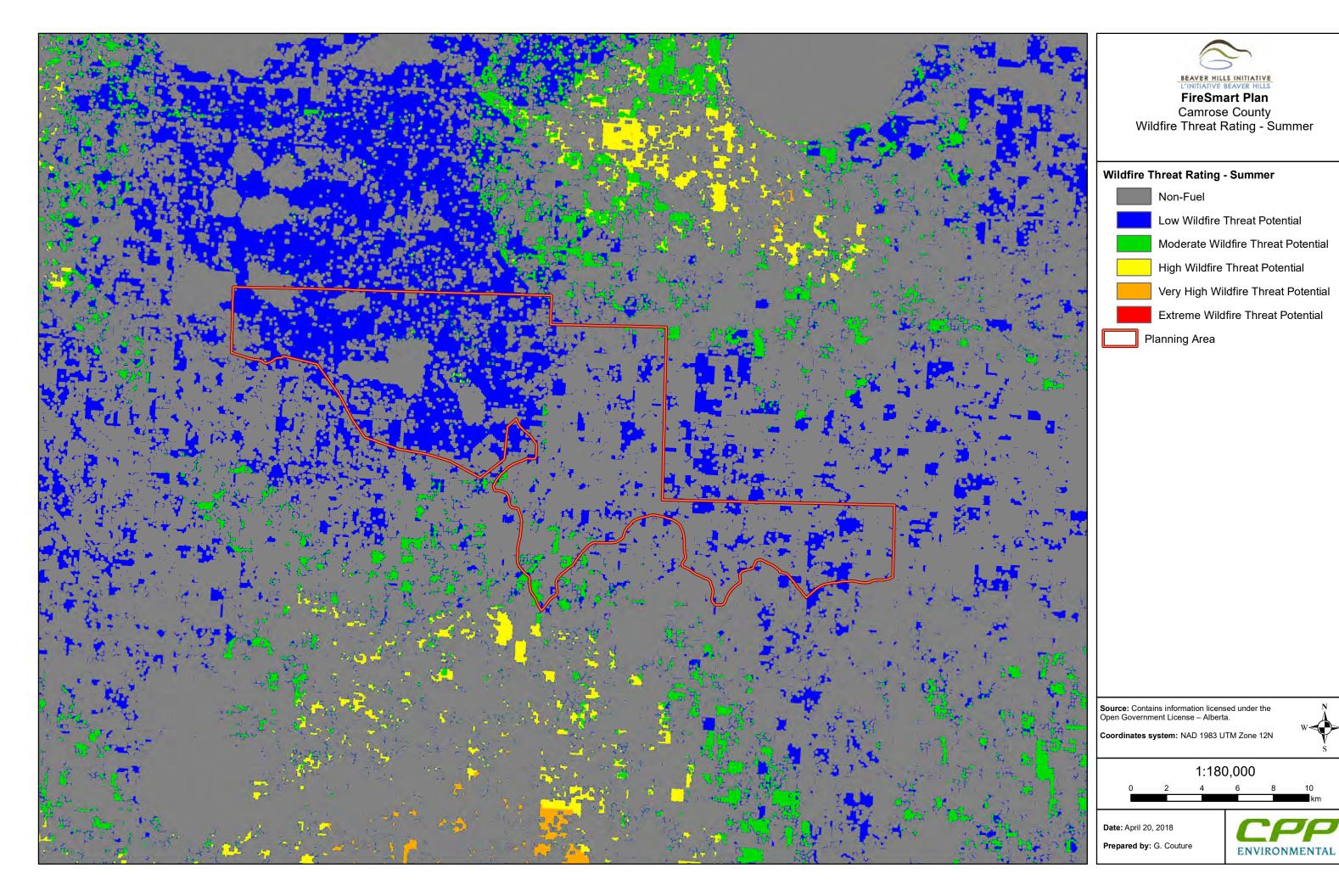


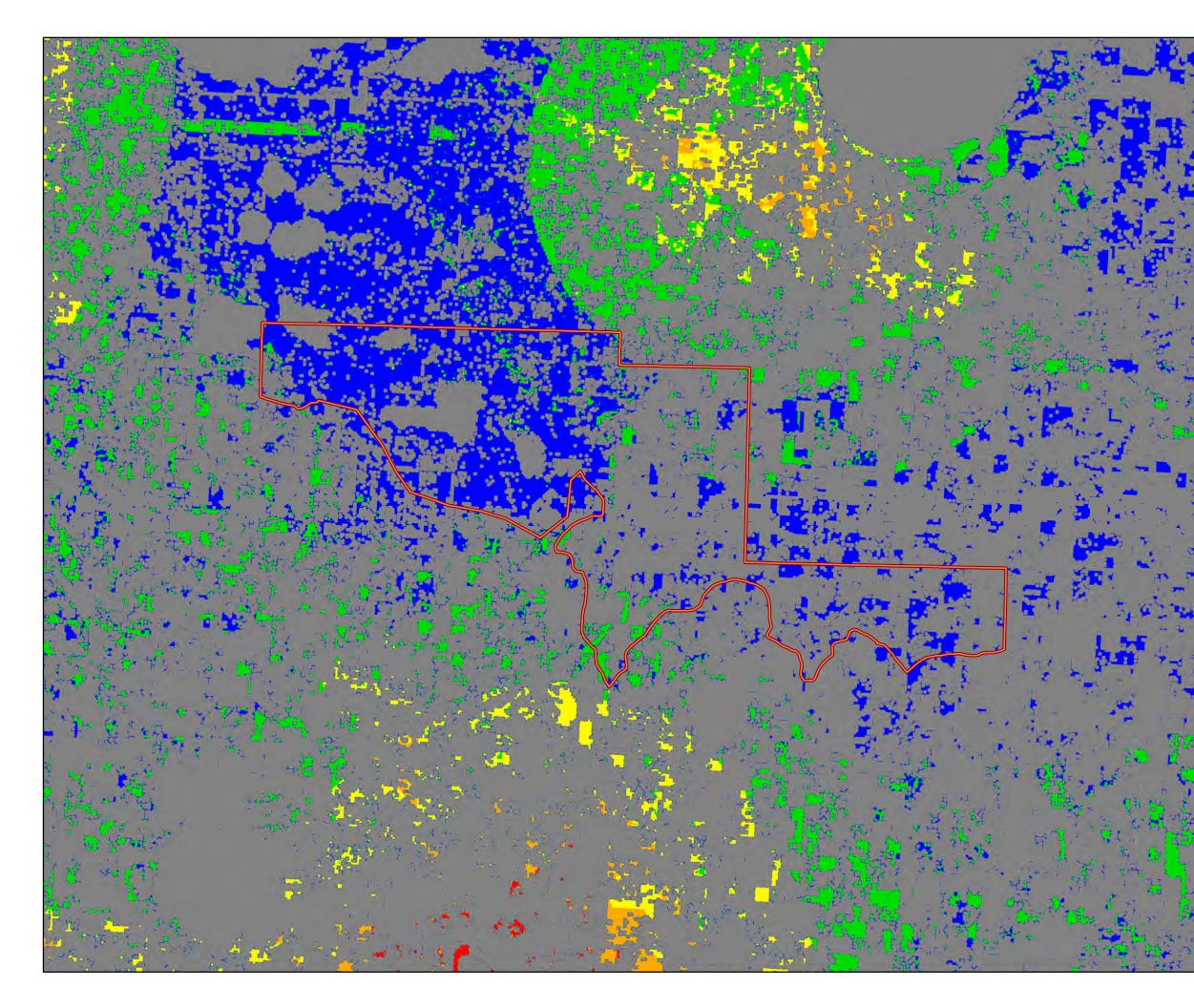


Appendix B6: Wildfire Threat Rating Maps

- Spring
- Summer
- Fall



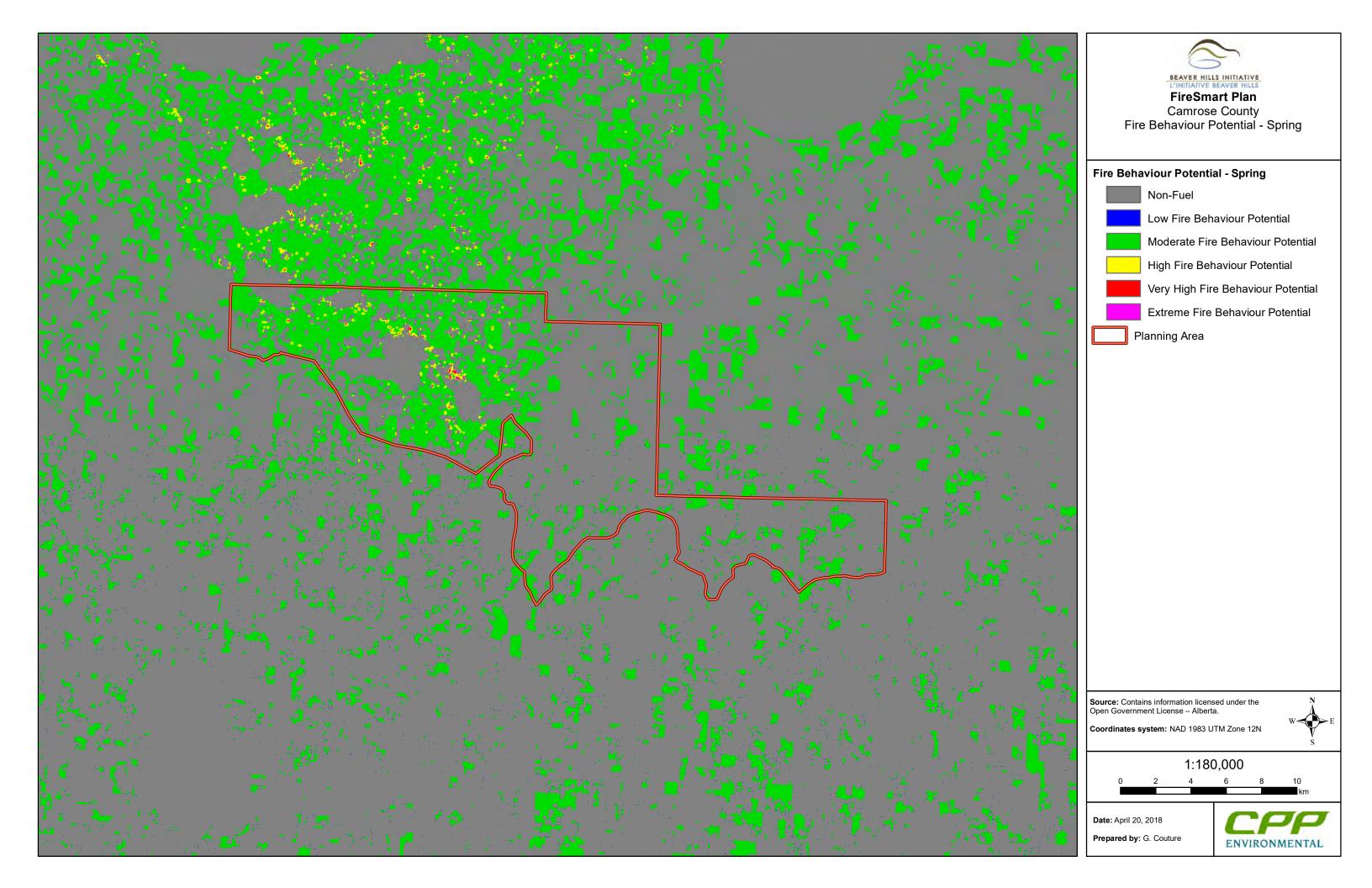


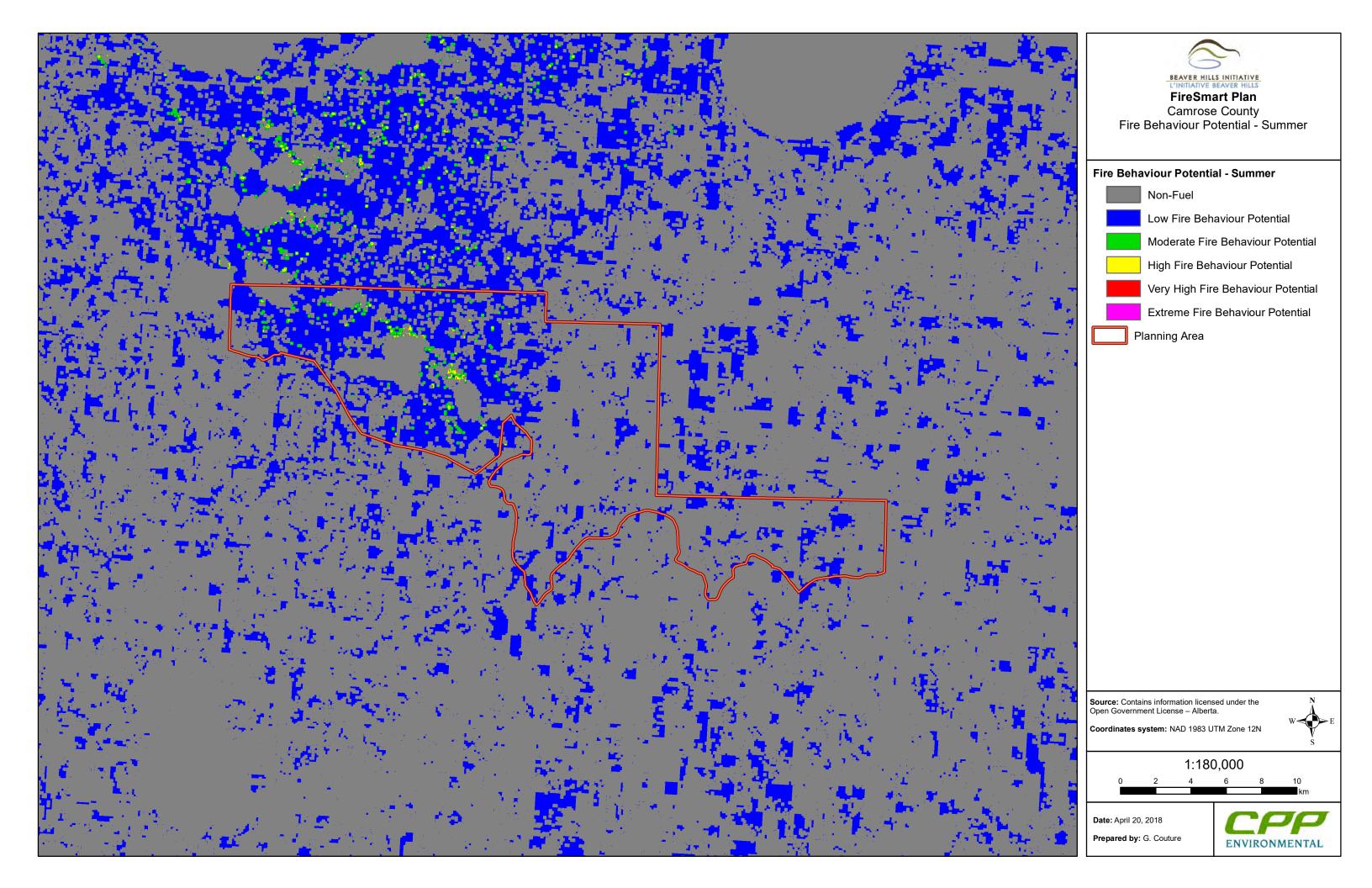


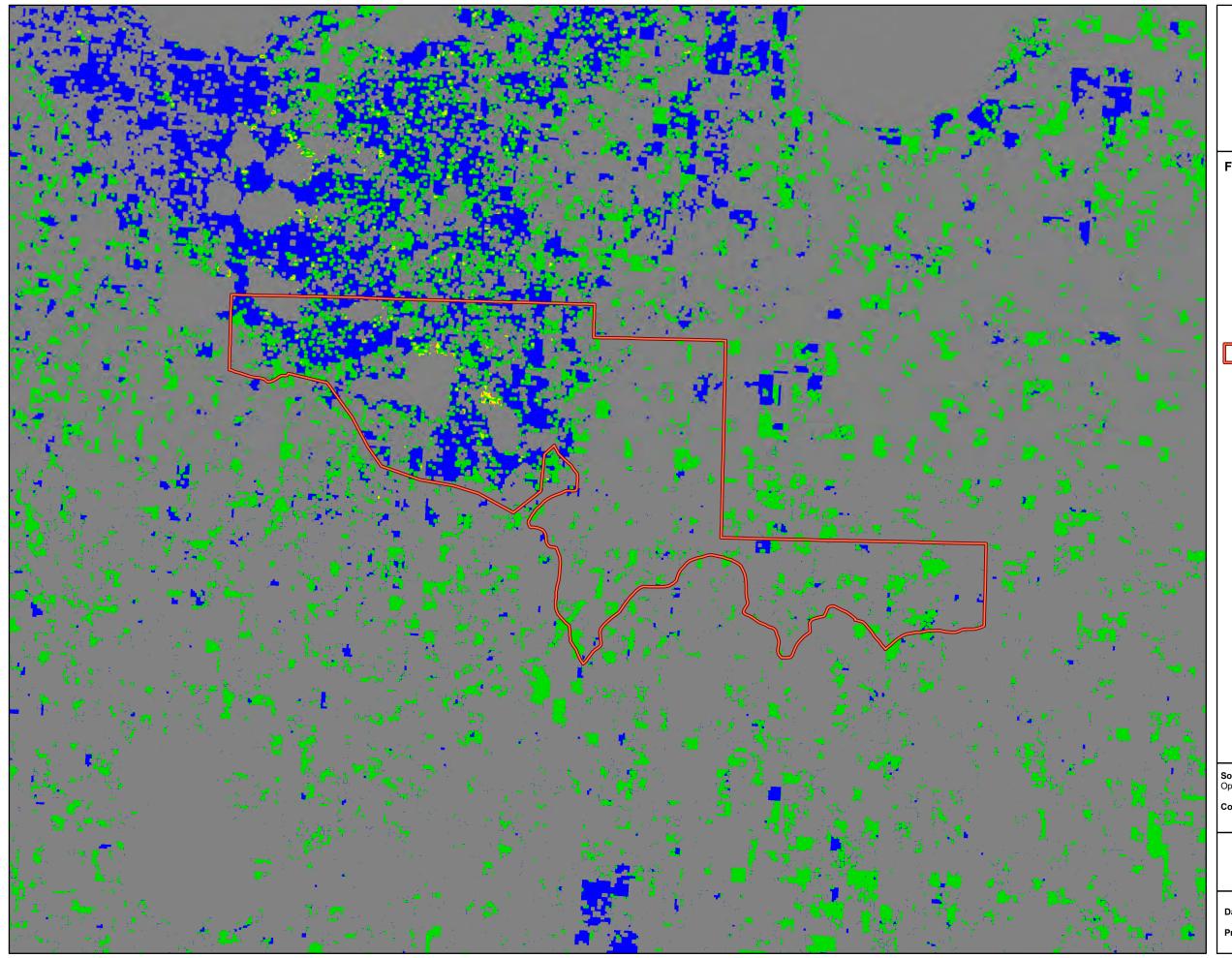


Appendix B7: Wildfire Behaviour Potential Maps

- Spring
- Summer
- Fall

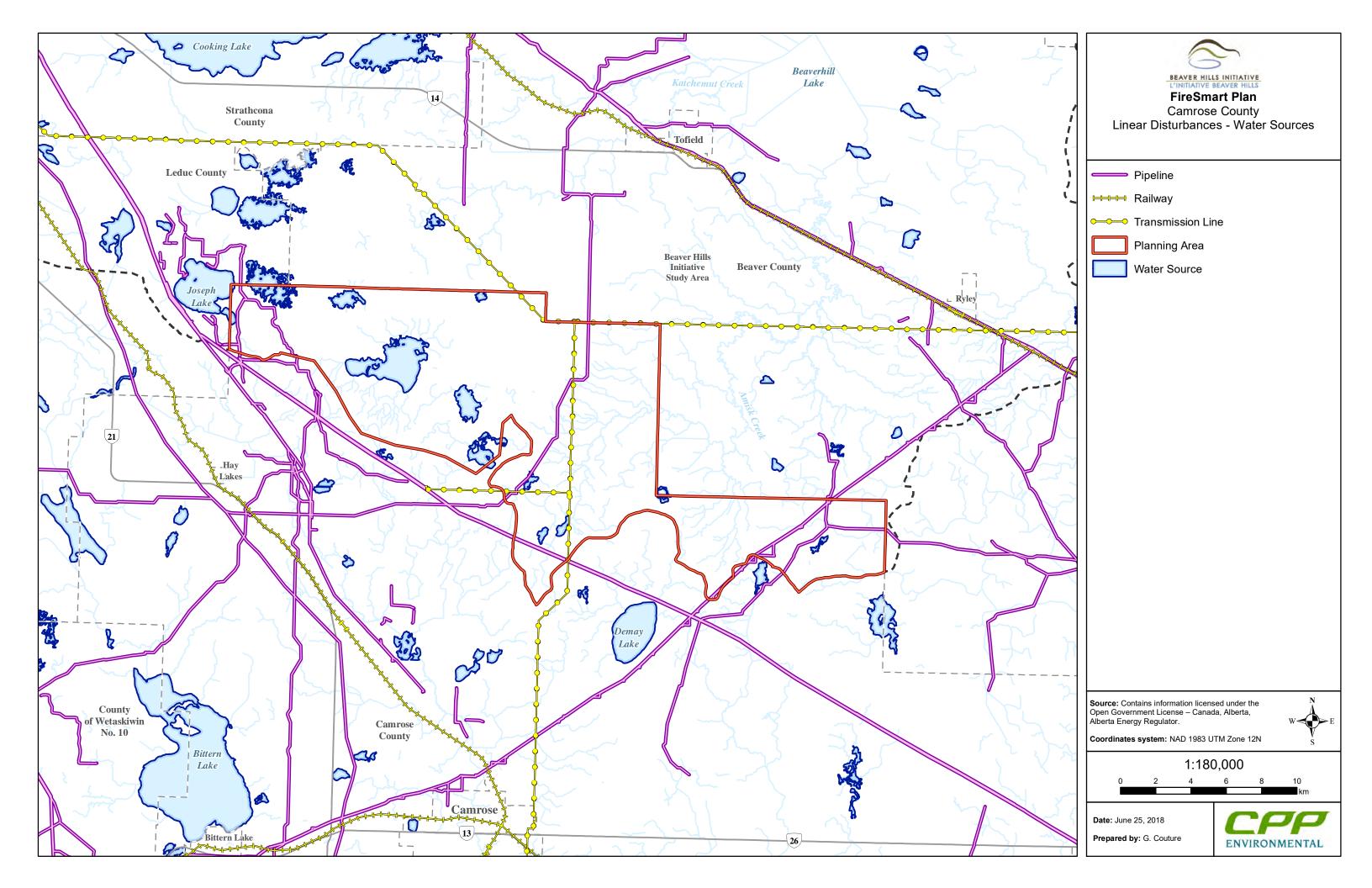






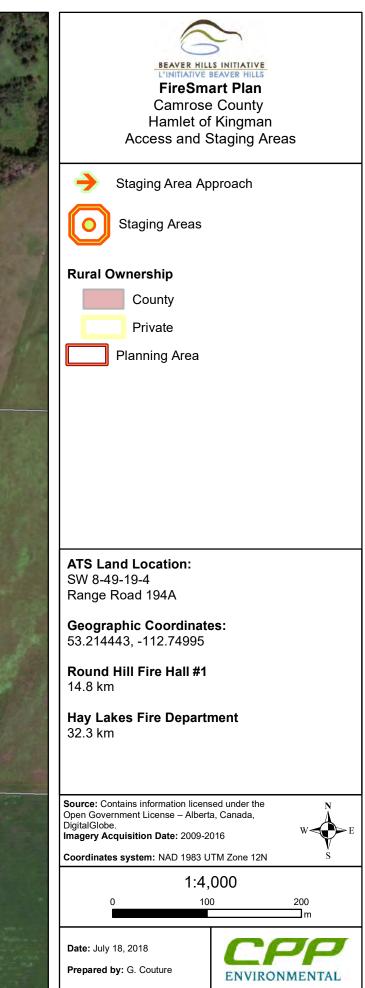
BEAVER HILLS INITIATIVE L'INITIATIVE BEAVER HILLS FireSmart Plan Camrose County Fire Behaviour Potential - Fall				
Fire Behaviour Potent	tial - Fall			
Non-Fuel				
Low Fire Be	haviour Potential			
Moderate Fi	re Behaviour Potential			
High Fire Be	ehaviour Potential			
Very High Fi	ire Behaviour Potential			
Extreme Fire	e Behaviour Potential			
Planning Area				
	nsed under the N			
Source: Contains information licensed under the Open Government License – Alberta. Coordinates system: NAD 1983 UTM Zone 12N				
\$				
0 2 4	30,000 <u>6 8 1</u> 0			
	km			
Date: April 20, 2018 Prepared by: G. Couture	ENVIRONMENTAL			

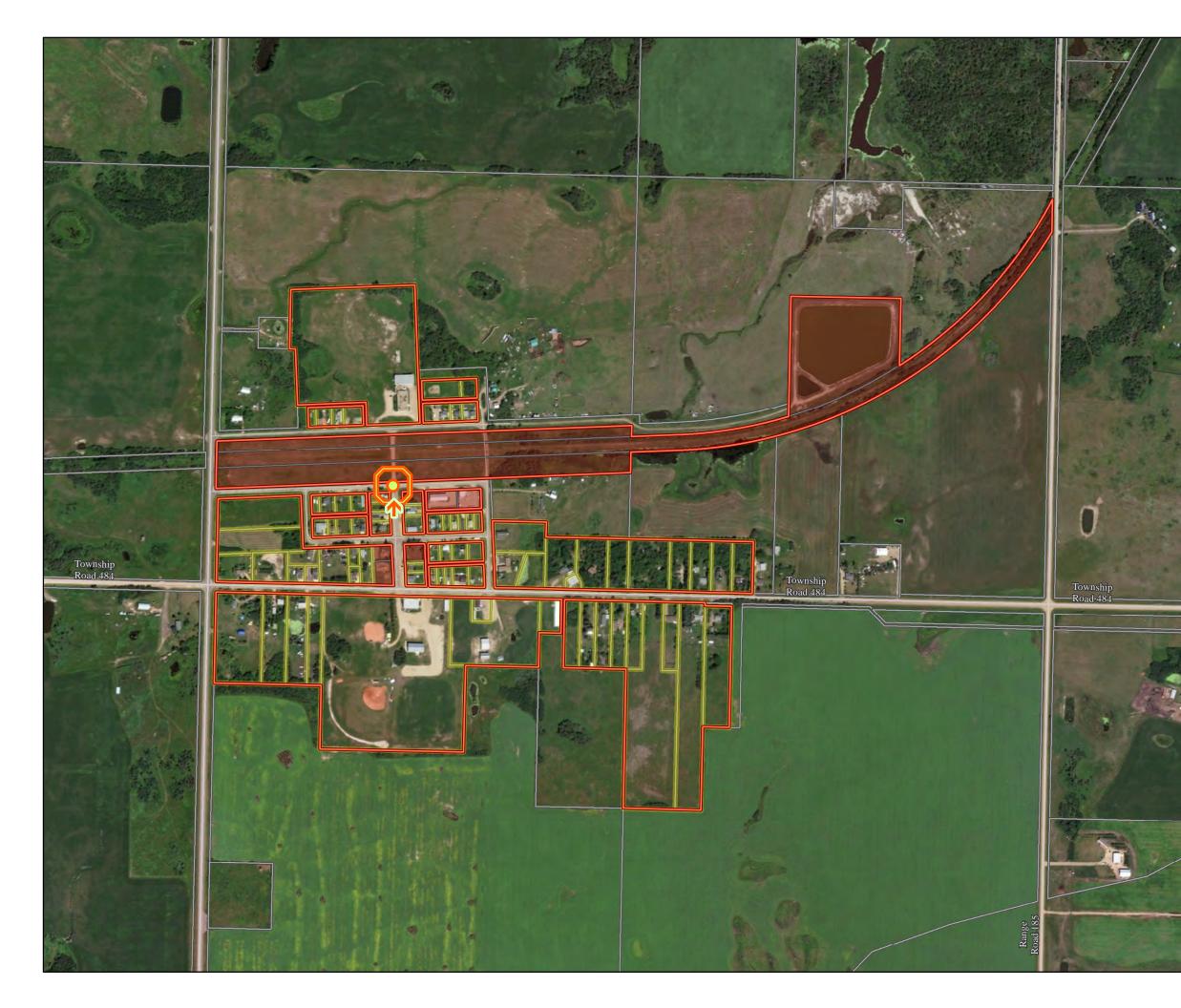
Appendix B8: Linear Disturbance and Water Sources Map

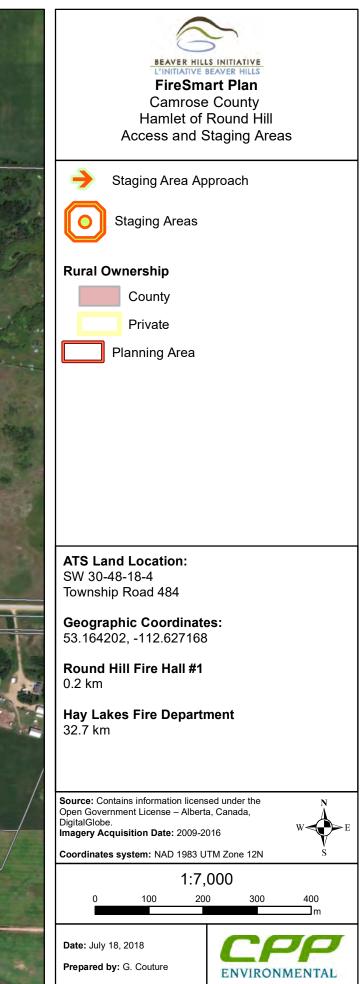


Appendix B9: Access and Staging Area Maps

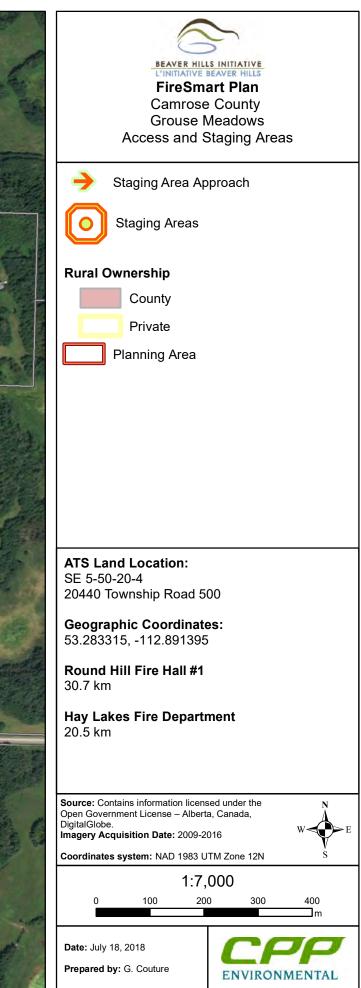




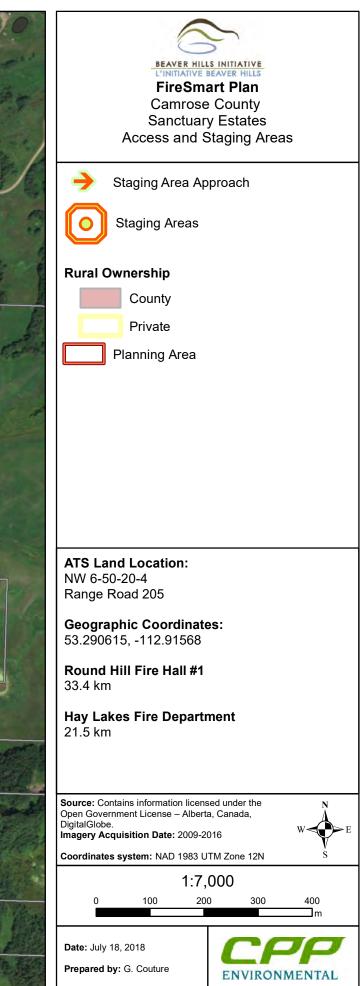




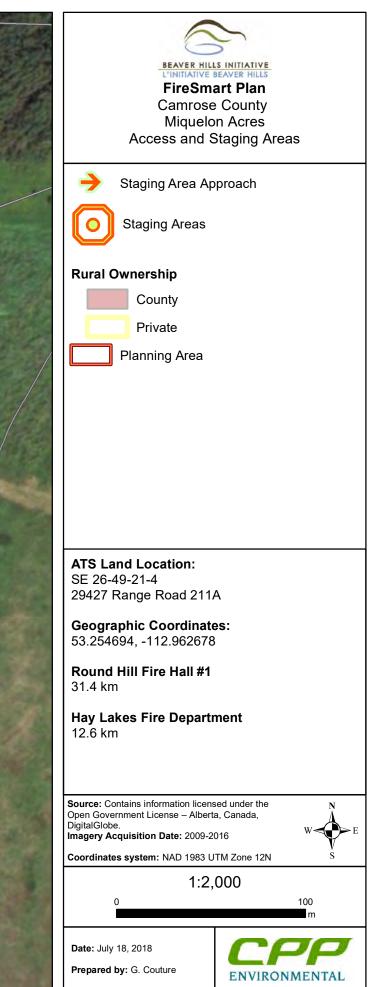




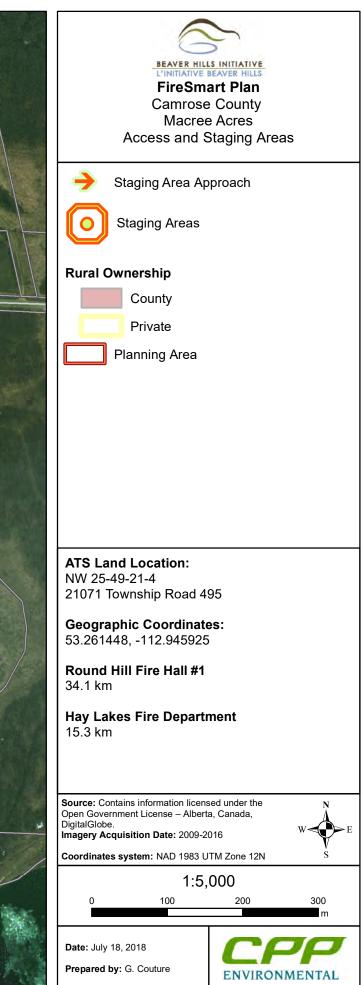


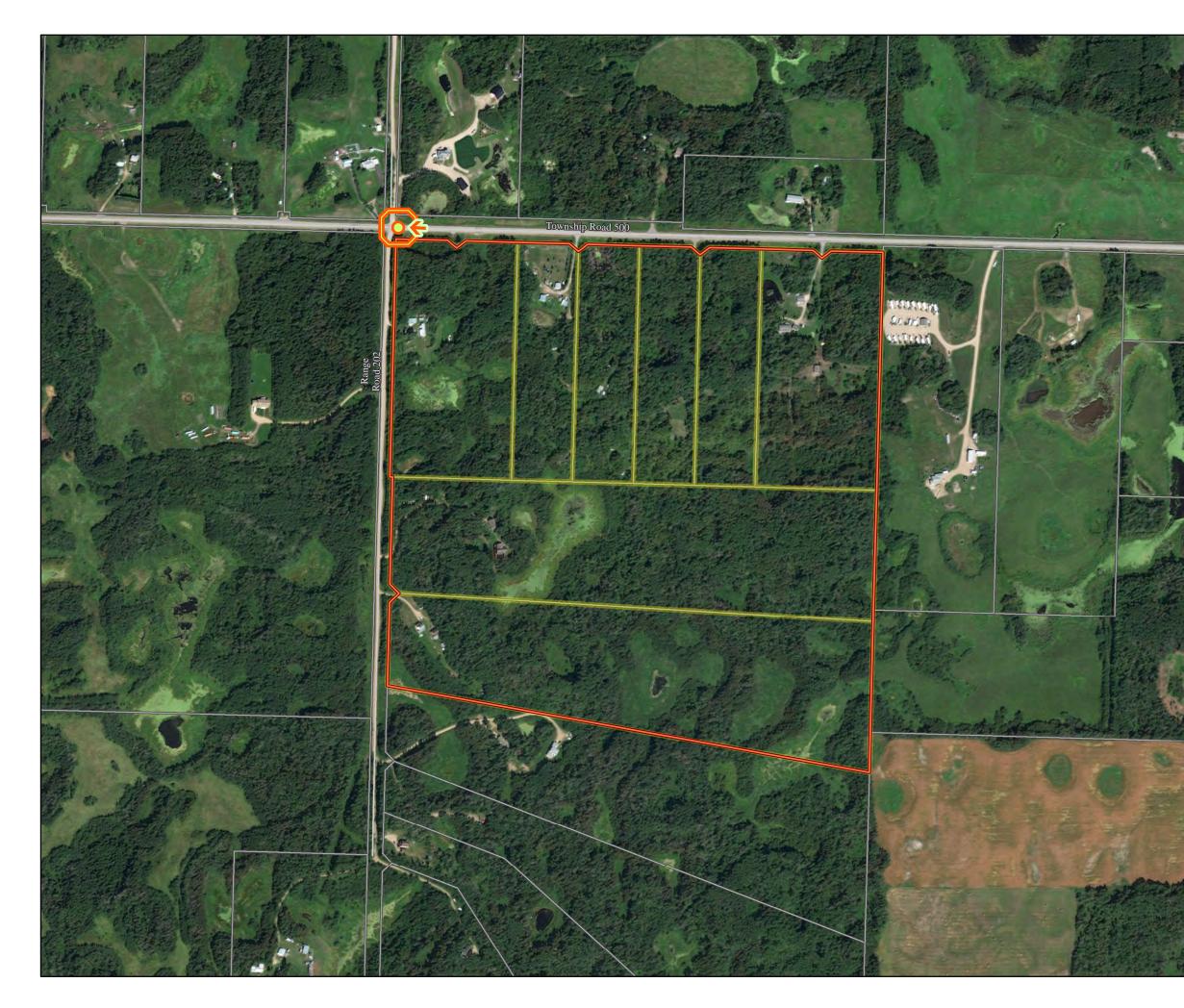


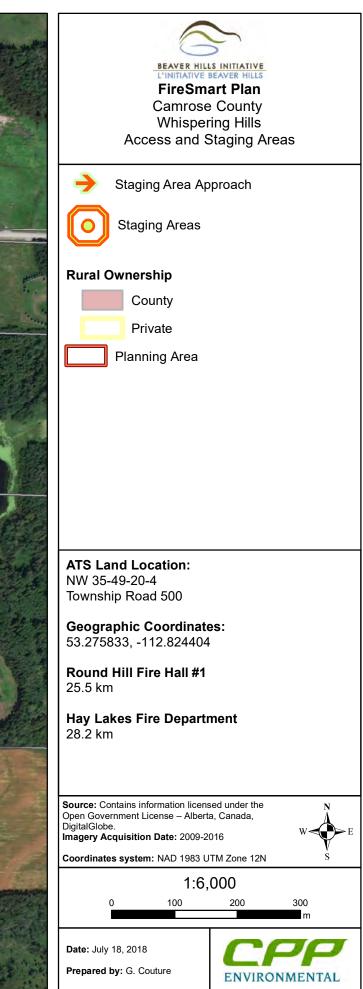












Section C. Leduc County





Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies Leduc County

Prepared for: Beaver Hills Initiative

August 2018



Charette Pell Poscente

Executive Summary

The Wildfire Hazard and Risk Assessment and the Wildfire Mitigation Strategies for Leduc County was developed as part of as part of the overall FireSmart Plan for the Beaver Hills Initiative (BHI). The Wildfire Hazard and Risk Assessment was used to identify the landscape wildfire risk in communities within the study area.

As part of the Wildfire Hazard and Risk Assessment, 15 rural subdivisions and one hamlet were assessed individually for wildfire risk using the Community Wildfire Risk Assessment tool. The assessment allows Leduc County to compare the wildfire risk of rural communities relative to each other. Communities can then be ranked and prioritized for implementation of mitigation as needed.

The *Guidebook for Community Protection* (Alberta Environment and Sustainable Resource Development, 2013), and *FireSmart: Protecting your Community from Wildfire* (Partners in Protection, 2013), were essential followed in the development of this section of the plan.

The Wildfire Hazard and Risk Assessment and the Wildfire Mitigation Strategies section was prepared in collaboration with Leduc County representatives include:

• Brad Gurmin (Regional Fire Marshal)

BHI - Leduc County – Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies, August 2018

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1 Planning Area and Stakeholders

The planning area consists of the northeast portion of Leduc County and focuses on 15 subdivisions and one hamlet within the BHI study area. The planning area is located approximately 36 kilometers southeast Edmonton, Alberta (Figure 1).

1.1 Planning Area

The Wildfire Hazard and Risk Assessment includes a two kilometer buffer surrounding the communities to take into account wildfire entering and/or leaving the communities. The planning area is outside the Forest Protection Area of Alberta. The land uses within the planning area includes: agriculture (crop, hay, pasture), rural residences, and subdivisions. Forest fuels are fragmented on the landscape. See **Appendix C1** for Overview and Topography map.

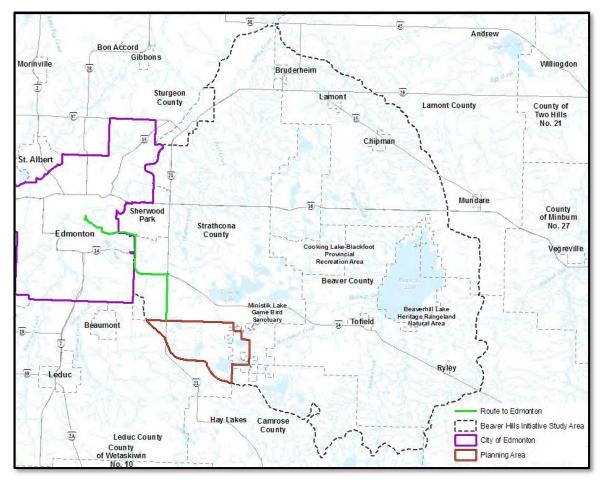


Figure 1. General location of Leduc County within the Beaver Hills Initiative boundary.

Туре	Name	Legal Land Description
Hamlet	Looma	SE 35-50-23-W4M
Subdivision	Brightwood Estates	SW 35-50-22-W4M
	Caywood	SE 25-50-23-W4M
	Century Woods	NE 27-50-22-W4M
	Hazel Grove	NE 31-50-22-W\$M
	Kenick Estates	SW 34-50-23-W4M
	Martinview Estates	SW 26-50-23-W4M
	Panorama	NW 31-50-22-W4M
	Paradise Hills	NE 20-50-22-W4M
	Ridge Meadows	NE 27-50-23-W4M
	Southwood Park	NE 27-50-22-W4M
	Steinke Estates	NE 35-50-22-W4M
	Tiebeke Estates	SW 36-50-22-W4M
	Wildland Meadows	NE 18-50-21-W4M
	Woodland Heights	SW 34-50-23-W4M
	Woodvale Park	NE 26-50-22-W4M

Table 1. List of Subdivisions and Municipalities in Leduc County that were assessed as part of the BHI study area.

1.2 Stakeholders

The assessment focuses mainly on residential communities located in the northeast portion of Leduc County. To gain insight about the planning area, key stakeholders were involved in the process. **Table 2** lists the key stakeholders involved and their responsibilities in developing the Wildfire Hazard and Risk Assessment and Mitigation Strategies.

How do we get to a FireSmart landscape? Get the right people to participate. (Partners in Protection, 2003)

Table 2. List of Stakeholders and their respective responsibilities in the development of the Wildfire Hazard and Risk Assessment and Mitigation Strategies.

Stakeholders	Responsibilities	
Beaver Hills Initiative	 Development and implementation of the project Provide resources to complete the project Provide funding for the project Contract administration 	
Leduc County	 Provide local knowledge and inputs into the plan Review and approve the plan 	

2 Wildfire Hazard and Risk Assessment

The Wildfire Hazard and Risk Assessment analyzes Values at Risk, Wildfire Behavior Potential, wildfire incidence, and firefighting capabilities.

Table 3: Wildfire Hazard and Risk results for the portion Leduc County that were assessed as part of the BHI study area.

SPRING	SUMMER	FALL
MODERATE	LOW	MODERATE

2.1 Values at Risk

Values at Risk are aspects within a community, man-made or natural, which have measurable or intrinsic worth, and have the potential to be negatively altered by fire (Alberta Agriculture and Forestry, 2011).

Values at Risk encompass four broad types of values (Partners in Protection, 2003):

- Standard Values homes and other common structures found in communities
- **Critical Values** infrastructure that is vital to the wellbeing of those who reside in the planning area (e.g. major roads, power lines, etc.)
- Dangerous Goods Values anything which may pose a safety threat to emergency responders or the public
- Special Values areas that have natural, cultural, historical, or emotional importance to a community

Table 4: Values at Risk within and surrounding the subdivisions and hamlet in the planning area.

Value Type	Description		
Standard	Multiple houses and associated structures within identified the communities in Leduc County		
Critical *	 Communication Tower (2) Looma Community Hall Dome Structure 		
Dangerous Goods	Looma Waste and Transfer StationPropane Tank		
Special	 Ministik Lake Game Bird Sanctuary Cemetery (2) Centennial Park 		

* Major utilities and distribution power lines are identified on Linear Disturbance and Water Sources maps (see **Appendix C8**)

2.2 Community Risk Assessment

The Community Wildfire Risk Assessment is a unique tool developed by CPP Environmental to compare wildfire risk between rural communities relative to one another. Each rural community is unique and contains different factors that influence the risk in the event of a wildfire. Categories incorporated in the risk matrix are based on:

- 1. **Likelihood of Occurrence** focuses on variable such as: fuel types, slope, ignition sources, residential burning types allowed, and crossover days.
- 2. **Defensibility of Community** focuses on variable such as: structure density, fire spread barriers, forest fuel size, maintenance, access, and suppression capability.

2.2.1 Inherent Risk Score

The inherent risk encompasses finer community details and identifies the natural or man-made fuel breaks, and fragmented fuels due to agriculture and rural road networks. Factors such as fuel breaks and fragmented fuels can affect how potential wildfires spread across the landscape. The matrix takes into account conditions within and adjacent to the community. Each section of the matrix is weighted differently and assists in determining the overall threat for that community. Once calculated, the risk score is ranked from highest to lowest to assist in prioritization communities (Table 5). See **Appendix C3** for Inherent Risk Score Map and Community Risk Assessment Results.

Risk Score Ranking Matrix		
1350-2520 Wildfire Hazard Rating: Extreme		
702-1349 Wildfire Hazard Rating: High		
300-701Wildfire Hazard Rating: Moderate0-299Wildfire Hazard Rating: Low		

Table 5. Inherent Risk Score	and ranking for the	Community Risk	Assessment.

Community	Inherent Risk Score
Caywood	527
Woodland Heights	504
Hazel Grove	476
Hamlet of Looma	476
Woodvale Park	468
Martinview Estates	464
Tiebeke Estates	464
Kenick Estates	448
Southwood Park	448
Century Woods	442
Steinke Estates	434

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Community	Inherent Risk Score	
Ridge Meadows	420	
Wildland Meadows	375	
Panorama	312	
Paradise Hills	297	
Brightwood Estates	280	

2.3 Wildfire Behavior Potential

Wildfire behavior is defined as "the manner in which fuel ignites, flame develops, and fire spreads and exhibits other related phenomena as determined by the interaction of fuels, weather, and topography" (Canadian Interagency Forest Fire Centre, 2002).

To better understand seasonal wildfire potential within the planning areas, the fuels data, historical weather data, and fire weather indices were analyzed. The analysis included vegetation types, temperature, relative humidity, precipitation, wind speed and wind direction, Fire Weather Index (FWI), Fine Fuel Moisture Code (FFMC), and Initial Spread Index (ISI).

2.3.1 Vegetation Fuel Types

Leduc County is located in the central parkland and the dry mixedwood sub-regions of Alberta. Forests within these sub-regions are characterized by trembling aspen (*Populus tremuloides*), white spruce (*Picea glauca*), balsam poplar (*Populus balsamifera*), black spruce (*Picea mariana*), and white birch (*Betula papyrifera*). The area is part of the Cooking Lake Moraine, which is comprised of hummocky "knob and kettle" terrain that creates variable fuel types and a large quantity of pothole waterbodies.

Fuel types within the planning area consist mainly of deciduous-dominated vegetation and vegetated nonfuels. Agricultural land is common on the landscape and makes up most of the vegetated non-fuel grass fuel types. Grass vegetation is common throughout the planning area, including: all utility corridors, open fields, right-of-ways, water course channels, and ditches. Grass fuels throughout the county are in various states of maintenance.

Vegetation fuel data was acquired from the Alberta Agriculture and Forestry FireWeb (AAF) website. As fuel data for Beaver County is outside the Forest Protection Area, field assessments, satellite imagery, and Google Earth were used to verify the provincial vegetation fuel data.

See Appendix C4 for fuel maps.

Table 6. Canadian Forest Fire Danger Rating System Fire Behavior Prediction (CFFDRS FBP) System Fuel Types within Leduc County planning area.

CFFDRS FBP	Common Language Equivalent	Fuel Coverage in Planning Area	
System Fuel Types		ha	%
D1/D2	Aspen	3,322	24.6
M1/M2	Boreal Mixedwood-	0	0

CFFDRS FBP	Common Language	Fuel Coverage in Planning Area		
System Fuel Types	Equivalent	ha	%	
	50% conifer			
01	Grass	1,127	8.3	
C2	Boreal Spruce	208	1.5	
Vegetated Non-Fuel	Vegetated Non-Fuel	6,920	51.2	
Non-Fuel	Non-Fuel	1,945	14.4	



Figure 2: D1/D2 Fuel Distribution and Vegetation example.

Deciduous stands consist of aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*). These stands are most likely to burn prior to green-up in the spring due to the resin in the buds being highly flammable or during the fall after the leaves drop. The wildfire intensity in deciduous stands is lower compared to coniferous stands, as deciduous stands are unlikely to have a crown fire due to the lack of ladder fuels. Instead, a vigorous surface fire is most likely to be experienced in these stands due to the grasses and forbs that make up the composition of the ground vegetation. Within the planning area, deciduous stands are varied in size and are concentrated along the west section the planning area. The D1/D2 fuel types make up the second largest percentage and consist of approximately 24.6% of the planning area.

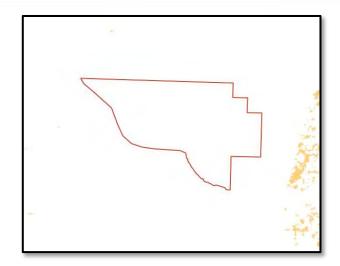


Figure 3: M1/M2 Fuel Distribution.

Mixedwood stands are comprised of a mixture of deciduous and coniferous vegetation. There are no M1/M2 stands present within the planning area.

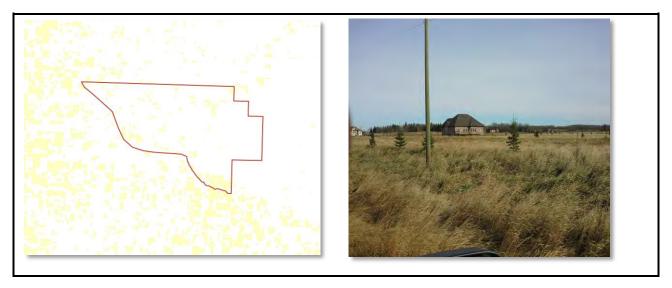


Figure 4: O1 Fuel Distribution and Vegetation example.

A concern for the planning area is the ignition risks for grass fires. Grass fuels are a concern in the spring and fall when grass is dead and dry (cured fine fuel conditions). During these times ignition becomes very easy and Rate of Spread (ROS, m/min) is high. The O1 fuel types consist of approximately 8.3% of the planning area.

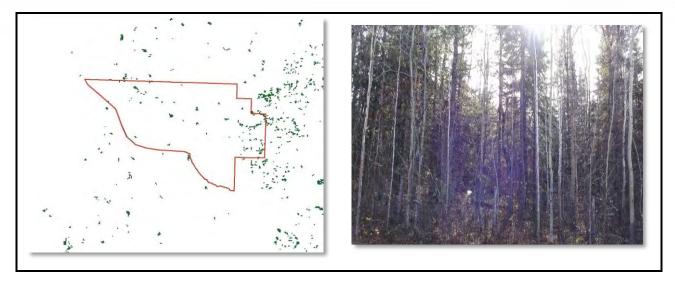


Figure 5: C2 Fuel Distribution and Vegetation example.

Coniferous species such as white spruce (*Picea glauca*) and black spruce (*Picea mariana*) are considered volatile fuels. Conifer fuels are considered a high risk due to: the ability to burn throughout the fire season, the likelihood and high potential for spotting, and the likelihood and high potential for crown fires. The C2 fuel types consist of approximately 1.5% of the planning area.

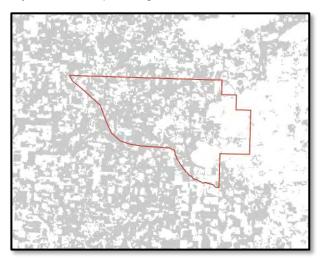


Figure 6: Vegetated Non-Fuel Distribution.

Vegetated non-fuels includes areas of maintained grass and managed agriculture land. Vegetated non-fuels make up the largest percentage and consist of approximately 51.2% of the planning area.

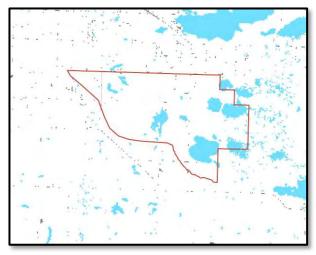


Figure 7: Non-Fuel Distribution.

Within the planning area, the distribution of non-fuels varies throughout. Non-fuels include: road networks, waterbodies and anthropogenic features. Non-fuels cover approximately 14.4% of the planning area.

2.3.2 Fire Season Weather

The analysis of the historical weather included temperature, relative humidity, precipitation, wind speed, and wind direction.

Crossover days were used to identify periods of high fire concern. Crossover is wildfire term that identifies days when the minimum daily relative humidity (RH) becomes lower than the ambient temperature. As RH lowers, fuels dry at a quicker rate. The combination of low RH and higher temperatures reduces the moisture content of fine fuels (grasses, needles, herbaceous vegetation within forested stands) which can impact the Rate of Spread (ROS) of fires. Crossover days are easily identifiable by Emergency Services personnel when monitoring weather conditions during the fire season. The majority of crossover days occur in May during the spring fire season. This will be a period of high concern for wildfire as dead fine fuels are dry and the new vegetation has yet to mature. The second season of concern is September when vegetation begins to die, the temperature is still high, and the RH drops significantly during the day. Burning periods in the fall decrease as the days get shorter although the low RH and higher temperatures amplify the wildfire risk.

Using daily noon actuals, the temperature, relative humidity, precipitation, and wind speed were averaged. The data reflects the fire season weather by using data from 2009 to 2017 during the months of March to October. Temperature, relative humidity, precipitation, and wind speed was calculated by averaging monthly totals.

See Table 7 and Appendix C5.

	Weather Stations: Camrose and Edmonton South Campus U of A March 1, 2009 - October 31, 2017							
Month	Averag e Temp. (°C)	Average Relative Humidit y (%)	Averag e Wind Speed (km/h)	Averag e Precip. (mm)	Average Crossove r (days/yr)	Average 90 th Percentil e FWI (days/yr)	Average 90 th Percentil e FFMC (days/yr)	Average 90 th Percentil e ISI (days/yr)
March	-4	79	12	7	N/A	N/A	N/A	N/A
April	4	68	14	16	0	1	2	3
May	11	59	14	29	2	5	7	5
June	15	69	13	40	0	2	2	1
July	17	76	12	51	0	1	1	0
August	16	75	10	30	0	1	1	1
Septembe r	11	72	11	20	1	3	2	2
October	4	76	12	11	0	2	0	1

Table 7. Summary of data from two Weather Stations for the planning area.

*FWI/Daily data for April-October only due to snow cover

**Temp/RH/WS/Precip. data based on hourly data

A wind rose depicts the distribution of wind speed and direction. **Figure 8** illustrates the proportion of wind direction and speed for the days associated with the FWI 90th percentiles per season. The seasons represent the following months: spring (March to May), summer (June to August), and fall (September and October).

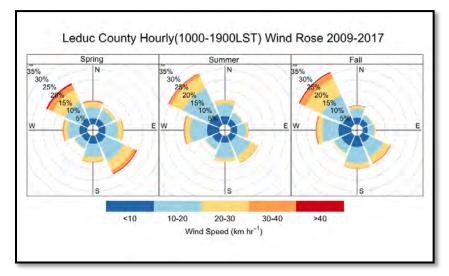


Figure 8: Leduc County Hourly (1000-1900) Wind rose (2009-2017) for spring, summer, and fall.

Spring: Winds are predominately from the northwest and southeast. Wind speeds are generally greater than 10 km/hr and gusts may reach upwards of 40 km/hr. Southerly winds are often referred to as drying winds as moisture can be easily removed from fine fuels. The stronger the wind, the faster a fire will spreads due to more oxygen being supplied for combustion and drier surface fuels. Stronger wind speeds may result in spotting.

Summer: Winds are predominately from the northwest. Gusts may reach upwards of 30 to 40 km/hr.

Fall: Wind events are predominately from the northwest. Wind speeds are usually greater than 20 km/hr and gusts may reach upwards of 40 km/hr. Stronger wind speeds may result in spotting.



Figure 9: Illustration of spotting during a wildfire (adopted from http://www.firewise.org). Spotting occurs when embers from burning material gets transported by the wind which has the potential to start new secondary fires.

2.3.3 Fire Weather Indices

Being outside of the Forest Protection Area, there is limited access to fire weather indices. Three measures that provide further insight to wildfire situation are: Fire Weather Index (FWI), Fine Fuels Moisture Code (FFMC), and the Initial Spread Index (ISI).

The FWI is used as a general index of fire danger throughout forested areas in Canada (Natural Resources Canada, 2016). The daily FWI is calculated using temperature, relative humidity, wind speed, and precipitation at a specific time index (13:00). The 90th percentile FWI was calculated to better understand what months are at a higher risk of sustaining a wildfire in the AEP planning areas. **Appendix C5** illustrates the distribution of days that are within the FWI 90th percentile.

The FFMC was also analyzed as grass fires have historically been a large concern for local Fire Departments. The FFMC considers the dryness of small and fine forest fuels like grass. Daily FFMC is calculated using temperature, relative humidity, wind speed, and precipitation based on the previous day's weather information. The planning area is located within the central parkland and the dry mixedwood natural sub-region where standing or matted grass vegetation is common. **Appendix C5** shows the distribution of days that are within the FFMC 90th percentile.

The ISI is a key component in fire behavior in regards to the Canadian Forest fires Danger Rating System (CFFDRS). The ISI integrates fuel moisture for fine dead fuels and surface wind speed to estimate a spread potential. ISI is a key input for fire behavior predictions in the FBP system. The rate of spread predicts the speed of the fire and takes into account of the potential for spotting and crowning fires. **Appendix C5** shows the distribution of days that are within the ISI 90th percentile.

Table 8: 90th Percentile FWI, FFMC, and ISI rating results for the Leduc County planning area based on Weather Station: Camrose and Edmonton South Campus U of A (March 1, 2009 - October 31, 2017).

	FWI	FFMC	ISI
Hazard Rating	31.4	91	14
	(Extreme)	(Very High)	(Very High)

2.3.4 Topography

Topography influences fire behaviour similar to wind where the degree of slopes directly impacts the rate of spread of a fire.

The topography in Leduc County consists mainly of flat terrain. The planning area has minimal elevation changes throughout. The subtle elevation changes throughout the area will have little effect on fire behaviour. The coniferous fuels as well as the dead and down woody debris present on steeper slopes may further increase the rate of wildfire spread, increasing the overall risk in these areas.

See Appendix C1 for the Overview and Topography maps.

2.4 Wildfire Behavior Analysis

Fire weather predictions are based on the analysis of fuels, weather, and topography. Three methods were utilized to predict fire behavior: Wildfire Behaviour Potential, Wildfire Threat Rating, and the Prometheus Wildfire Model.

2.4.1 Wildfire Behaviour Potential and Wildfire Threat Rating

Wildfire Behaviour Potential and Wildfire Threat Rating maps were acquired from the Alberta FireWeb (AAF). The Alberta FireWeb is a spatial tool that allows wildfire planners to better understand wildfire threat in an area. Wildfire Threat Rating and Fire Behaviour Potential maps for spring, summer and fall from FireWeb were analyzed.

It is important to note that wildfire threat rating calculations were not intended to be used outside the Forest Protection Area. These rating calculations do not account for the municipal firefighting resources and the potential for quick response times from the fire halls.

The Fire Behaviour Potential varies seasonally within the planning area. The Fire Behavior Potential for spring is predominately <u>moderate</u> with isolated patches of extreme Fire Behaviour Potential. During the summer and fall season it ranges from <u>low to moderate</u> fire potential. During the summer season, fire behaviour potential is reduced to mainly a low rating due to the fact the fuels area no longer cured/dried.

Wildfire Hazard and Risk ratings depict seasonal ranges in the Wildfire Threat Rating. The wildfire threat rating during spring, summer, and fall is mainly <u>low</u>. As the planning area is outside of Forest Protection Area, the overall risk could decrease thus, lowering the Wildfire Threat Rating.

See Appendix C6 and C7 for Wildfire Threat Rating and Fire Behaviour Potential maps.

2.4.1 Prometheus Wildfire Model

Prometheus runs were completed at a landscape scale that included the entire BHI study area. Historical fire season weather was modelled and the 90th FWI percentile was used to identify burning days. Ignition points were selected based on dominate wind direction, continuity of fuels, and the potential to impact communities within the study area. The Prometheus models are discussed in further detail in Section 3 of the BHI FireSmart Plan.

3 Wildfire Incidents

Leduc County's documented wildfire incidents are shown to have resulted primarily from anthropogenic activities ranging from agriculture to utilities. Fire response statistics (2015-2017) were analyzed to determine when the wildfire occurred, cause of ignition, and the total count of occurrence. One main fire station (New Sarepta) oversees wildfire events within the BHI study area for Leduc County. **Table 9** summarizes the total amount of wildfire incidences from 2015-2017.

Table 9. Leduc County V	Wildfire Incidence Stat	tistics.
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Leduc County Ground Cover Fire Incidences from 2015-2017			
Station	Year	Cause	Count
New Sarepta	2015-2017	Surface Fires	37

4 **Firefighting Capabilities**

Firefighting capabilities within the planning area are adequate and are able to respond to wildfire events that occur within the section of the County. Mutual aid agreements exist between neighbouring counties such as: Strathcona County, Camrose County, and Beaver County. In addition, the municipalities that have mutual aids are: City of Leduc, Hamlet of Nisku, City of Edmonton, and the Town of Beaumont. If county resources are dedicated to other incidents, Leduc County can request assistance through mutual aid agreements.

Along with mutual aid agreements, Leduc County has a standard inventory of firefighting resources at its disposal from the nearest fire hall. **Table 10** is a brief list of available equipment based out of New Sarepta fire station.

Fire Stations	Equipment Type	Quantity
	Pumper (5000L)	2
New Sarepta	Mobile Range Unit Quad fitted with 8ft trailer and firefighting gear.	1
	Tanker (3000 gallon)	1
	Rescue Truck	1

5 Wildfire Mitigation Strategies

5.1 Education

Recommendation 1a:	Educate and encourage community member involvement in FireSmart activities.
Recommendation 1b:	Distribute information regarding FireSmart priority zones.
Recommendation 1d:	Promote residences to use the "Alberta Emergency Alert" App for up to date information on wildfire emergencies.

Education of local residents will assist in mitigating wildfires occurrences within the County. Through platforms such as social media, open houses, rural newsletters, and local school presentations/events FireSmart objectives can be highlighted, explained and/or demonstrated. These platforms will encourage engagement with surrounding residents on issues revolving around those tasks and methods. It is recommended that Leduc County develops an educational program that focuses on fire prevention and fire safety when conducting operations such as slash burning.

Information distributed should focus and highlight Non-combustible Zone and Priority Zone 1. These areas should have priority. Information should also include, but not be limited to, fuel removal, fuel reduction, and conversion of the property.

Encouraging the download and use of the Alberta Emergency Alert app allows for a simple way for residents to have access to, and stay updated with, necessary information during potential emergencies

5.2 Development

Leduc County's Planning Development department oversees functions related to road maintenance and other land use planning matters. Infrastructure affects a community's resilience to wildfire. Current development aspects to consider for possible improvements to further mitigate wildfire risks include:

Access

- Water availability
- Signage
- Utilities
- Staging Areas

5.2.1 Access

Recommendation 2a:

Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services.

Within and surrounding Leduc County, there are multiple means of ingress/egress to allow for safe movement of traffic during an emergency. The main means of access is Hwy 21 that runs northwest and southeast through the west section of the planning area along with Hwy 623, 617, and 833. A network of township and range roads are available to people as a means of ingress/egress during an emergency. The roads are designed to accommodate two way traffic and are wide enough to allow for vehicles evacuating to pass responding emergency personnel and equipment.

Road maintenance is required during spring melt and on newly constructed roads suffering from deep ruts, large potholes, or a washboard surface. It is recommended that Leduc County develops and implements Best Management Practices for road construction to ensure suitable access for emergency services. Best Management Practices may include:

- enhancement of driving surface widths
- improvement of ditch slopes to improve driving surface stability
- installment of "No Parking" signage on roads critical for evacuation
- installment of designated evacuation route signs

5.2.2 Water Availability

Only one dry fire hydrant was identified within the planning area (Wildland Meadows). The closest water fill station/outlet is located near the municipality of New Sarepta at the intersection of Hwy 21 and Sec Hwy 623. Although there are numerous water bodies present in Leduc County, natural water sources are not considered a viable source of water for wildfire suppression.

5.2.3 Utilities

Recommendation 2b: Ensure that the primary and secondary power lines are maintained.

A series of single, secondary, and three phase power lines are present within Leduc County. Fortis Alberta owns and oversees the maintenance along the distribution right of ways. The majority of the lines have been maintained, but in certain locations vegetation management will be required. Secondary lines are prominent in the rural subdivisions and although these lines conduct less voltage in comparison to the other distribution lines, wildfires can result from these lines under the right conditions.

5.2.4 Staging Areas

Staging areas are for the purpose of the Fire Department to setup and run operations. They are determined on a case by case basis and consider key elements such as fire location and direction of burn. Possible staging areas have been identified in **Appendix C9**. Criteria for selecting possible staging area locations included adequate space to marshal equipment and equipment turn arounds, solid surfaces capable of supporting the fire trucks, and are close or within the community. Emergency Services may also utilize the County office or other facilities present in the City of Leduc or the Hamlet of Nisku.

5.3 Vegetation Management

Recommendation 3a:	Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1.
Recommendation 3b:	Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities.

Vegetation management has four FireSmart priority zones: the Non-combustible Zone and Priority Zones 1, 2, and 3. Application of vegetation management within the four priority zones will reduce hazards and improve the defensibility of a structure. <u>Vegetation should not be modified, reduced, or removed if considered within the riparian zone, or other sensitive areas.</u>

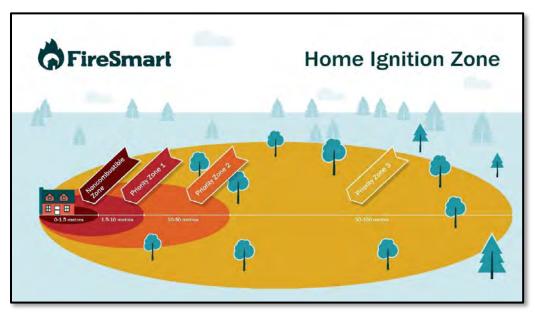


Figure 10: FireSmart Zones (http://www.firesmartcanada.ca/resources-library/firesmart-home-ignition-zone-graphic).

Non-combustible Zone is the area 0 to 1.5 meters immediately around a structure and is considered the most critical area. This zone prevents flammable fuels from doing immediate damage to the structure.

Priority Zone 1 has a radius of 1.5 to 10 meter around the structure. Keeping this area clear of flammable vegetation and debris can reduce the risk of the structure igniting during a wildfire and increases the defensibility of the structure.

Priority Zone 2 has a radius of 10 to 30 meter around the structure. Maintenance of Priority Zone 2 aids in lower the intensity and the rate of spread of a wildfire.

Priority Zone 3 extends out from the 30 meter. Priority Zone 3 modification may be necessary if there are high threat levels due to heavy continuous vegetation and steep topography that could not be sufficiently reduced by fuel management in Priority Zone 2. Fuel management options for Zone 2 and 3 are most effective when conifer trees are present.

Within the Leduc County planning area, the need for fuel treatment within Priority Zone 3 may be required but should be conducted on a case by case basis for mitigating wildfire threat to Values at Risk on the landscape.

Priority Zone	Fuel Management Option		
Non-combustible	Mow grass (10 centimeters or less)		
Zone and Zone 1	Remove ground litter and downed trees		
	Remove over mature, dead and dying trees		
	Plant fire resistant vegetation		
	Thin and/or prune existing vegetation		
	Remove piled debris		
Zana O and O	Thinning understory		
Zone 2 and 3	Pruning lower branches (within two meters from the ground)		

Table 11: FireSmart Priority Zones Fuel Management options to improve defensibility of structures in the event of wildfire.

5.4 Legislation

Bylaws are an important aspect of a community. The purpose of bylaws are that "they are understandable, enforceable, and accomplish the council's desired goal" (Municipal Affairs, 2013). The review of the Bylaws included current regulations and an investigation of recommendations that could be undertaken to address specific issues to aid in meeting FireSmart goals.

5.4.1 Fire Permit Bylaw

Recommendation 4c: Adjust the issuing of fire permits as a year round requirement.

Residents occupying rural subdivisions who burn organic materials must obtain a fire permit. A fire permit allows the individual to commence open burning activities from April 1 to October 31. Burning activities that fall outside the proposed season do not required a burning permit. It is recommended that Leduc County issue fire permits as a year round requirement.

5.5 Inter-Agency Cooperation

Recommendation 5a: Coordinate a pre-fire season meeting with other agencies to discuss the upcoming wildfire season.

Wildfires around rural communities can exceed the capabilities of local emergency responders. When Fire Service Agreements are in place, additional resources of personnel, equipment, and specialized equipment are made available. Currently, Leduc County has mutual aid agreements in place with Strathcona County, Beaver County, Camrose County, City of Leduc, Hamlet of Nisku, City of Edmonton, and the Town of Beaumont fire department. It is recommended that Leduc County continue to maintain current mutual aid agreements. Leduc Emergency Services should conduct an annual pre-season meeting with mutual aid agreements holders to discuss interagency cooperation during a wildfire incident.

5.6 Cross-Training

Recommendation 6a:	Create desktop scenarios to test out and understand protocols during wildfire emergencies.
Recommendation 6b:	Participate in joint wildfire exercises with Alberta Agriculture and Forestry.

It is recommended that the Fire Department execute desktop scenarios as part of their training regime. Desktop scenarios will help firefighters to work through relevant scenarios relating to Leduc County and test out and understand protocols during emergencies.

Leduc County Fire Department should participate in joint exercises with AAF Wildfire Management Branch in the Rocky Mountain House District. These exercises should emphasize mutual aid scenarios. Having multiple agencies participate in these training exercises will benefit all parties by illustrating key differences in strategies, tactics, and equipment.

5.7 Emergency Planning

Recommendation 7a:

Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies.

Recommendation 7b:

Create Wildfire Preparedness Guides for communities.

Leduc County has an Emergency Response and Evacuation Plan already drafted that incorporates wildfire emergencies. The Evacuation Plan and Emergency Response Plan can be referenced on the Leduc County regional website. In addition, it is recommended that wildfire preparedness guides be developed for each individual subdivision and hamlet present within the Leduc County planning area.

6 Summary of Recommendations

Each of the recommendations is ordered upon urgency and effort to assist each of the communities in making a working plan. Urgency and effort levels were set using the following criteria:

Urgency is a measure of timeliness and is rated as high, moderate, or low. The rates of timeliness mean:

High	The recommendation is critical and should be commenced as soon as possible.
Moderate	Recommendation is important and may be worked on as a staged approach to program improvement.
Low	The recommendation may be completed as resources become available.

Effort is a measure of resources required over a period of time and is rated as high, moderate, or low. The rates of resources mean:

High	Requires direct project funding (for contracted services), possibly a multi-year project, preferably managed through dedicated resources for the term of the project, involves significant external stakeholder involvement.
Moderate	May require direct project funding (for contracted services), generally completed within one business year, managed with assigned resources and possibly involves external stakeholder input.
Low	Generally will not require direct project funding, managed through existing resources as routine business, often can be completed within one or two business quarters and generally does not involve external stakeholders.

Note: The following tables contain the recommendations, indicating their respective urgency and level of effort required for implementation.

Public Education

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	 1a. Recommendation Educate and encourage community member involvement with FireSmart Activities. Involvement can be through social media, open houses, rural newsletters, or through local school events. Project Lead BHI Committee Representative. Benefits Increase community education and involvement. 	Annually	5.1
High	Moderate	 1b. Recommendation Distribute information regarding new FireSmart priority zones. Project Lead BHI Committee Representative Benefits Reduce flammable fuels nearest to the structure. 	Annually	5.1
Moderate	Moderate	 1d. Recommendation Promote residences to use the "Alberta Emergency Alert" App for up to date information on wildfire emergencies. Project Lead BHI Committee Representative Benefits Community alertness if emergencies arise. 	Annually	5.1

Development

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	 2a. Recommendation Develop and implement Best Management Practices for road construction to ensure suitable access for emergency services. Project Lead Public Works Department Benefits Improve emergency response times. 	One time	5.2.1

		2b. Recommendation To ensure that the primary and secondary power lines are maintained.		
High	Moderate	Project Lead	Annually	5.2.3
		Public Works Department		
		Benefits		
		Preventative measures to maintain community safety.		

Vegetation Management

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	 3a. Recommendation Regular maintenance of vegetation in the FireSmart Non-combustible Zone and Zone 1. Project Lead Planning and Development Departments Benefits Decrease fire hazards. 	Annually	5.3
Moderate	Moderate	 3b. Recommendation Conduct Area Hazard Assessments on standard values (houses and associated structures) in close proximity to Park boundaries that were not assessed as part of the communities. Project Lead Public Works Department Benefits Preventative measures to maintain community safety. 	One Time	5.3

Legislation

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Moderate	 4c. Recommendation To adjust the issuing of fire permits as a year round requirement. Project Lead Administration Members Benefits Decrease fire hazards. 	One Time	5.4.1

Inter-Agency Cooperation

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	 5a. Recommendation Coordinate a pre-season meeting with other agencies to discuss the upcoming wildfire season. Project Lead Public Works Department Benefits Improve and maintain mutual aid agreements. 	Annually	5.5

Cross-Training

Urgency	Effort	Recommendation	Frequency	Section
Moderate	Low	 6a. Recommendation Create desktop scenarios to test out and understand protocols during wildfire emergencies (example: Wildfire CD's). Project Lead Fire Department, Alberta Agriculture and Forestry Benefits Increase fire preparedness for the season. 	Annually	5.6
Moderate	Low	 6b. Recommendation Participate in joint wildfire exercises with Alberta Agriculture and Forestry Project Lead Fire Department, Alberta Agriculture and Forestry Benefits Increase fire preparedness for the season. 	Annually	5.6

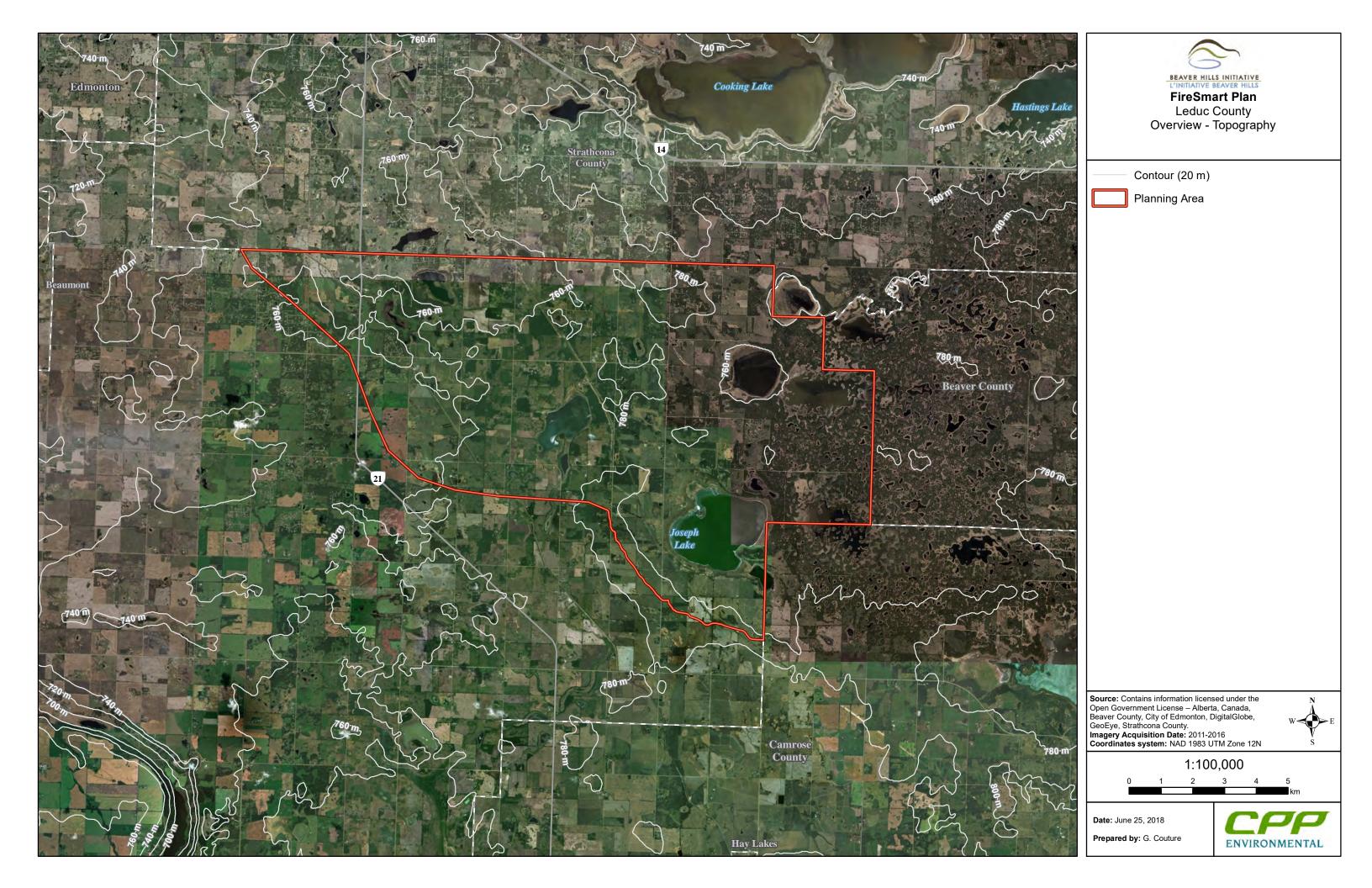
Emergency Planning

Urgency	Effort	Recommendation	Frequency	Section
Low	Moderate	 7a. Recommendation Draft and/or update and test out the Emergency Response Plan in regards to wildfire emergencies. Project Lead Public Works Department Benefits Improve Emergency Preparedness. 	Annually	5.7

BHI - Leduc County – Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies, August 2018

Urgency	Effort	Recommendation	Frequency	Section
Low	Moderate	 7b. Recommendation Create Wildfire Preparedness guides for communities. Project Lead Public Works Department Benefits Improve Emergency Preparedness. 	One Time	5.7

Appendix C1: Overview and Topography Map



Appendix C2: Values at Risk Maps



	BEAVER HILLS INITIATIVE L'INITIATIVE BEAVER HILLS FireSmart Plan Leduc County Hamlet of Looma Values at Risk
	Critical Infrastructure Dangerous Goods
	Special Values
]	Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County. Imagery Acquisition Date: 2013-2016 Coordinates system: NAD 1983 UTM Zone 12N

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Date: April 26, 2018

Prepared by: G. Couture

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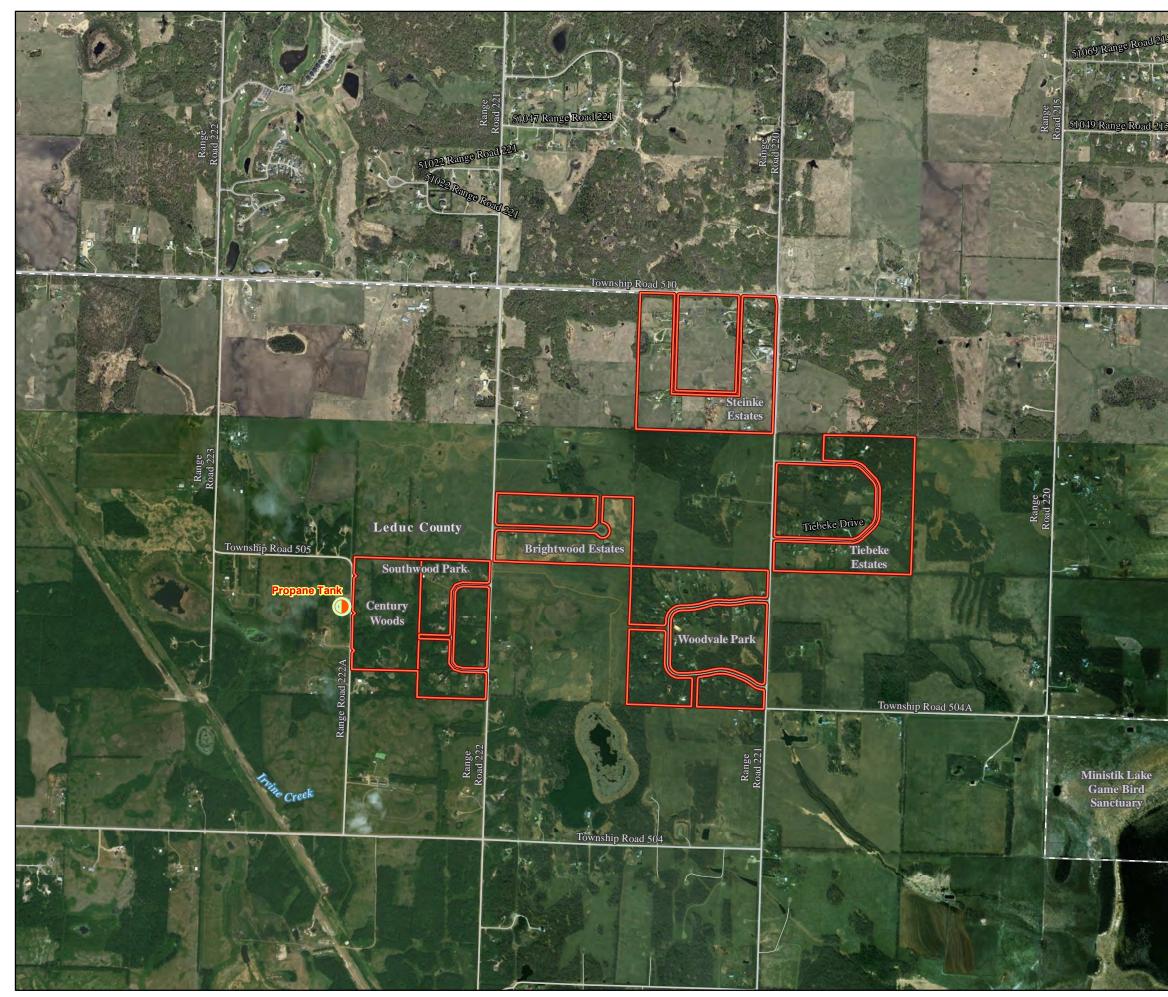
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And in the local division of the	
istik Lake	BEAVER HILLS INITIATIVE L'INITIATIVE BEAVER HILLS FireSmart Plan Leduc County Wildland Meadows Values at Risk
	* Critical Infrastructure
and the	Dangerous Goods
	🔺 Special Values
	Planning Area
	Source: Contains information licensed under the
	Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County. Imagery Acquisition Date: 2013-2016
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R	Date: April 26, 2018 Prepared by: G. Couture





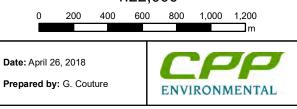


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Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County. Imagery Acquisition Date: 2013-2016 Coordinates system: NAD 1983 UTM Zone 12N 1:22,000

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Date: April 26, 2018







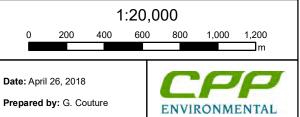
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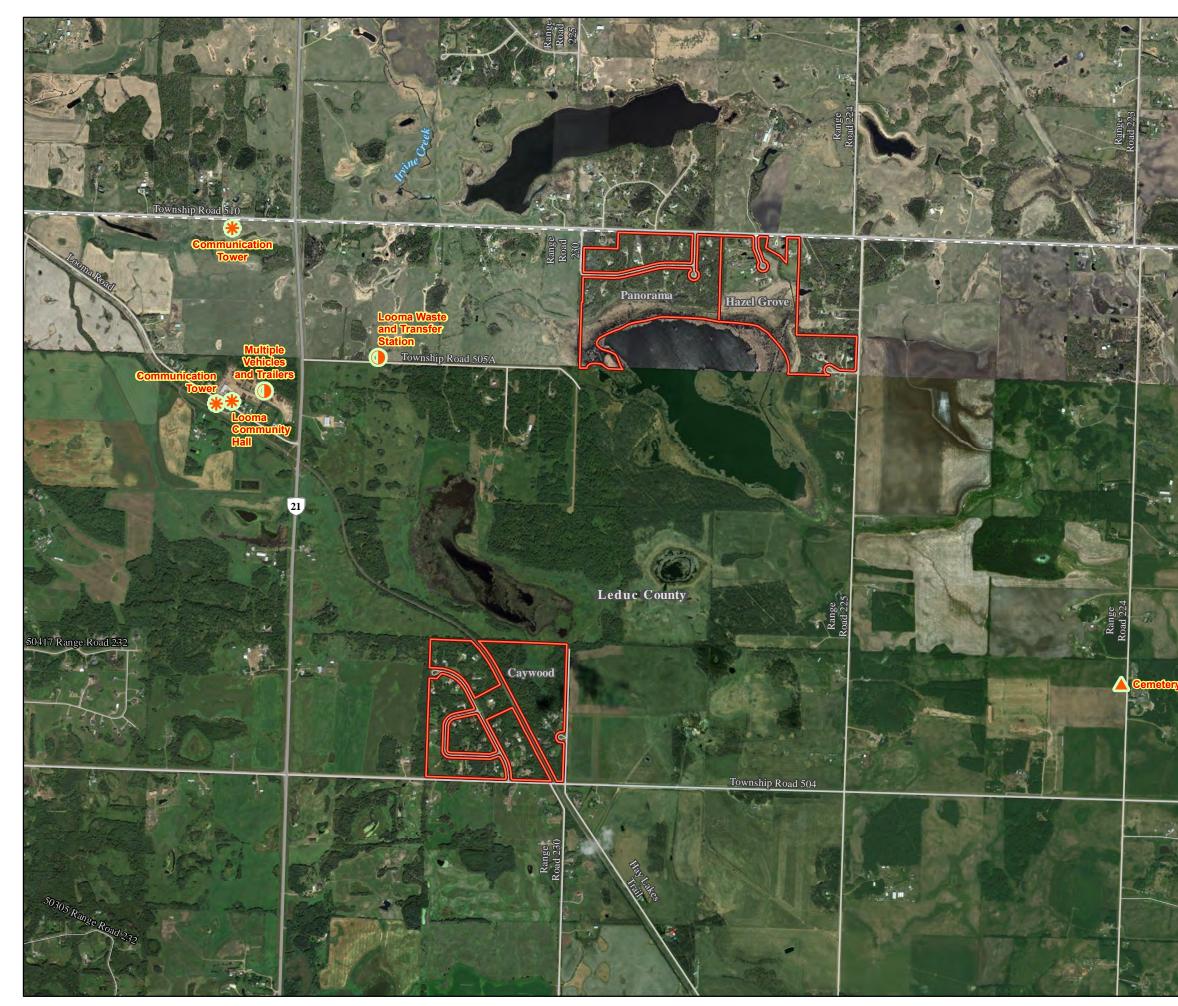
BEAVER HILLS INITIATIVE L'INITIATIVE BEAVER HILLS FireSmart Plan Leduc County Area 2 Values at Risk
Critical Infrastructure
Dangerous Goods
 Special Values
Planning Area

Source: Contains information licensed under the Open Government License – Alberta, Canada, City of Edmonton, DigitalGlobe, Strathcona County. Imagery Acquisition Date: 2013-2016



Coordinates system: NAD 1983 UTM Zone 12N

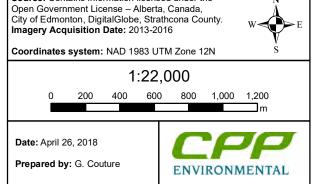




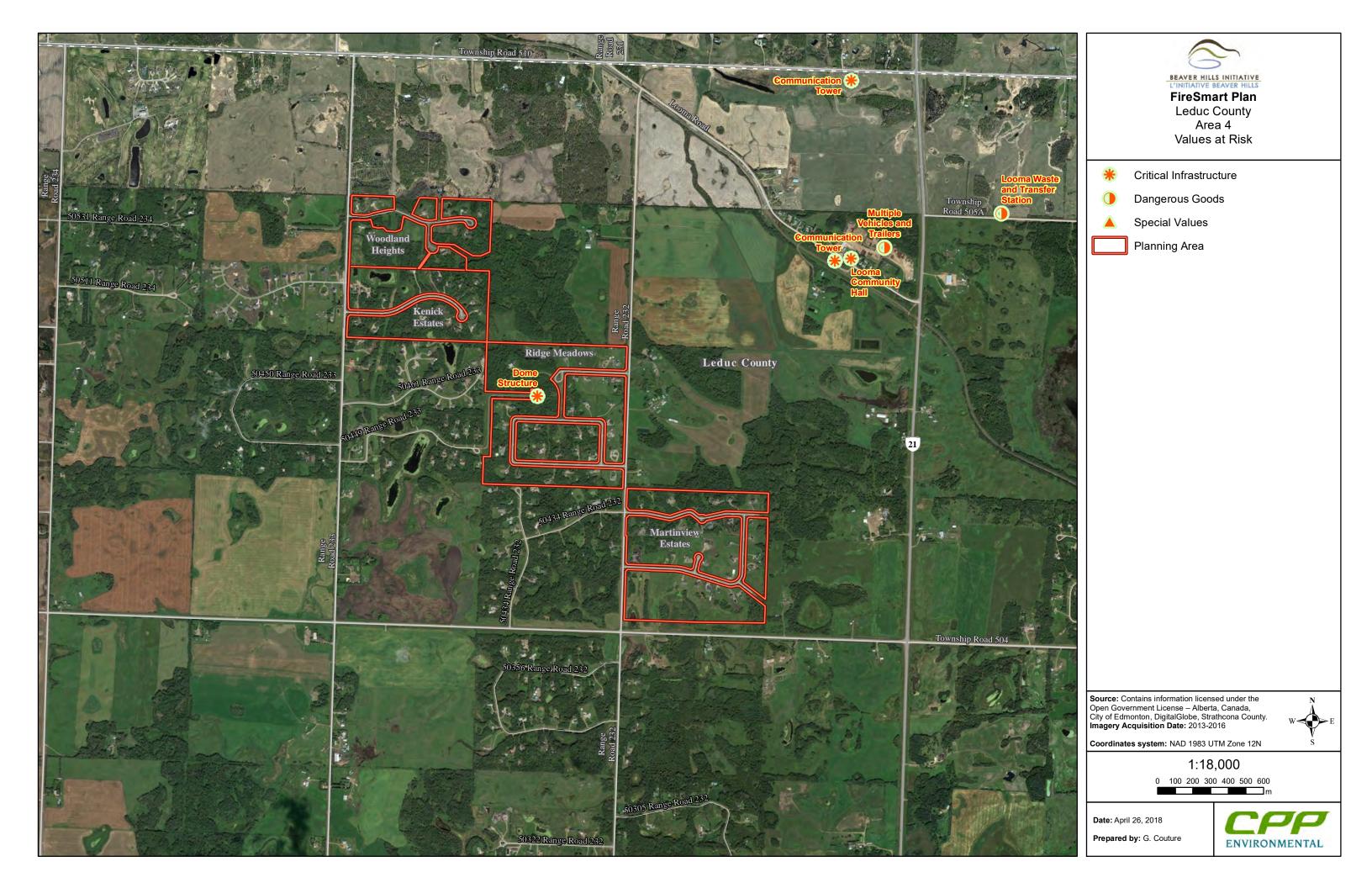




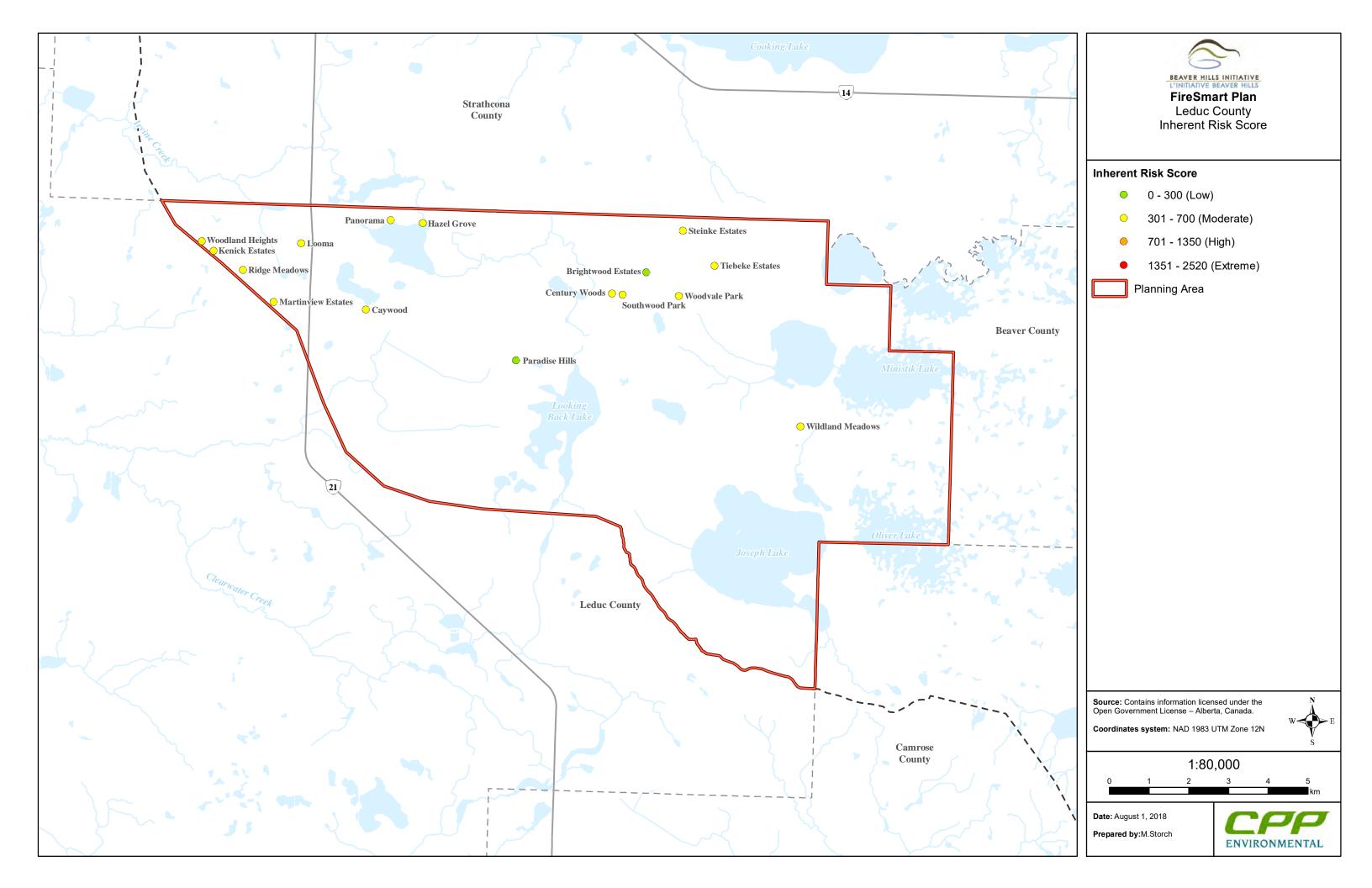
- * Critical Infrastructure
 - Dangerous Goods
 - Special Values
 - Planning Area



Source: Contains information licensed under the



Appendix C3: Inherent Risk Map and Community Risk Assessment Results



Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	IUNITY:	Hamlet of Looma	INHE	RENT
			Rating	Scores
Ë	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	0
ESS TO S		ea (Vegetation Maintained)	0 or 3	0
zC	D County Roa		0 or 3	0
ACC	E Subdivisior	N KOad	0 or 3	0
· ·	A 0 to 30		/15	3
ц.	A 0 to 30 B 31 to 60		1 2	T
R C ES	C 61 to 90		3	
JMBER (HOMES	D 91 to 120		4	
NUMBER OF HOMES	E > 120		5	
2	2 7 120		/5	1
	Average Property Valu	ie:		_
ISK	A \$0 - \$300 0	00	1	
C R	B \$300 001 -	\$500 000	2	2
W	C \$500 001 -	\$750 000	3	
NO	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 300,000-500,000		
			/4	2
5	Presence of:			
VALUES AT RISK	A Critical Infr		0 or 3	3
RISK	-	Goods Infrastructure	0 or 3	3
٨٨	C Special Val	ues	0 or 3	0
	A 1	is involvement and no structural import to Exception of the	/9	6
×	A Local med programs	ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	1 0	a involvement and internal structural changes to Emergency Services or	2	
, AL	programs	a involvement and internal structural changes to Emergency services of	2	
Ë		edia involvement, lack of public confidence, and external changes to	3	
, or	-	Services or county government	5	
<u>ц</u>	Emergency	Services of county Bovenment	/3	1
	v	A < 20 m between homes	3	
	JRE O	B 21 - 40 m between homes	2	2
	A < 20 m between homes B 21 - 40 m between homes C 41 - 100 m between homes D > 100m between homes	C 41 - 100 m between homes	1	
		0		
	ST D		/3	2
	0 0	O O A East w/ Barrier within 200m	0 or 2	0
	ts t tea	B West w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	C South w/ Barrier within 200m	0 or 4	0
	ARI	D North w/ Barrier within 200m	0 or 2	0
	<u>ю</u> . т.		/12	0
	FOREST FUEL PATCH SIZE	A No forest patch present within community	0	
		B Patch 0.1 - 0.9 ha within community boundary	1	
		C Patch 1 - 2.9 ha within community boundary	3	_
È	PA	D Patch > 3 ha within community boundary	5 /5	5 5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	5 4
≥	ᆋᇿ	B 21-40 %	3	-
Ō	ITI, IAR	C 41-60 %	2	
Ъ	ESN	D 61-80 %	1	
È	RESIDENTIAL FIRESMART	E 81-100 %	0	
BILI			/4	4
ISN	<mark>ч</mark> н П	A Utility ROW maintenance	0 or 1	1
EFE	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	1
<u> </u>		C Fuel maintenance required - municipality	0 or 1	0
	· 문 · 평		/3	2
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACCESS	C 2 or more means of egress	0 or 1	0
	∢	D Standard visible lot signage	0 or 1	1
		A Decoording Fire Department has serve a submer at (/4	2
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	ŏ≿	fires B Fire fighters have basic wildfire fighting training	0 or 1	0
	ESS	C Mutual Aid Agreements are present	0 or 1 0 or 1	0 0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	C SUL	Within an adequate distance to fire station and water supply	0.011	Ŭ
		,	1.	
			/4	0

	COMM	IUNITY:		Hamlet of Looma	INHE	RENT
	CONIN	IONITT.		Hamlet of Looma	Rating	Scores
	SLOPE & FUEL TYPES FUEL TYPES TYPE			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5
				VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: D1 Slope %: 0-10%	0 to 6	2
RENCE	FUEL STRUCTURE FUEL STRUCTURE BURNING LANDSCAPE TYPES IGNITION ALLOWED SOURCES IGNITION FUEL STRUCTURE DEAD & DEAD & FUEL MATERIAL	JCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE		FUEL STR	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3 3
ГІКЕГІНОО			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 1 1 3	
			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	ood = INH		TOTAL:	17
				Hazard Rating Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	IUNITY:	Wildland Meadows	INHE	RENT
CONIN		Wildiana Weadows	Rating	Scores
Ë			0 or 3	0
ACCESS TO SAFE ZONES	, e		0 or 3	3
ESS TO ZONES	WUNTY: Wildland Meadows A Lake B Large Non-Fuel Surface C Cleared Area (Vegetation Maintained) D County Road A 0 to 30 B 311 to 60 C Gleared Area (Vegetation Maintained) D County Road A 0 to 30 B 311 to 60 C Gleared Area (Vegetation Maintained) Average Property Value: A A 5300 000 S 530 000 Average Property Value: A S 500 000 Average Property Value: A A Cotics \$ 500,000-500,000 Presence of: A A Local media involvement and no structural impact to Emergency Services or programs B Local media involvement, lack of public confidence, and external changes to Emergency Services or county government Straget and media involvement, lack of public confidence, and external changes to Emergency Services or county government Straget and the set and thereal structural changes to Emergency Services or county government Straget and the set ano	0 or 3	0	
ZC	,		0 or 3	0
ACC	E Subdivision	Road	0 or 3	0
`	A 0 to 20		/15	3
ц.			1 2	1
ES			3	
JMBER (HOMES			4	
NUMBER OF HOMES			5	
2	2 7 120		/5	1
	Average Property Valu	e:	7-	
ISK			1	
8			2	2
ž			3	
O N	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 300,000-500,000		
ш			/4	2
	Presence of:			
S AT <			0 or 3	3
LUES RISK	B Dangerous	Goods Infrastructure	0 or 3	0
VALUES AT RISK	C Special Val	ues	0 or 3	3
			/9	6
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK				
L R	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
ICA				
	C Regional m	edia involvement, lack of public confidence, and external changes to	3	
Dd	Emergency	Services or county government		
			/3	1
	ES I		3	
	Σ Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu Lu		2	
	C 41 - 100 m between homes	1 0	1	
	D > 100m between homes			
		/3	1	
	AD AD		0 or 2	0
	B West w/ Barrier within 2	-	0 or 4	0
	E SF	-	0 or 4	0
	3AR FIRI	D North W/ Barrier Within 200m	0 or 2	2
		A No forget noteb present within community	/12	2
			0	
			1 3	
	RES		5	5
DEFENSIBILITY OF COMMUNITY	PA PA	s i aten z sina within community boundary	/5	5
L L		A 0-20 %	4	,
ž	i AL		3	3
<u> </u>	NTI		2	-
ц.	ESN		1	
Ł	RIR		0	
BIL	<u> </u>		/4	3
NSI	Ξ _ω Ω	A Utility ROW maintenance	0 or 1	0
	MA NC IRE		0 or 1	0
ā		C Fuel maintenance required - municipality	0 or 1	0
	5 H H		/3	0
		A Road width is equal to or greater than 7 m	0 or 1	0
	S	-	0 or 1	0
	CC	C 2 or more means of egress	0 or 1	1
	A	D Standard visible lot signage	0 or 1	0
			/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Z ≻			
	SSIC		0 or 1	0
	AB		0 or 1	0
	САР		0 or 1	0
	SI SI	Within an adequate distance to fire station and water supply		
			/4	0
			TOTAL:	25

	COMM	IUNITY:		Wildland Meadows	INHE	RENT
	COIVIIV				Rating	Scores
	SLOPE & FUEL FUEL TYPES TYPE			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5
				VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: D1 Slope %: 0-10%	0 to 6 /6	2 2
RENCE	FUEL STRUCTURE FUEL STRUCTURE BURNING ALLOWED SOURCES FUEL STRUCTURE IGNITION FUEL STRUCTURE IGNITION FUEL DEAD & DOWN	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE		LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3 3	
ГІКЕГІНОО			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1
	Consequer	nce x Likelih	nood = INH	RENT RISK 375	TOTAL:	15
				Hazard Rating Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM		Century Woods	INHE	RENT
CONIN		Centuly woods	Rating	Scores
H	A Lake		0 or 3	3
s SA			0 or 3	3
NE ONE	B Large Non-Fuel Surface C Cleared Area (Vegetation Maintained) D County Road E Subdivision Road A 0 to 30 B 31 to 60 C G to 10 30 D 9 1 to 120 E > 120 Average Property Value: A A 0 to 30 000 B S300 001 - \$550 000 D > 5750 000 Average Property Value: A A Critical Infrastructure B Dangerous Goods Infrastructure C Special Values A Local media involvement and internal structural changes to Emergency Services or programs B Local media involvement, lack of public confidence, and external changes to Emergency Services or county government E Sandonal involvement, pack of public confidence, and external changes to Emergency Services or county government Sandonal involvement, lack of public confidence, and external changes to Energency Services or county government Sandonal involvement, lack of public confidence, and external changes to Energency Services or county government Sandonal involvement, lack of public confidence, and external changes to Energency Ervi	0 or 3	3	
ESS TO S			0 or 3	0
ACCESS TO SAFE ZONES	E Subdivisior	Road	0 or 3	3
4			/15	12
щ			1	1
NUMBER OF HOMES			2	
JMBER (HOMES			3	
N N			4	
z	E > 120		5 /5	1
	Average Property Valu	0.	/3	1
X			1	
R			2	2
Ĕ			3	-
Q			4	
ECONOMIC RISK				
ш	Ŭ		/4	2
L	Presence of:			
LA C	A Critical Infr	astructure	0 or 3	3
LUES RISK	B Dangerous	Goods Infrastructure	0 or 3	3
VALUES AT RISK	-		0 or 3	0
>			/9	6
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
Political risk	programs			
LR	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
CA	programs			
5	C Regional m	edia involvement, lack of public confidence, and external changes to	3	
6	Emergency	Services or county government		
			/3	1
	F	A < 20 m between homes	3	
	V O URE	B 21 - 40 m between homes	2	
	C 41 - 100 m between homes D > 100m between homes	1		
		0	0	
	S D		/3	0
	2 9	A East w/ Barrier within 200m	0 or 2	0
	RS 1 REA		0 or 4	0
	SPR	C South w/ Barrier within 200m	0 or 4	0
	ARI	D North w/ Barrier within 200m	0 or 2	0
	84		/12	0
			0	
	LE .		1	
	EST		3	
≿	PA'	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	<u> </u>	A 0.20 %	/5	5
Į			4	4
Ő	TI⊿ AR		3	
E C	SM.		2	
Σ	ESIL		1 0	
E.	<u> </u>	L 01-100 /0	/4	4
SIB	ź ^	A Litility ROW maintenance	0 or 1	4
	1AII VCE REE		0 or 1	0
DE	A L L		0 or 1	0
	E TEI		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	s		0 or 1	1
	CES	-	0 or 1	0
	ACI	-	0 or 1	1
			/4	2
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	z.			
	OS Z		0 or 1	0
	tes: ABIL		0 or 1	0
	PPF AP#		0 or 1	0
	Su Su	Within an adequate distance to fire station and water supply		
			/4	0

	COMM	IUNITY:		Century Wood	INHE	RENT
	CONNIN			Century wood	Rating	Scores
	SLOPE & FUEL FUEL TYPES TYPE			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3
				VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2 2 2
RENCE	RIAL RIAL	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE		FUEL STRI	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ГІКЕГІНОО			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	ood = INH	RENT RISK 442	TOTAL:	13
				Hazard Rating Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	IUNITY:	Southwood Park	INHE	RENT
CONIN		Southwood Faik	Rating	Scores
Ë			0 or 3	3
ACCESS TO SAFE ZONES	, e		0 or 3	3
ESS TO ZONES	VUNTY: Southwood Park A Lake B Large Non-Fuel Surface C Cleared Area (Vegetation Maintained) D County Road E Subbidivision Road A 0 to 30 B 31 to 60 C Gleared Area (Vegetation Maintained) D County Road A 0 to 30 B 31 to 60 C 61 to 90 D 91 to 120 E >120 Average Property Value: A A 5300 000 Souto 001 - 5530 000 C Sstoo 001 - 5750 000 D > 5750 000 Average Property Value: A A Cortical Infrastructure B Dangerous Goods Infrastructure B Docal media involvement, lack of public confidence, and external changes to Emergency Services or county government Statue C A < 20 m between homes	0 or 3	0	
ZC	,		0 or 3	0
ACO	E Subdivision	Road	0 or 3	0
1	A 0.4- 20		/15	6
ц.			1 2	1
NUMBER OF HOMES			3	
JMBER (HOMES			4	
≧ ¥			4 5	
2	2 7 120		/5	1
	Average Property Valu	e:	7-	
ISK			1	
C R	B \$300 001 -	\$500 000	2	2
Σ	C \$500 001 -	\$750 000	3	
NO NO	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 300,000-500,000		
_			/4	2
E.				
VALUES AT RISK			0 or 3	3
LUES RISK	•		0 or 3	3
VAI	C Special Val	ues	0 or 3	0
-			/9	6
~		ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK			2	
AL F		a involvement and internal structural changes to Emergency Services or	2	
20			2	
GL	-		3	
ă	Emergency	Services or county government	12	
		A < 20 m batwaan bamas	/3 3	1
	OF RES		3 2	
	ΣĒ		2	1
	\sim			T
	DE		0 /3	1
	0.0	A East w/ Barrier within 200m	0 or 2	0
	S TC EAL		0 or 4	0
	ER	-	0 or 4	0
	RRI RE S	-	0 or 2	0
	BA FIF		/12	0
		A No forest patch present within community	0	
		B Patch 0.1 - 0.9 ha within community boundary	1	
	CH :		3	
≥	AT	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	<u>д</u> г		/5	5
MU			4	4
Mo	IIA IRT		3	
Ŭ L	N EN.		2	
0 ×	SID		1	
	E RE	E 81-100 %	0	
SIB	ż	A Litility DOW maintenance	/4	4
L N			0 or 1 0 or 1	1
DEF			0 or 1 0 or 1	0 0
	TE ^r REC		/3	1
		A Road width is equal to or greater than 7 m	73 0 or 1	0
	s		0 or 1	1
	CES	-	0 or 1	0
	ACC	-	0 or 1	0
	-		/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	Z L			
	SIO VII		0 or 1	0
	RES ABII		0 or 1	0
	PPF AP/		0 or 1	0
	o su	Within an adequate distance to fire station and water supply		
			/4	0
			TOTAL:	28

	COMM	IUNITY:		Southwood Park	INHE	RENT
	COIVIIV			Southwood Park	Rating	Scores
LIKELIHOOD OF OCCURRENCE	SLOPE & FUEL TYPES TYPE			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5
				VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>	0 to 6	2 2 2
RENCE	FUEL STRUCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
D OF OCCUR		FUEL STR LADDER FUEL	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3 3
ООНІХЕГІНОО	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	1 1 0 0 2
	PROBABILITY OF BURNING EXTREME FIRE TYPES BEHAVIOR ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelił	nood = INH	RENT RISK 448	TOTAL:	16
				Hazard Rating Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM		Brightwood Estates	INHE	RENT
CONIN		Bilgittwood Estates	Rating	Scores
H			0 or 3	3
ACCESS TO SAFE ZONES	•		0 or 3	3
ESS TO ZONES	VUNTY: Brightwood Estates A Lake B Lake C Lake	0 or 3	0	
zC	,		0 or 3	0
ACO	E Subdivision	N KOad	0 or 3	0
	A 0 to 20		/15	6
ц.			1 2	1
NUMBER OF HOMES			3	
JMBER (HOMES			4	
≦ ≚			5	
2	2 7 120		/5	1
	Average Property Valu	le:	7-	
SK	- · ·		1	
СR	B \$300 001 -	\$500 000	2	2
Σ	C \$500 001 -	\$750 000	3	
NO NO	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 300,000-500,000		
-			/4	2
F				
VALUES AT RISK			0 or 3	3
LUES RISK	•		0 or 3	3
VAI	C Special Val	ues	0 or 3	0
-			/9	6
U U		ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK			2	
AL F		a involvement and internal structural changes to Emergency Services or	2	
20			2	
OLI .	-		3	
ă	Emergency	Services or county government	12	
		A 20 m between homes	/3 3	1
	OF		3 2	
	Σ Γ		1	
	SUC	~ 100 m between homes		0
	DE		0 /3	0
	0.0	A East w/ Barrier within 200m	0 or 2	0
	ŝ TC EAL		0 or 4	0
	IERS PRE	-	0 or 4	0
	RRI RE S	-	0 or 2	2
	BA		/12	2
		A No forest patch present within community	0	
		B Patch 0.1 - 0.9 ha within community boundary	1	
	CH :		3	
≥	AT	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	Ξ ⁴		/5	5
Ŵ			4	
ΝC	LI AI		3	3
ъ С Г	EN		2	
© ≻	SID		1	
Ľ I	E	E 81-100 %	0	
SIBI	-		/4	3
Ë.	AIN CE ČED		0 or 1	0
DEF	UF M		0 or 1	0
_	TEN ĕQ	c Fuel maintenance required - municipality	0 or 1 /3	0 0
	<u> </u>	A Road width is equal to or greater than 7 m	/3 0 or 1	0
	ú		0 or 1 0 or 1	0
	CES!	-	0 or 1 0 or 1	1
	ACC	-	0 or 1	1
			/4	2
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	z.			Ŭ
	<u>Ģ</u> È;		0 or 1	0
	KESS		0 or 1	0
	₽РР		0 or 1	0
	Ω SU			
1		· · · · · · · · · · · · · · · · · · ·	/4	0

	COMMUNITY:			Brightwood Estates	INHE	RENT	
	COIVIIV			Blightwood Estates	Rating	Scores	
	UEL TYPES			A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	B O Fuels - GrassesC M Fuels - Mixedwood	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 0 0
		-			/10	3	
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slop Fuel Type: <u>O1b</u> Slope %: <u>0-10%</u>		3 3	
RENCE	UCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1	
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	0	
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0	
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1	
	Consequer	nce x Likelił	nood = INHI	RENT RISK 280	TOTAL:	10	
				Hazard Rating Low			

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	IUNITY:	Steinke Estates		RENT
COIVIIV		Stenike Estates	Rating	Scores
Щ	A Lake		0 or 3	3
S SA	-	Fuel Surface	0 or 3	3
ACCESS TO SAFE ZONES		ea (Vegetation Maintained)	0 or 3	0
ESS	D County Roa		0 or 3	0
	E Subdivision	Road	0 or 3	0
4			/15	6
ш	A 0 to 30		1	1
ی د د	B 31 to 60		2	
JMBER C HOMES	C 61 to 90		3	
NUMBER OF HOMES	D 91 to 120		4	
ž	E > 120		5 /5	
	Average Property Valu		/5	1
×			1	
R			2	2
0 K			3	2
Ō			4	
Ō			-	
ŭ	Aughonic		/4	2
	Presence of:		7.	-
АТ		astructure	0 or 3	3
JES			0 or 3	0
ALL	NSIN A Critical Infrastructure B Dangerous Goods Infrastructure C C Special Values A A Local media involvement and no structural impact to Emergency Services or programs B B Local media involvement and internal structural changes to Emergency Services or programs C C Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government C K A < 20 m between homes	0 or 3	0	
>	e opecial tal		/9	3
	A Local medi	ia involvement and no structural impact to Emergency Services or	1	1
š		······································		
2		a involvement and internal structural changes to Emergency Services or	2	
CAL				
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
õ	-		-	
-			/3	1
	ഗ	A < 20 m between homes	3	
	RE OF		2	
			1	1
	RUG		0	
	STE		/3	1
	0 0	A East w/ Barrier within 200m	0 or 2	0
	S T(-	0 or 4	4
	PR .		0 or 4	4
	RRI RE 5		0 or 2	0
	BA FII		/12	8
		A No forest patch present within community	0	
	EUE Sizi	B Patch 0.1 - 0.9 ha within community boundary	1	
	ST I	C Patch 1 - 2.9 ha within community boundary	3	
>	FOREST FUEL PATCH SIZE	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	5 4	· · ·	/5	5
Ŗ		A 0-20 %	4	
N N	IAL	B 21-40 %	3	
20	MA	C 41-60 %	2	2
ö	RESIDENTIAL FIRESMART	D 61-80 %	1	
È	FIF	E 81-100 %	0	
IBII	,		/4	2
SNS	N H H	A Utility ROW maintenance	0 or 1	1
Ë		B Fuel maintenance required - other agency	0 or 1	0
<u> </u>	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	0
	Ri T		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	SS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACCESS	C 2 or more means of egress	0 or 1	0
	۲	D Standard visible lot signage	0 or 1	0
			/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	S≥	fires		
	SSI	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	CAF	D	0 or 1	0
	<u></u> .	Within an adequate distance to fire station and water supply		
			/4	0
			TOTAL:	31

COMMUNITY:			Steinke Estates	INHE	RENT		
	COIVIIV			Stellike Estates	Rating	Scores	
	FUEL TYPES				 B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>O1b</u> Slope %: <u>0-10%</u>	0 to 6 /6	3 3	
RENCE	UCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1 1	
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3 3	
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	PROBABILITY OF EXTREME FIRE BEHAVIOR ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1	
	Consequer	nce x Likelih	ood = INH	RENT RISK 434	TOTAL:	14	
				Hazard Rating Moderate			

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

сомм	UNITY:	Tiebeke Estates		RENT
CONTRA			Rating	Scores
,FE	A Lake		0 or 3	3
SA	-	Fuel Surface	0 or 3	3
ACCESS TO SAFE ZONES		ea (Vegetation Maintained)	0 or 3	0
ESS ZO	D County Roa		0 or 3	0
	E Subdivisior	Road		0
٩				6
LL.				1
S O				
JMBER C HOMES				
NUMBER OF HOMES				
ž	E > 120			
	Average Property Valu		/5	1
X			1	
RIS				2
MIC				2
Ō				
ECONOMIC RISK	1		-	
ũ			/4	2
	Presence of:			
VALUES AT RISK		astructure	0 or 3	3
LUES RISK			0 or 3	0
ALL	A Critical Infrastructure 0 or 3 B Dangerous Goods Infrastructure 0 or 3 C Special Values 0 or 3 A Local media involvement and no structural impact to Emergency Services or programs 1 B Local media involvement and internal structural changes to Emergency Services or programs 2 C Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government 3 C Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government 3 V Save A <20 m between homes	0 or 3	0	
>				3
	A Local med	a involvement and no structural impact to Emergency Services or		1
š				
R	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
CAI	programs			
Ē	C Regional m	edia involvement, lack of public confidence, and external changes to	3	
POLITICAL RISK	Emergency	Services or county government		
_	с,		/3	1
	L S	A < 20 m between homes	3	
	JRE O	B 21 - 40 m between homes	2	
	DENSITY	C 41 - 100 m between homes	1	1
		D > 100m between homes	0	
			/3	1
	00	A East w/ Barrier within 200m	0 or 2	2
	IS T REA	B West w/ Barrier within 200m	0 or 4	0
	SPR	C South w/ Barrier within 200m	0 or 4	0
	ARR RE:	D North w/ Barrier within 200m	0 or 2	2
	B/ FI		/12	4
	EL	A No forest patch present within community	0	
	SIZ EU	B Patch 0.1 - 0.9 ha within community boundary	1	
	CH ST	C Patch 1 - 2.9 ha within community boundary	3	
≥	JRE	D Patch > 3 ha within community boundary		5
DEFENSIBILITY OF COMMUNITY	<u>я</u> -		/5	5
Ν				4
Σ	IIAI IRT			
F CC	EN			
Ō	SID			
L I	FI	E 81-100 %	0	
SIBI	<u> </u>		/4	4
ENG		A Utility ROW maintenance	0 or 1	1
CEF	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
		C Fuel maintenance required - municipality	0 or 1	0
	<u>.</u> – «		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	ACCESS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	1
	ACC	C 2 or more means of egress	0 or 1	0
	4	D Standard visible lot signage	0 or 1	0
		A Decoording Fire Department has present as viewant for burch	/4	1
	_	A Responding Fire Department has proper equipment for bush	0 or 1	0
	No⊾	fires Descriptions have basis wildfire fighting training	0 == 1	0
	BILI	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	CA U	D Within an adequate distance to fire station and water supply	0 or 1	0
	vi Vi	within an adequate distance to me station and water supply	/4	0
			-	
			TOTAL:	29

COMMUNITY:			Tiebeke Estates	INHE	RENT		
	COIVIIV			Tiebeke Estates	Rating	Scores	
	FUEL TYPES				 B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 0 0
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: D1 Slope %: 0-10%	0 to 6	2 2	
RENCE	UCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1	
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3	
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	PROBABILITY OF EXTREME FIRE BEHAVIOR ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2	
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1	
	Consequer	nce x Likelił	ood = INH	RENT RISK 464	TOTAL:	16	
				Hazard Rating Moderate			

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	IUNITY:	Woodvale Park	INHE	RENT
		woodvale Faik	Rating	Scores
Ë	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO S		ea (Vegetation Maintained)	0 or 3	3
zC			0 or 3	0
ACC	E Subdivision	1 Koad	0 or 3	0
`	A 0 to 20		/15	9
ц.			1 2	2
ES	E Subdivision Road A O to 30 B 31 to 60 C 61 to 90 D 91 to 120 E > 120 Average Property Value: A A \$0 - \$300 000 B \$300 001 - \$500 000 C \$500 001 - \$5750 000 D > \$750 000 Average Property Value: A A Critical Infrastructure B Dangerous Goods Infrastructure C Special Values A Local media involvement and no structural impact to Emergency Services or programs B Local media involvement, lack of public confidence, and external changes to Emergency Services or programs C Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government average A <20 m between homes	3	2	
JMBER (HOMES		4		
NUMBER OF HOMES			5	
2	2 7 120		/5	2
	Average Property Valu	le:		_
ISK			1	
C R	B \$300 001 -	\$500 000	2	2
Σ	C \$500 001 -	\$750 000	3	
NO NO	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 300,000-500,000		
_			/4	2
F.				
VALUES AT RISK			0 or 3	3
LUES RISK	, e		0 or 3	0
VAI	C Special Val	ues	0 or 3	0
	<u> </u>		/9	3
¥		a involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	1 0	a involvement and internal structural shappers to Structural sciences to Structural	2	
ALI		a involvement and internal structural changes to Emergency Services or	2	
10			2	
OLI	-		3	
ě.	Emergency	Services or county government	/2	
		A 20 m between homes	/3 3	1
	OF		3 2	
	₽Ē		1	1
	DENS		0	1
		D > 100m between nomes	/3	1
		Δ East w/ Barrier within 200m	0 or 2	0
	S TC		0 or 2	0
	PRI	-	0 or 4	4
	RRI KE S	-	0 or 2	2
	BA FIF		/12	6
		A No forest patch present within community	0	
		B Patch 0.1 - 0.9 ha within community boundary	1	
	ST I		3	
	ATI	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	2 4		/5	5
P			4	4
Σ	IIAI		3	
L L L L L L L L L L L L L L L L L L L	M B N		2	
ō	SID		1	
É	E E	E 81-100 %	0	
3IBI	<u> </u>		/4	4
Ë			0 or 1	1
E E	N N N		0 or 1	0
		C Fuel maintenance required - municipality	0 or 1	0
	<u> </u>	A Dead width is acrual to an anatom them 7 m	/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	ESS	 B Loop turnarounds/ cul-de-sacs are suitable for large fire C 2 or more means of egress 	0 or 1	1
	ACCESS	D Standard visible lot signage	0 or 1 0 or 1	0 1
			/4	2
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	~	fires	0011	U
	<u>io</u> E	B Fire fighters have basic wildfire fighting training	0 or 1	0
	BIL	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
1	C <u>n</u>	Within an adequate distance to fire station and water supply		Ŭ
			4	4
	•,		/4	0

COMMUNITY:			Woodvale Park	INHE	ERENT	
	COIVIIV			WOOdvale Park	Rating	Scores
	FUEL TYPES			A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slo Fuel Type: D1 Slope %: 0-10%	ope 0 to 6 /6	2 2
RENCE	UCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3 3
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	PROBABILITY OF EXTREME FIRE BEHAVIOR ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1
	Consequer	nce x Likelił	nood = INH		-	13
				Hazard Rating Modera	ate	

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMM	COMMUNITY: Paradise Hills		INHE	RENT
			Rating	Scores
Ë	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	•	Fuel Surface	0 or 3	3
ESS TO S		ea (Vegetation Maintained)	0 or 3	0
zC	D County Roa		0 or 3	0
ACC	E Subdivision	i Koad	0 or 3	0
`	A 0 to 20		/15	6
ц.			1 2	1
R C ES			3	
JMBER (HOMES	E Subdivision Road A 0 to 30 B 31 to 60 C 61 to 90 D 91 to 120 E > 120 Average Property Value: A A \$0 - \$300 000 B \$300 001 - \$550 000 C \$550 000 - \$750 000 D > \$750 000 Average Property Value: A A Critical Infrastructure B Dangerous Goods Infrastructure C Special Values A Local media involvement and no structural impact to Emergency Services or programs B Local media involvement, lack of public confidence, and external changes to Emergency Services or programs C Regional media involvement, lack of public confidence, and external changes to Emergency Services or county government VO NOT A 20 m between homes D > 100m between homes D > 100m between homes D > 100m between homes D > 00 North W Barrier within 200m YN HAR S A C South w/ Barrier within 200m YN HAR S P Acth 0.	4		
NUMBER OF HOMES			5	
2	2 7 120		/5	1
	Average Property Valu	ie:		_
ISK	A \$0 - \$300 0	00	1	
C R	B \$300 001 -	\$500 000	2	2
N N	C \$500 001 -	\$750 000	3	
ONO.	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 300,000-500,000		
			/4	2
5				
VALUES AT RISK			0 or 3	3
RISK	, e		0 or 3	0
A ∧	C Special Val	ues	0 or 3	3
		is involvement and no structural impact to Emergency Convices or	/9	6 1
¥		a involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	1 0	a involvement and internal structural changes to Emergency Services or	2	
CAL			2	
Ĕ		edia involvement, lack of public confidence, and external changes to	3	
50 D	-		-	
-	- 0 1		/3	1
	LL S	A < 20 m between homes	3	
	1 OI	B 21 - 40 m between homes	2	
	DENSIT	C 41 - 100 m between homes	1	1
		D > 100m between homes	0	
			/3	1
	29		0 or 2	2
	RS 1 REA		0 or 4	0
	SP		0 or 4	4
	IRE	D North w/ Barrier within 200m	0 or 2	0
			/12	6
			0	
	T FI H SI		1	
	TCI		3 5	5
L L	<u>6</u>		/5	5
DEFENSIBILITY OF COMMUNITY		A 0-20 %	4	
٤	₹ PL		3	3
8	I N I		2	
b.	SIDE (ESI	D 61-80 %	1	
È	FIF	E 81-100 %	0	
181			/4	3
ENS	ED CH A	A Utility ROW maintenance	0 or 1	0
EFI	AN	B Fuel maintenance required - other agency	0 or 1	0
	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - municipality	0 or 1	0
	<u> </u>		/3	0
		A Road width is equal to or greater than 7 m	0 or 1	1
	ESS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress D Standard visible lot signage	0 or 1	1 0
		D Standard visible lot signage	0 or 1 /4	2
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	z	fires	0011	U
	ig È.	B Fire fighters have basic wildfire fighting training	0 or 1	0
	KES5 VBIL	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	ς su	Within an adequate distance to fire station and water supply		
1			/4	0

COMMUNITY:			Paradise Hills	INHE	RENT	
	COIVIIV			Paradise Hills	Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slop Fuel Type: <u>D1</u> Slope %: <u>0-10%</u>		2 2 2
RENCE	UCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE LADDER DOWN FUEL MATTED	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	0
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0 0
	PROBABILITY OF EXTREME FIRE BURNING BEHAVIOR ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
				 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1
	Consequer	nce x Likelił	nood = INHI	RENT RISK 297	TOTAL:	9
				Hazard Rating Low		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

сомм	UNITY:	Hazel Grove	INHE	
COMIN			Rating	Scores
H	A Lake		0 or 3	0
ACCESS TO SAFE ZONES	-	Fuel Surface	0 or 3	3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	3
ESS ZO	D County Roa		0 or 3	0
	E Subdivisior	Road	0 or 3	0
٩			/15	6
ш			1	1
S S			2	
BEF			3	
NUMBER OF HOMES				
Z	E > 120			4
	Average Property Valu		/5	1
X			1	
RIC				2
VIIC			3	2
ĪŌ			4	
ECONOMIC RISK	1		-	
ũ			/4	2
	Presence of:			
VALUES AT RISK		astructure	0 or 3	3
LUES RISK		Goods Infrastructure	0 or 3	0
ALL R	E Subdivision Road 0 or // A 0 to 30 1 B 31 to 60 2 C 61 to 90 2 D 91 to 120 2 E > 120 7 Average Property Value: 4 A \$0 - \$300 000 8 S \$300 001 - \$500 000 2 C \$ \$570 000 Average Property Value: 0 A way Home Cost: \$ 300,000-500,000 3 D > \$5750 000 Average Property Values 0 C Special Values Presence of: A A Local media involvement and no structural impact to Emergency Services or programs 7 B Local media involvement, lack of public confidence, and external changes to Emergency Services or county government 3 V Stand B 21 - 40 m between homes 3 J J Stand B 21 - 40 m between homes 3 J Stand B 21 - 40 m between homes 3 3	0 or 3	0	
>			/9	3
	A Local med	a involvement and no structural impact to Emergency Services or	1	1
SK				
L RI	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
CAI	programs			
E	C Regional m	edia involvement, lack of public confidence, and external changes to	3	
POLITICAL RISK	Emergency	Services or county government		
			/3	1
	L S	A < 20 m between homes	3	
	JRE O	B 21 - 40 m between homes	2	
	DENSITY	C 41 - 100 m between homes	1	1
		D > 100m between homes	0	
			/3	1
	00	A East w/ Barrier within 200m	0 or 2	0
	IS T REA	B West w/ Barrier within 200m	0 or 4	4
	SPR	C South w/ Barrier within 200m	0 or 4	0
	ARR RE:	D North w/ Barrier within 200m	0 or 2	0
	B/ FI		/12	4
	EL	A No forest patch present within community	0	
	SIZ EU	B Patch 0.1 - 0.9 ha within community boundary	1	
	CH ST	C Patch 1 - 2.9 ha within community boundary	3	
≥	JRE	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	<u>я</u> -		/5	5
Ω			4	4
Σ	IIAI		3	
L CC	ENI		2	
ō	SID		1	
L I	FI	E 81-100 %	0	
SIBI	<u> </u>		/4	4
ENS	FUEL MAIN. TENANCE REQUIRED	A Utility ROW maintenance	0 or 1	1
DEFI	-UEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
		C Fuel maintenance required - municipality	0 or 1	0
	<u>.</u>		/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	ESS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	0
	٩	D Standard visible lot signage	0 or 1	0
		A Demonding Fire Deporter at her surgery and interest of the	/4	0
	_	A Responding Fire Department has proper equipment for bush	0 or 1	0
	No⊾	fires	0 1	0
	SSI	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	CA	D Within an adequate distance to fire station and water supply	0 or 1	0
	S	Within an adequate distance to fire station and water supply	/4	0
			-	
			TOTAL:	28

COMMUNITY:			Hazel Grove	INHE	RENT	
			Hazel Glove	Rating	Scores	
	FUEL TYPES			 B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 3 0 0
		SLOPE & FUEL TYPE		VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: <u>M1</u> Slope %: <u>0-10%</u>	0 to 6	3 3
RENCE	UCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1 1
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE		LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3
ГІКЕГІНОО		PRESENT LANDSCAPE IGNITION SOURCES		 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	1 0 1 2
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelił	nood = INHI		TOTAL:	17
				Hazard Rating Moderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Panorama		RENT
		, anorana	Rating	Scores
ACCESS TO SAFE ZONES	•	Fuel Surface ea (Vegetation Maintained) ad	0 or 3 0 or 3 0 or 3 0 or 3	0 3 3 0
cces z	E Subdivisior		0 or 3	0
٩	A 0 to 30		/15	6 1
NUMBER OF HOMES	A 0 to 30 B 31 to 60 C 61 to 90 D 91 to 120 E > 120		1 2 3 4 5	1
	Average Property Valu		/5	1
ECONOMIC RISK	A \$0 - \$300 C B \$300 001 - C \$500 001 - D > \$750 000	00 \$500 000 \$750 000	1 2 3 4 /4	2
L	Presence of:		/4	2
VALUES AT RISK	A Critical Infr B Dangerous C Special Val	Goods Infrastructure	0 or 3 0 or 3 0 or 3	3 0 0
	A Local med	ia involvement and no structural impact to Emergency Services or	/9 1	3
POLITICAL RISK	programs B Local medi programs	a involvement and internal structural changes to Emergency Services or	2	
יסרוד	-	edia involvement, lack of public confidence, and external changes to Services or county government	3	
-		· ·	/3	1
	DENSITY OF STRUCTURES	 A < 20 m between homes B 21 - 40 m between homes C 41 - 100 m between homes D > 100m between homes 	3 2 1 0	1
			/3	1
	5 TO EAD	A East w/ Barrier within 200m B West w/ Barrier within 200m	0 or 2 0 or 4	0 0
	BARRIERS TO FIRE SPREAD	C South w/ Barrier within 200m	0 or 4	0
	BARI	D North w/ Barrier within 200m	0 or 2	0
۲	FOREST FUEL	 A No forest patch present within community B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary D Patch > 3 ha within community boundary 	0 1 3 5	5
.IN NI	ш –	A 0-20 %	/5 4	5 4
DEFENSIBILITY OF COMMUNITY	RESIDENTIAL FIRESMART	B 21-40 % C 41-60 % D 61-80 % E 81-100 %	3 2 1 0 /4	
NSIB	<u>с</u> щ <u>с</u>	A Utility ROW maintenance	0 or 1	4 1
DEFE	FUEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
-	FUEI TEN REQ	C Fuel maintenance required - municipality	0 or 1 /3	0
		A Road width is equal to or greater than 7 m	0 or 1	0
	ACCESS	 B Loop turnarounds/ cul-de-sacs are suitable for large fire C 2 or more means of egress 	0 or 1 0 or 1	0 0
	ΨĊ	D Standard visible lot signage	0 or 1	0
		A Responding Fire Department has proper equipment for bush	/4 0 or 1	0
	BILITY	fires B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	 Mutual Aid Agreements are present D Within an adequate distance to fire station and water supply 	0 or 1 0 or 1	0
			/4 TOTAL:	0 24
			TOTAL:	24

COMMUNITY:				Panorama		INHERENT	
						Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 		0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 0 0 3
LIKELIHOOD OF OCCURRENCE	SLOPE & FUEL TYPE			VAR on the sustained slope or within 100 m of the top crest o Fuel Type: <u>D1</u> Slope %: <u>10-30</u>		0 to 6	2 2 2
	FUEL STRUCTURE	JCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 		0 1 3 /3	1
		FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 		0 3 5 /5	3
	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1km from railway 		0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 		0 or 1 0 or 1 0 or 1 /3	1 0 1 2
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	1 1
	Consequer	nce x Likelił	nood = INH	ERENT RISK	312	TOTAL:	13
				Hazard Rating M	oderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

сомм	IUNITY:	Caywood		RENT	
			Rating 0 or 3	Scores	
AFE	A Lake			3	
ACCESS TO SAFE ZONES	B Large Non-Fuel Surface C Cleared Area (Vegetation Maintained)			3	
ESS TO 5 ZONES		0 or 3	0		
ZC	D County Roa E Subdivision		0 or 3	0	
ACC	E Subdivision	Road	0 or 3	0	
<u> </u>	A 0 to 30		/15	6	
Ľ.	B 31 to 60		1 2	2	
ES ES	C 61 to 90		3	2	
JMBER (HOMES	D 91 to 120	4			
NUMBER OF HOMES	E > 120		5		
2			/5	2	
	Average Property Valu	e:			
ECONOMIC RISK	A \$0 - \$300 0	00	1		
C R	B \$300 001 -	\$500 000	2	2	
W	C \$500 001 -	\$750 000	3		
DNC	D > \$750 000		4		
ECO	Avg Home	Cost: \$ 300,000-500,000			
	-		/4	2	
F	Presence of:		0		
VALUES AT RISK	A Critical Infr		0 or 3	3	
LUES RISK	-	Goods Infrastructure	0 or 3	0	
VA	C Special Val	ues	0 or 3	0	
	A 1- 1	is involvement and as attractive linear at the Ferri	/9 1	3	
×		ia involvement and no structural impact to Emergency Services or		1	
POLITICAL RISK	programs B Local media	a involvement and internal structural changes to Emergency Services or	2		
AL		a involvement and internal structural changes to Emergency services of	2		
IC	programs C Regional m	edia involvement, lack of public confidence, and external changes to	3		
GL	-	Services or county government	5		
۹.	Emergency	Services of county government	/3	1	
	(0	A < 20 m between homes	3	-	
	BARRIERS TO DENSITY OF FIRE SPREAD STRUCTURES	B 21 - 40 m between homes	2		
		C 41 - 100 m between homes	1	1	
		D >100m between homes	0	_	
			/3	1	
		A East w/ Barrier within 200m	0 or 2	0	
		B West w/ Barrier within 200m	0 or 4	4	
		C South w/ Barrier within 200m D North w/ Barrier within 200m	0 or 4	0	
			0 or 2	2	
	B A FII		/12	6	
	FOREST FUEL PATCH SIZE	A No forest patch present within community	0		
		 B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary D Patch > 3 ha within community boundary 	1		
			3		
≥			5	5	
Ĩ			/5	5	
ž	ᆗᆫ	A 0-20 %	4	4	
≥õ	ART	B 21-40 %	3		
DEFENSIBILITY OF COMMUNITY	SM,	C 41-60 %	2		
	RESIDENTIAL FIRESMART	D 61-80 % E 81-100 %	1 0		
	<u> </u>	F 01-100 /0	/4	4	
	ź o	A Utility ROW maintenance	0 or 1	4	
Z		B Fuel maintenance required - other agency	0 or 1 0 or 1	1 0	
DE	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - other agency	0 or 1	0	
	FUEL MAIN TENANCE REQUIRED	e . der mantenance required municipality	/3	1	
		A Road width is equal to or greater than 7 m	0 or 1	0	
	Ś	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0	
	ACCESS	C 2 or more means of egress	0 or 1	0	
	AC	D Standard visible lot signage	0 or 1	0	
			/4	0	
		A Responding Fire Department has proper equipment for bush	0 or 1	0	
	z 、	fires			
	SIO SIO	B Fire fighters have basic wildfire fighting training	0 or 1	0	
	RES ABI	C Mutual Aid Agreements are present	0 or 1	0	
	SUPPRESSION CAPABILITY	D		0	
	s L	Within an adequate distance to fire station and water supply			
			/4	0	
			TOTAL:	31	

COMMUNITY:				Caywood		INHERENT	
						Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 		0 or 1 0 or 2 0 or 3 0 or 2 0 or 4	1 2 0 2 0 5
LIKELIHOOD OF OCCURRENCE	SLOPE & FUEL TYPE			VAR on the sustained slope or within 100 m of the top crest of a Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>		0 to 6	2 2
	FUEL STRUCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	-	0 1 3 /3	1
		FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 		0 3 5 /5	3
	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 		0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	1 1 1 0 3
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 		0 or 1 0 or 1 0 or 1 /3	1 0 1 2
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	1
	Consequer	nce x Likelih	nood = INH	ERENT RISK	527	TOTAL:	17
				Hazard Rating Mod	derate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

сомм	UNITY:	Woodland Heights		RENT
		woodianu neiginis	Rating	Scores
E	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	•	Fuel Surface ea (Vegetation Maintained)	0 or 3	3
ESS TO ZONES		0 or 3	3	
ZC	D County Roa	0 or 3	3	
ACC	E Subdivision	Road	0 or 3	0
1	A 0 to 20		/15	12
ц	A 0 to 30 B 31 to 60		1 2	1
ES ES	C 61 to 90		3	
JMBER (HOMES	D 91 to 120	4		
NUMBER OF HOMES	E > 120		5	
۲			/5	1
	Average Property Valu	e:		
ISK	A \$0 - \$300 0	00	1	
СК	B \$300 001 -	\$500 000	2	
IWO	C \$500 001 -	\$750 000	3	3
DNC	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 500,000-1,000,000		
			/4	3
Ŀ	Presence of:		0 -	
VALUES AT RISK	A Critical Infr		0 or 3	3
LUES RISK	•	Goods Infrastructure	0 or 3	0
A V A	C Special Val	ues	0 or 3	0
	A 1- 1	in involvement and no attractive linear at the Ferrica Control	/9	3
×		ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs B Local media	a involvement and internal structural changes to Emergency Services or	2	
AL	programs	a involvement and internal structural changes to emergency services of	2	
DI LI		edia involvement, lack of public confidence, and external changes to	3	
0L	-	Services or county government	3	
<u>م</u>	Linergency	Services of county government	/3	1
	DENSITY OF STRUCTURES	A < 20 m between homes	3	-
		B 21 - 40 m between homes	2	
	L L L	C 41 - 100 m between homes	1	
	RUG	D > 100m between homes	0	0
	STI		/3	0
	0 0	A East w/ Barrier within 200m	0 or 2	2
	S TI	B West w/ Barrier within 200m	0 or 4	0
	SPR	C South w/ Barrier within 200m	0 or 4	0
	BARRIERS TO FIRE SPREAD	D North w/ Barrier within 200m	0 or 2	2
	B/ FII		/12	4
	FUEL SIZE	A No forest patch present within community	0	
		B Patch 0.1 - 0.9 ha within community boundary	1	
	CH	C Patch 1 - 2.9 ha within community boundary	3	
≥	FOREST FU PATCH SI	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY			/5	5
IM	ᆗᆫ	A 0-20 %	4	4
≥ 0	ARI	B 21-40 %	3	
F C	SM.	C 41-60 %	2	
S ≥	RESIDENTIAL FIRESMART	D 61-80 % E 81-100 %	1 0	
	<u>к</u> т	C 01-100 /0	/4	4
JSIE	ź o	A Utility ROW maintenance	0 or 1	4 0
FEN	AAI. NCE REL	B Fuel maintenance required - other agency	0 or 1	0
DE	FUEL MAIN TENANCE REQUIRED	C Fuel maintenance required - other agency	0 or 1	0
	E E		/3	0
		A Road width is equal to or greater than 7 m	0 or 1	1
	S	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	1
	AC	D Standard visible lot signage	0 or 1	0
			/4	2
		A Responding Fire Department has proper equipment for bush	0 or 1	1
	Z ≻	fires		
	SSIC	B Fire fighters have basic wildfire fighting training	0 or 1 0 or 1	0
	AB	C Mutual Aid Agreements are present		0
	SUPPRESSION CAPABILITY		0 or 1	0
	IS -	Within an adequate distance to fire station and water supply	1.	
			/4	1
			TOTAL:	36

COMMUNITY:				Woodland Heights		INHERENT	
				woodland Heights		Rating	Scores
	FUEL TYPES			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 		0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5
LIKELIHOOD OF OCCURRENCE	SLOPE & FUEL TYPE			VAR on the sustained slope or within 100 m of the top crest o Fuel Type: <u>D1</u> Slope %: <u>0-109</u>		0 to 6 /6	2 2
	FUEL STRUCTURE	UCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 		0 1 3 /3	1
		FUEL STRUCTURE	LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 		0 3 5 /5	3 3
	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C < 1 km from primary/secondary roadway D < 1 km from railway 		0 or 1 0 or 1 0 or 1 0 or 1 0 or 1 /4	0 0 0 0
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 		0 or 1 0 or 1 0 or 1 /3	1 0 1 2
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	1
	Consequer	nce x Likelih	nood = INH	ERENT RISK	504	TOTAL:	14
				Hazard Rating M	oderate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Kenick Estates		RENT
		Remor Estates	Rating	Scores
E	A Lake		0 or 3 0 or 3	3
ACCESS TO SAFE ZONES	B Large Non-Fuel Surface			3
ESS TO ZONES		ea (Vegetation Maintained)	0 or 3	3
ESS	D County Roa		0 or 3	0
	E Subdivision	n Road	0 or 3	0
4			/15	9
ш	A 0 to 30		1	1
o si	B 31 to 60		2	
JMBER C HOMES	C 61 to 90		3	
NUMBER OF HOMES	D 91 to 120		4	
ž	E > 120		5	
	Average Discount (Male		/5	1
¥	Average Property Valu		1	
RIS	A \$0 - \$300 0 B \$300 001 -		1 2	
AIC	B \$300 001 - C \$500 001 -		2	3
õ			5 4	5
ECONOMIC RISK		Cost: \$ 500,000-1,000,000	4	
B	Avg Home	Cost: \$ 500,000-1,000,000	14	2
	Presence of:		/4	3
AT		astructura	0 0 7 3	2
K E			0 or 3	3
VALUES AT RISK	-	Goods Infrastructure	0 or 3	0
۸۸	C Special Val	ues	0 or 3	0
	A 1- 1	is involvement and no structure linear state For the Control	/9	3
~		ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs	a involvement and internal structure labor and the second state	2	
٩٢		a involvement and internal structural changes to Emergency Services or	2	
2	programs			
5.	-	edia involvement, lack of public confidence, and external changes to	3	
ă	Emergenc	Services or county government	(2	
			/3	1
	BARRIERS TO DENSITY OF FIRE SPREAD STRUCTURES	A < 20 m between homes	3	
		B 21 - 40 m between homes	2	_
		C 41 - 100 m between homes	1	1
		D > 100m between homes	0	
			/3	1
		A East w/ Barrier within 200m	0 or 2	2
		B West w/ Barrier within 200m	0 or 4	0
		C South w/ Barrier within 200m	0 or 4	0
		D North w/ Barrier within 200m	0 or 2	2
			/12	4
	FOREST FUEL PATCH SIZE	A No forest patch present within community	0	
		B Patch 0.1 - 0.9 ha within community boundary	1	
		C Patch 1 - 2.9 ha within community boundary	3	_
È	PA'	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	<u> </u>	A 0.20 %	/5	5
Į		A 0-20 %	4	4
õ	TIA AR1	B 21-40 %	3	
L C	SM.	C 41-60 %	2	
>	RESIDENTIAL FIRESMART	D 61-80 %	1	
5	RE F	E 81-100 %	0 /4	
SIB				4
Ž	FUEL MAIN TENANCE REQUIRED	A Utility ROW maintenance	0 or 1	0
DEF	-UEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1	0
_	Len Len	C Fuel maintenance required - municipality	0 or 1	0
	ui ⊢ œ		/3	0
		A Road width is equal to or greater than 7 m	0 or 1	0
	ACCESS	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	CC	C 2 or more means of egress	0 or 1	1
	A	D Standard visible lot signage	0 or 1	0
			/4	1
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	S ≿	fires		
	ILLI I	B Fire fighters have basic wildfire fighting training	0 or 1	0
	SUPPRESSION CAPABILITY	C Mutual Aid Agreements are present	0 or 1	0
	CAF	D	0 or 1	0
	<u>v</u> -	Within an adequate distance to fire station and water supply	1.	
			/4	0
			TOTAL:	32

Wildfire Risk Assessment For Rural Communities

	COMMUNITY:			Kenick Estates		INHERENT	
						ating	Scores
	SLOPE & FUEL FUEL TYPES TYPE			A D Fuels - DeciduousB O Fuels - Grasses	0	or 1 or 2	1 2
				C M Fuels - Mixedwood D C Fuels - Patchy conifer	_	or 3 or 2	0 2
				E C Fuels - Conifer		or 4 /10	0 5
LIKELIHOOD OF OCCURRENCE				/AR on the sustained slope or within 100 m of the top crest of a Fuel Type: D1 Slope %: 0-10%	. 0	to 6 /6	2
	FUEL STRUCTURE		DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 		0 1 3 /3	1
			LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 		/3 0 3 5 /5	1 3 3
	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1km from railway 	0 0 0 0	73 or 1 or 1 or 1 or 1 /4	3 0 1 0 0 1
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0	or 1 or 1 or 1 /3	0 0 1 1
		PROBABILITY OF EXTREME FIRE BEHAVIOR		 A vg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 		4 3 2 1 /4	1 1
	Consequence x Likelihood = INHERENT RISK 448				18 TC	DTAL:	14
	-			Hazard Rating Mod	erate		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

COMMUNITY:		Ridge Meadows		RENT
		hinge inteadows	Rating	Scores
Ë	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	-	Fuel Surface	0 or 3 0 or 3	3
ESS TO ZONES	C Cleared Area (Vegetation Maintained)			0 0
ZCES	D County Roa E Subdivisior		0 or 3 0 or 3	0
AC	E Suburvision	i nouu	/15	6
	A 0 to 30		1	
۳.	B 31 to 60		2	2
NUMBER OF HOMES	C 61 to 90		3	
EN IN	D 91 to 120		4	
z –	E > 120			
			/5	2
×	Average Property Valu A \$0 - \$300 0		1	
N N N	B \$300 001 -		2	2
μ	C \$500 001 -		3	-
<u>N</u>	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 300,000-500,000		
			/4	2
L L	Presence of:		0	2
VALUES AT RISK	A Critical Infr		0 or 3	3
ALUES RISK	B Dangerous C Special Val	Goods Infrastructure	0 or 3 0 or 3	0 0
\$	C Special Val	uco	/9	0 3
	A Local med	ia involvement and no structural impact to Emergency Services or	1	1
X	programs			
POLITICAL RISK	B Local medi	a involvement and internal structural changes to Emergency Services or	2	
ICA	programs			
	C Regional m	edia involvement, lack of public confidence, and external changes to	3	
PO	Emergen	Services or county government		
			/3	1
	DENSITY OF	A < 20 m between homes	3	
		B 21 - 40 m between homes C 41 - 100 m between homes	2 1	1
		D > 100m between homes	0	T
	STE		/3	1
	0 0	A East w/ Barrier within 200m	0 or 2	0
	BARRIERS TO FIRE SPREAD	B West w/ Barrier within 200m	0 or 4	4
		C South w/ Barrier within 200m	0 or 4	4
		D North w/ Barrier within 200m	0 or 2	2
			/12	10
	FOREST FUEL PATCH SIZE	A No forest patch present within community	0	
		 B Patch 0.1 - 0.9 ha within community boundary C Patch 1 - 2.9 ha within community boundary 	1	
		D Patch > 3 ha within community boundary	3 5	5
Ē	6 Z		/5	5
NUL		A 0-20 %	4	4
M	RT	B 21-40 %	3	
L C	ENT MA	C 41-60 %	2	
, oi	RESIDENTIAL FIRESMART	D 61-80 %	1	
DEFENSIBILITY OF COMMUNITY	풀프	E 81-100 %	0 /4	
SIBI	ż	A Utility ROW maintenance		4 1
LEN	FUEL MAIN TENANCE REQUIRED	 A Utility ROW maintenance B Fuel maintenance required - other agency 	0 or 1 0 or 1	1 0
DE	NAI NUI	C Fuel maintenance required - municipality	0 or 1	0
	E E	······	/3	1
		A Road width is equal to or greater than 7 m	0 or 1	0
	S	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	ACCESS	C 2 or more means of egress	0 or 1	0
		D Standard visible lot signage	0 or 1	0
		A Deepending Fire Deventure with here a second seco	/4	0
	-	A Responding Fire Department has proper equipment for bush fires	0 or 1	0
	o Ł	B Fire fighters have basic wildfire fighting training	0 or 1	0
	BIL	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	C SU	Within an adequate distance to fire station and water supply		
			/4	0
			/-	•

Wildfire Risk Assessment For Rural Communities

COMMUNITY:				Ridge Meadows		INHERENT	
						Scores	
		FUEL TYPES		 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 0 0 3	
	SLOPE & FUEL TYPE			VAR on the sustained slope or within 100 m of the top crest of a slop Fuel Type: <u>D1</u> Slope %: <u>10-30%</u>	e 0 to 6 /6	2 2	
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1 1	
			LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	3 3	
	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	0 1 0 0 1	
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	0 0 1 1	
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1	
	Consequer	nce x Likelih	nood = INH		TOTAL:	12	
				Hazard Rating Moderate	2		

Beaver Hills Initiative Wildfire Risk Assessment For Rural Communities

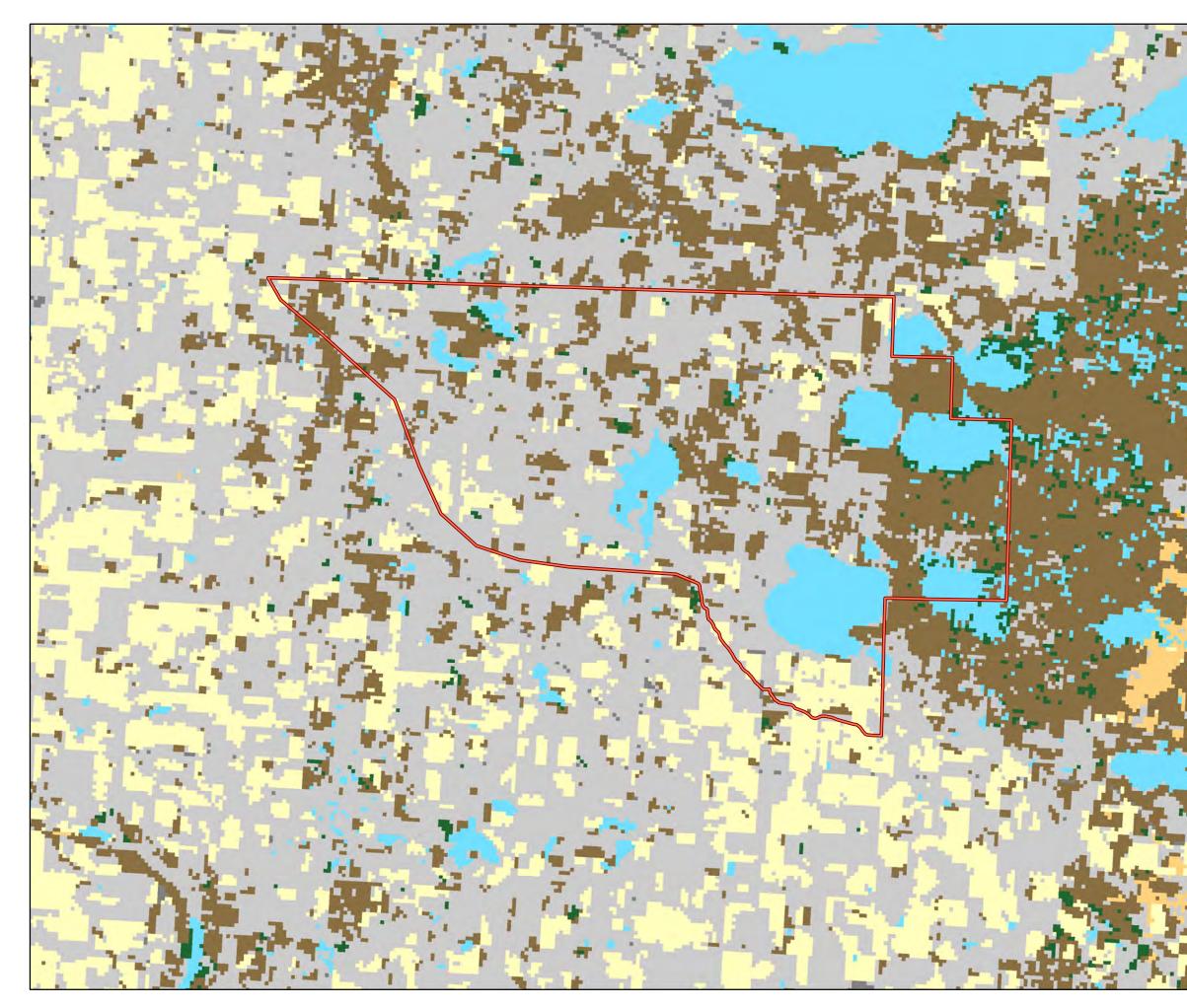
COMMUNITY:		Martinview Estates		RENT
		ialai fillaieaa Forgreo	Rating	Scores
E	A Lake		0 or 3	3
ACCESS TO SAFE ZONES	, e	Fuel Surface	0 or 3 0 or 3	3
ESS TO ZONES	C Cleared Area (Vegetation Maintained)			3
ZC	D County Roa		0 or 3	0
ACC	E Subdivisior	Road	0 or 3	0
`	A 0 to 30		/15	9
ц.	A 0 to 30 B 31 to 60		1 2	1
R C ES	C 61 to 90		3	
JMBER (HOMES	D 91 to 120		4	
NUMBER OF HOMES	E > 120		4 5	
Z	L / 120		/5	1
	Average Property Valu	e:	7-	
ISK	A \$0 - \$300 0		1	
СК	B \$300 001 -	\$500 000	2	2
Σ	C \$500 001 -	\$750 000	3	
UN ON O	D > \$750 000		4	
ECONOMIC RISK	Avg Home	Cost: \$ 300,000-500,000		
-			/4	2
F.	Presence of:			
VALUES AT RISK	A Critical Infr		0 or 3	3
LUES RISK	, e	Goods Infrastructure	0 or 3	0
	C Special Val	ues	0 or 3	0
-			/9	3
~		ia involvement and no structural impact to Emergency Services or	1	1
POLITICAL RISK	programs		2	
ALF		a involvement and internal structural changes to Emergency Services or	2	
20	programs		2	
GL	-	edia involvement, lack of public confidence, and external changes to	3	
ă	Emergeno	Services or county government	12	
		A < 20 m batwaan bamas	/3 3	1
	DENSITY OF STRUCTURES	A < 20 m between homes B 21 - 40 m between homes	3 2	
		C 41 - 100 m between homes	2	1
		D > 100 m between homes	0	1
	DE		/3	1
	0.0	A East w/ Barrier within 200m	0 or 2	2
	BARRIERS TO FIRE SPREAD	B West w/ Barrier within 200m	0 or 4	0
		C South w/ Barrier within 200m	0 or 4	0
		D North w/ Barrier within 200m	0 or 2	2
	B A FII		/12	4
	FOREST FUEL PATCH SIZE	A No forest patch present within community	0	
		B Patch 0.1 - 0.9 ha within community boundary	1	
		C Patch 1 - 2.9 ha within community boundary	3	
≥	ORE	D Patch > 3 ha within community boundary	5	5
DEFENSIBILITY OF COMMUNITY	E E		/5	5
<u> </u>	. .	A 0-20 %	4	
δ	ART ART	B 21-40 %	3	3
Ŭ L	EN.	C 41-60 %	2	
۰ ک	RESIDENTIAL FIRESMART	D 61-80 %	1	
늘	RE E	E 81-100 %	0 /4	2
SIB	ż	A Utility ROW maintenance	/4 0 or 1	3 0
N H	-UEL MAIN TENANCE REQUIRED	B Fuel maintenance required - other agency	0 or 1 0 or 1	0
DE	A A A A A A A A A A A A A A A A A A A	C Fuel maintenance required - other agency	0 or 1	0
	FUEL MAIN TENANCE REQUIRED	e ruermanicenance requirea - municipality	/3	0
		A Road width is equal to or greater than 7 m	0 or 1	0
	s	B Loop turnarounds/ cul-de-sacs are suitable for large fire	0 or 1	0
	CES	C 2 or more means of egress	0 or 1	0
	ACCESS	D Standard visible lot signage	0 or 1	0
			/4	0
		A Responding Fire Department has proper equipment for bush	0 or 1	0
	z 、	fires		
		B Fire fighters have basic wildfire fighting training	0 or 1	0
	RES ABI	C Mutual Aid Agreements are present	0 or 1	0
	SUPPRESSION CAPABILITY	D	0 or 1	0
	su	Within an adequate distance to fire station and water supply		
			/4	0
			TOTAL:	29

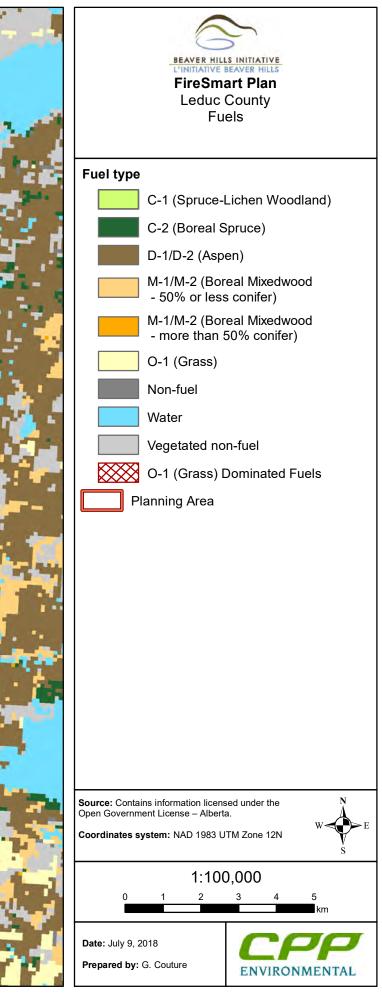
Wildfire Risk Assessment For Rural Communities

COMMUNITY:				Martinview Estates		RENT
						Scores
	SLOPE & FUEL FUEL TYPES TYPE			 A D Fuels - Deciduous B O Fuels - Grasses C M Fuels - Mixedwood D C Fuels - Patchy conifer E C Fuels - Conifer 	0 or 1 0 or 2 0 or 3 0 or 2 0 or 4 /10	1 2 0 2 0 5
				VAR on the sustained slope or within 100 m of the top crest of a slope Fuel Type: D1 Slope %: 0-10%	0 to 6 /6	2 2
LIKELIHOOD OF OCCURRENCE	FUEL STRUCTURE	FUEL STRUCTURE	DEAD & DOWN MATERIAL	 A Absent- No dead or down material B Scattered- 3-5m separating logs, branches & twigs C Abundant-Continuous logs, branches & twigs 	0 1 3 /3	1
			LADDER FUEL	 A Absent- <25% of trees have ladder fuels B Scattered- 25% - 75% of trees have ladder fuels C Abundant- > 75% of trees have ladder fuels 	0 3 5 /5	0 3 3
	PRESENT LANDSCAPE IGNITION SOURCES			 A Recreation (Presence) B Overhead Utility Line adjacent to forest C <1 km from primary/secondary roadway D <1 km from railway 	0 or 1 0 or 1 0 or 1 0 or 1 /4	1 1 1 0 3
	RESIDENTIAL BURNING TYPES ALLOWED			 A Incinerator Fires B Open Fires C Backyard Fire Pits - Standard Design 	0 or 1 0 or 1 0 or 1 /3	0 0 1 1
	PROBABILITY OF EXTREME FIRE BEHAVIOR			 A Avg # of crossover days > 25 per year B Avg # of crossover days < 25 per year C Avg # of crossover days < 20 per year D Avg # of crossover days < 10 per year 	4 3 2 1 /4	1 1
	Consequer	nce x Likelih	nood = INH		TOTAL:	16
				Hazard Rating Moderate		

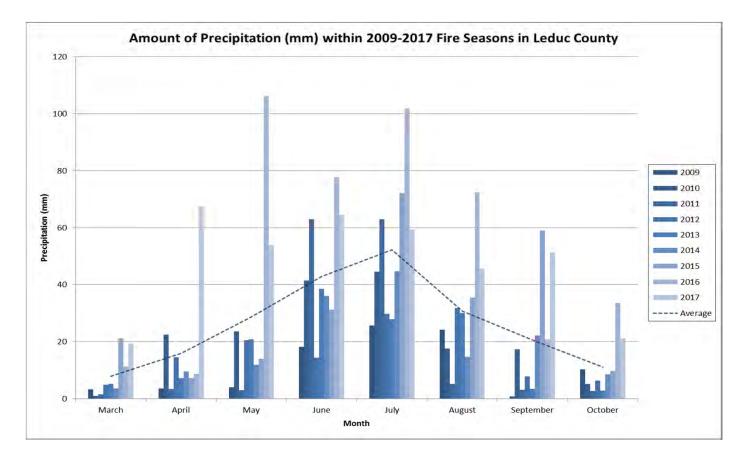
BHI - Leduc County – Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies, August 2018

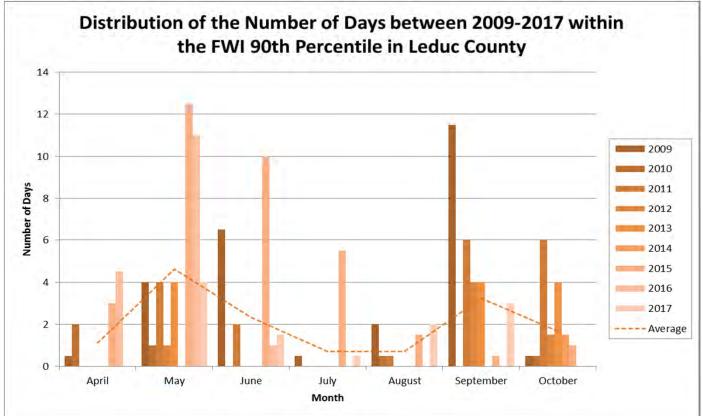
Appendix C4: Fuel Map

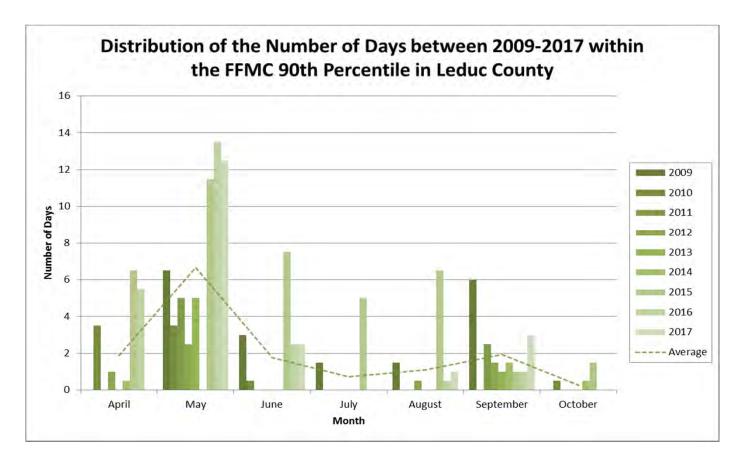


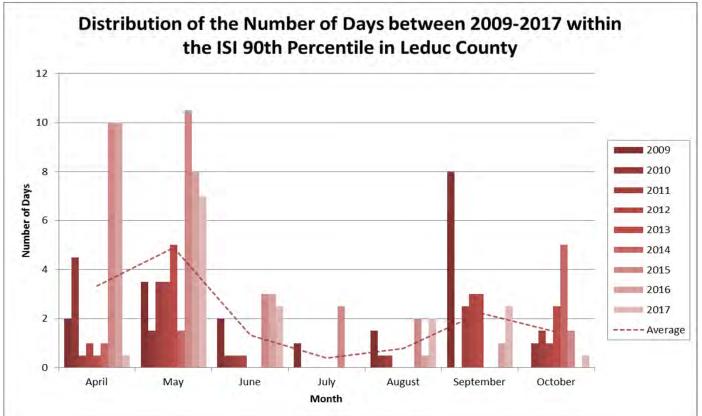


Appendix C5: Fire Season Weather and Fire Indices Charts



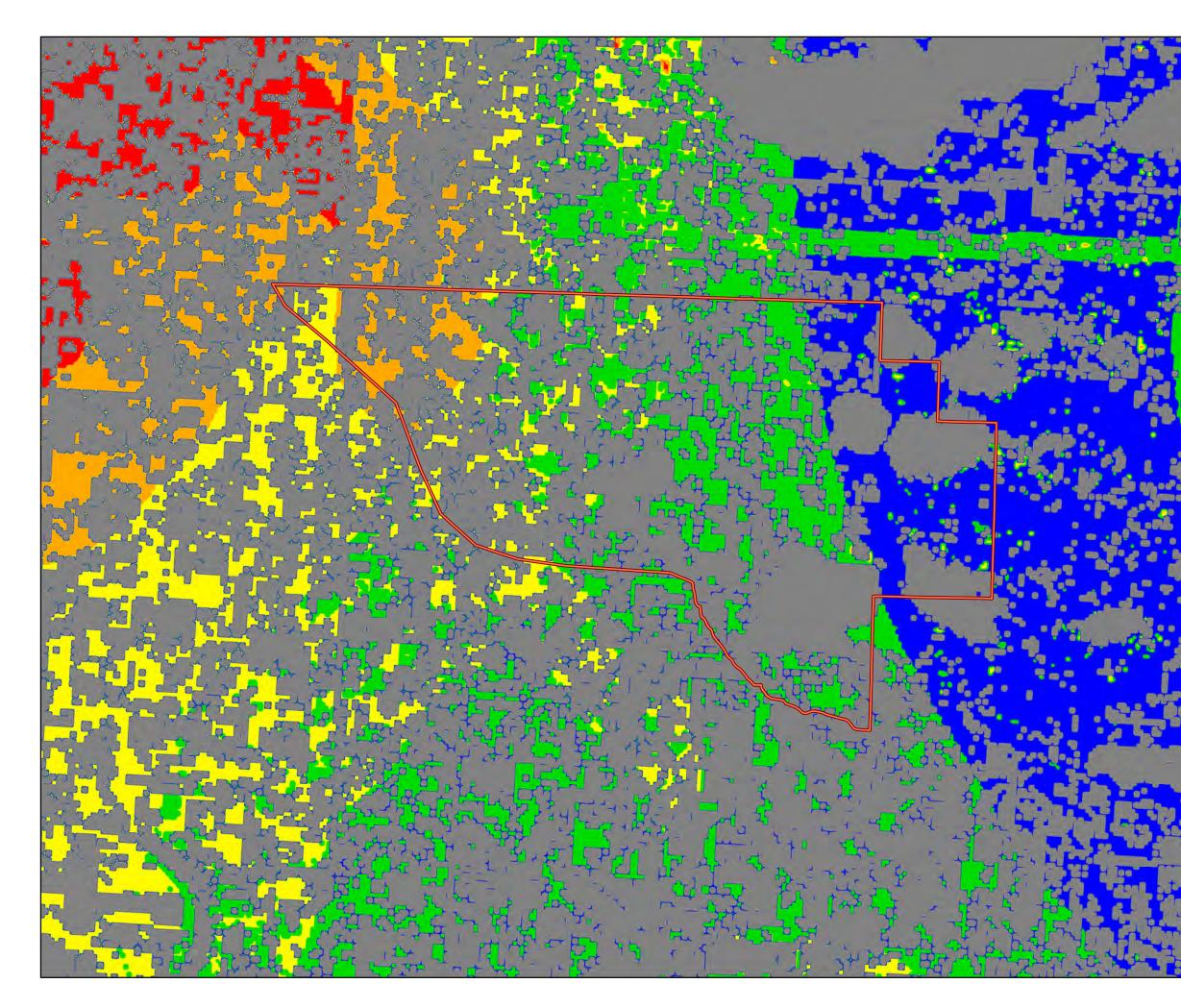


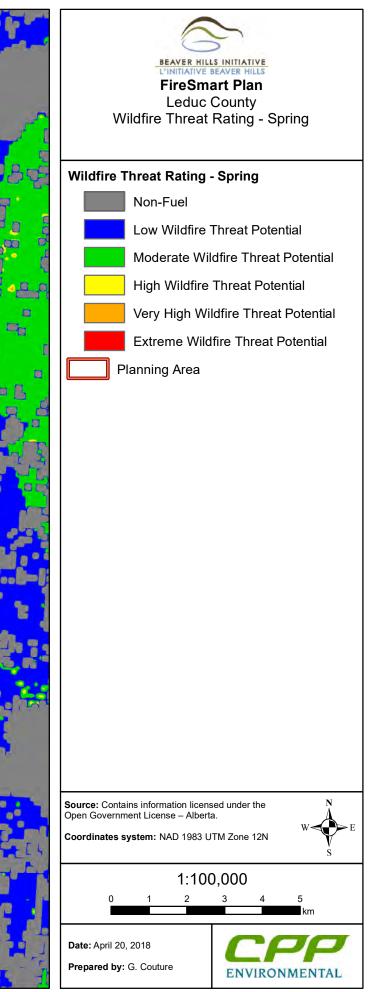


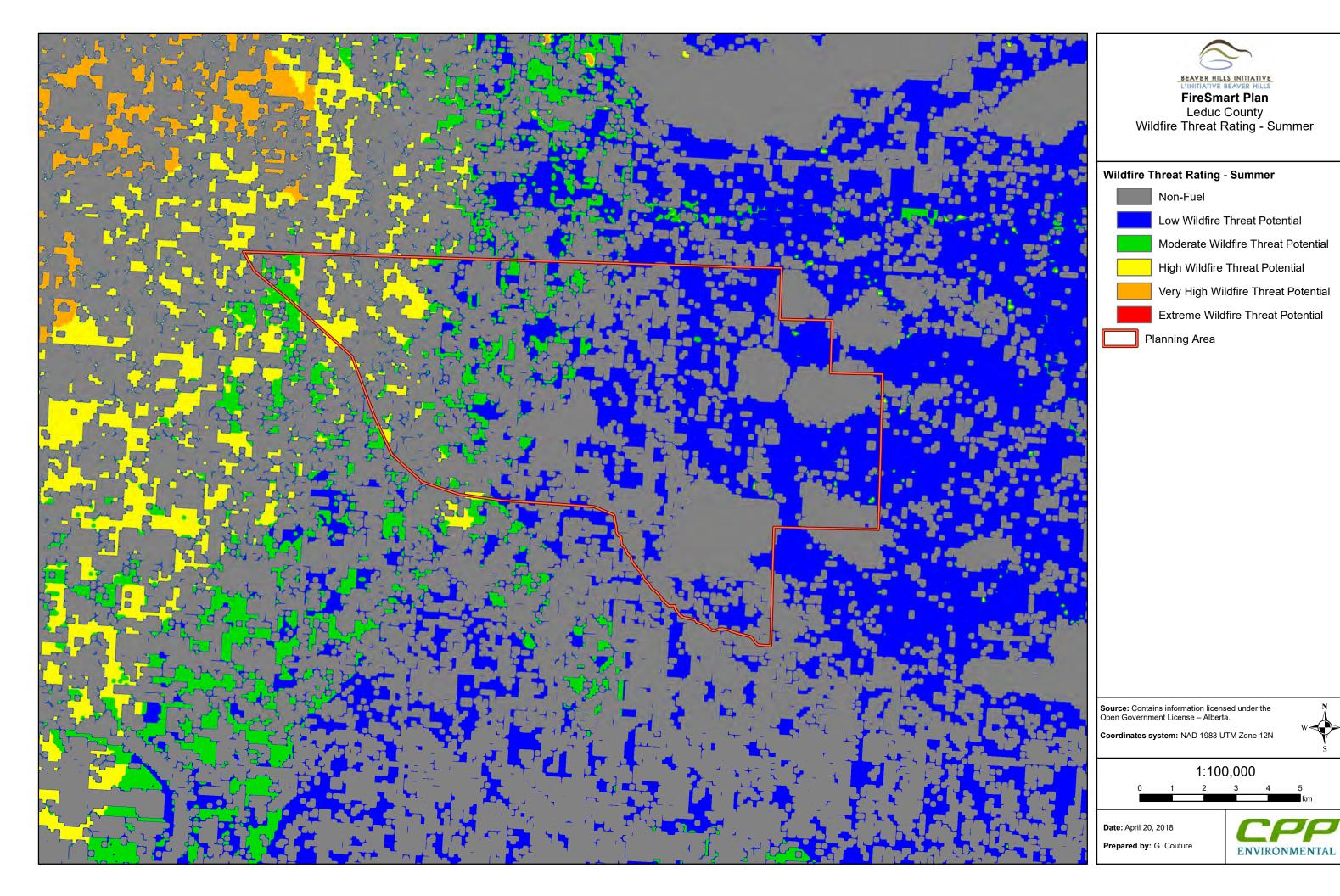


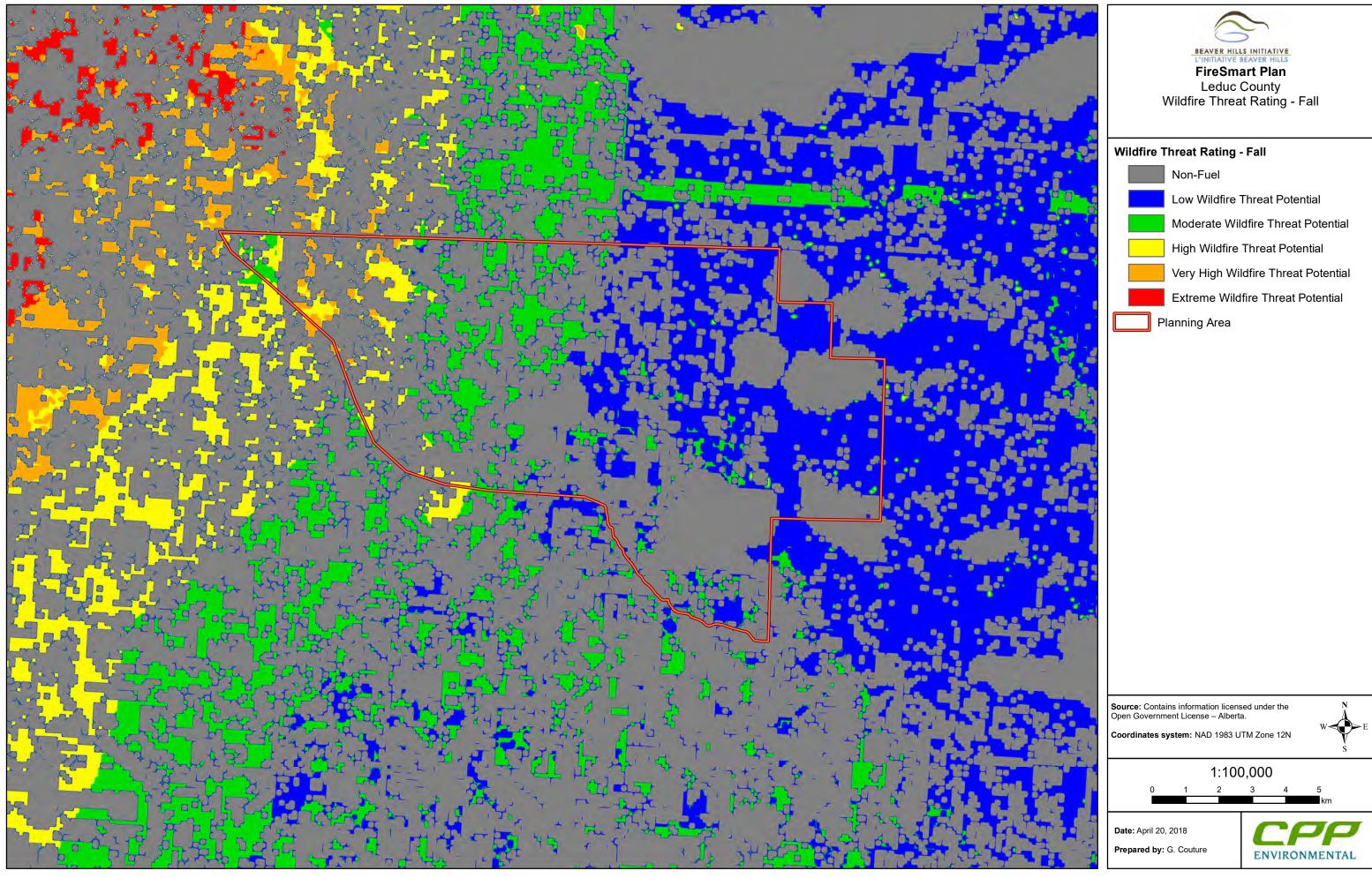
Appendix C6: Wildfire Threat Rating Maps

- Spring
- Summer
- Fall





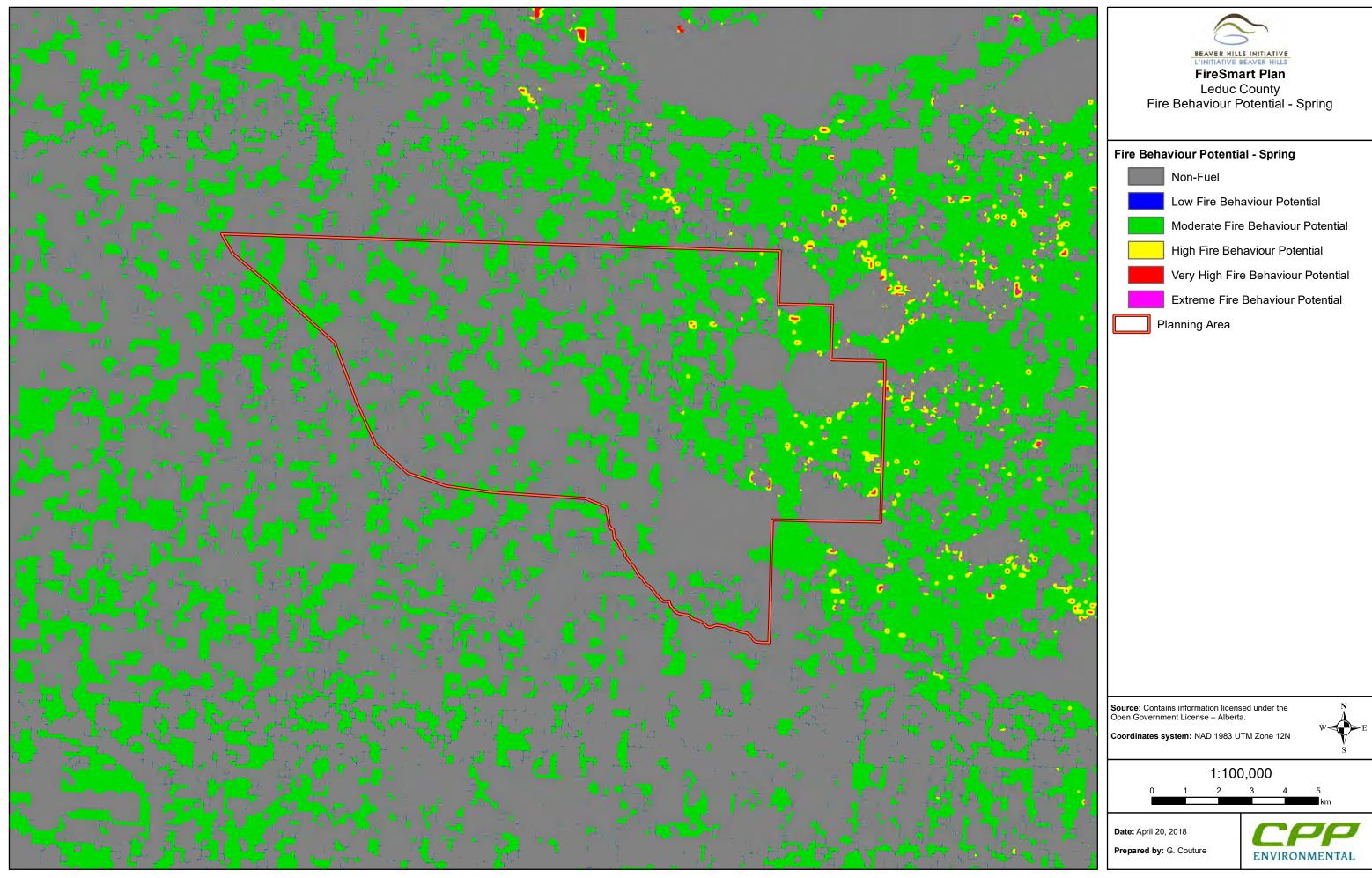


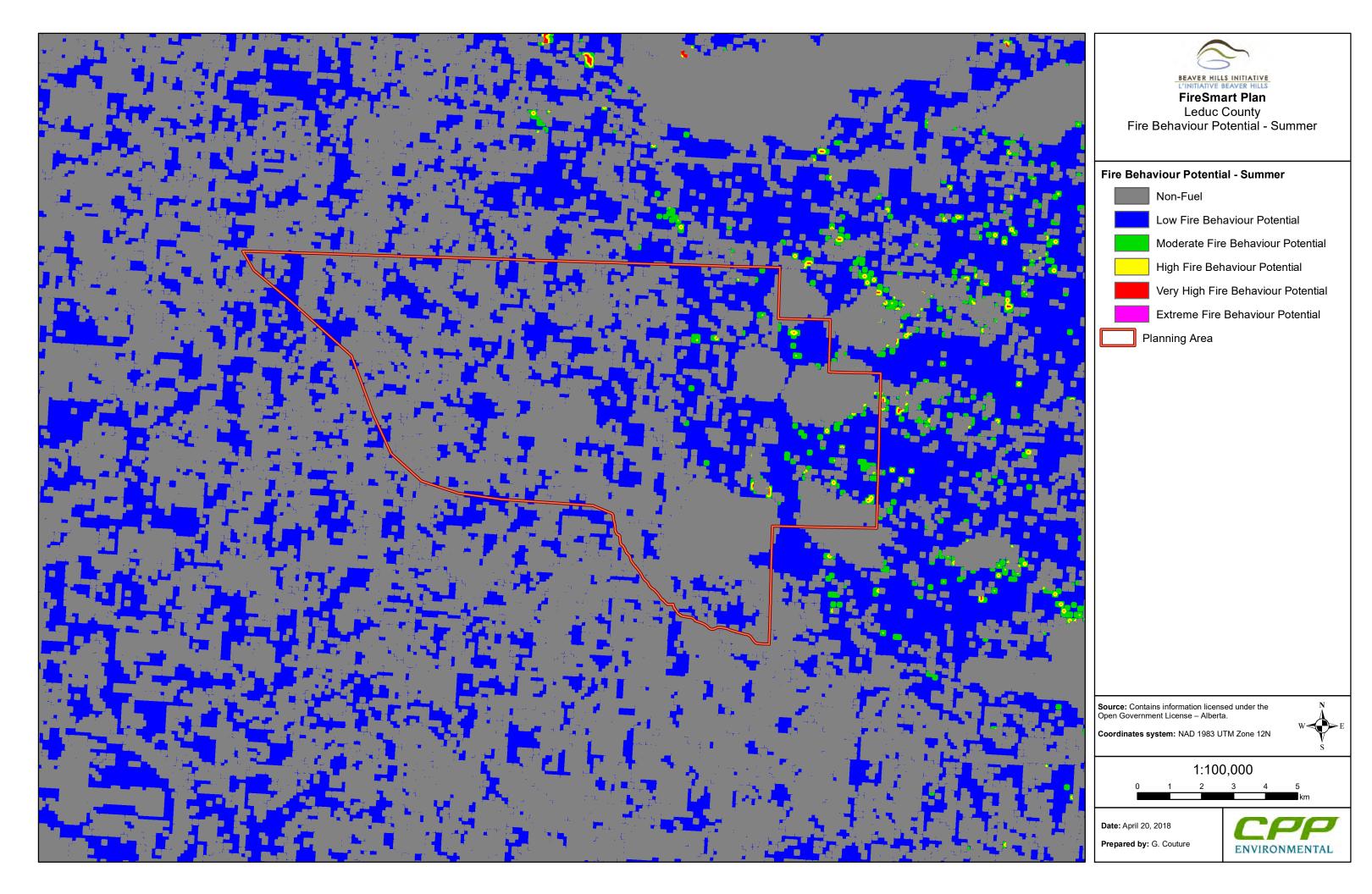


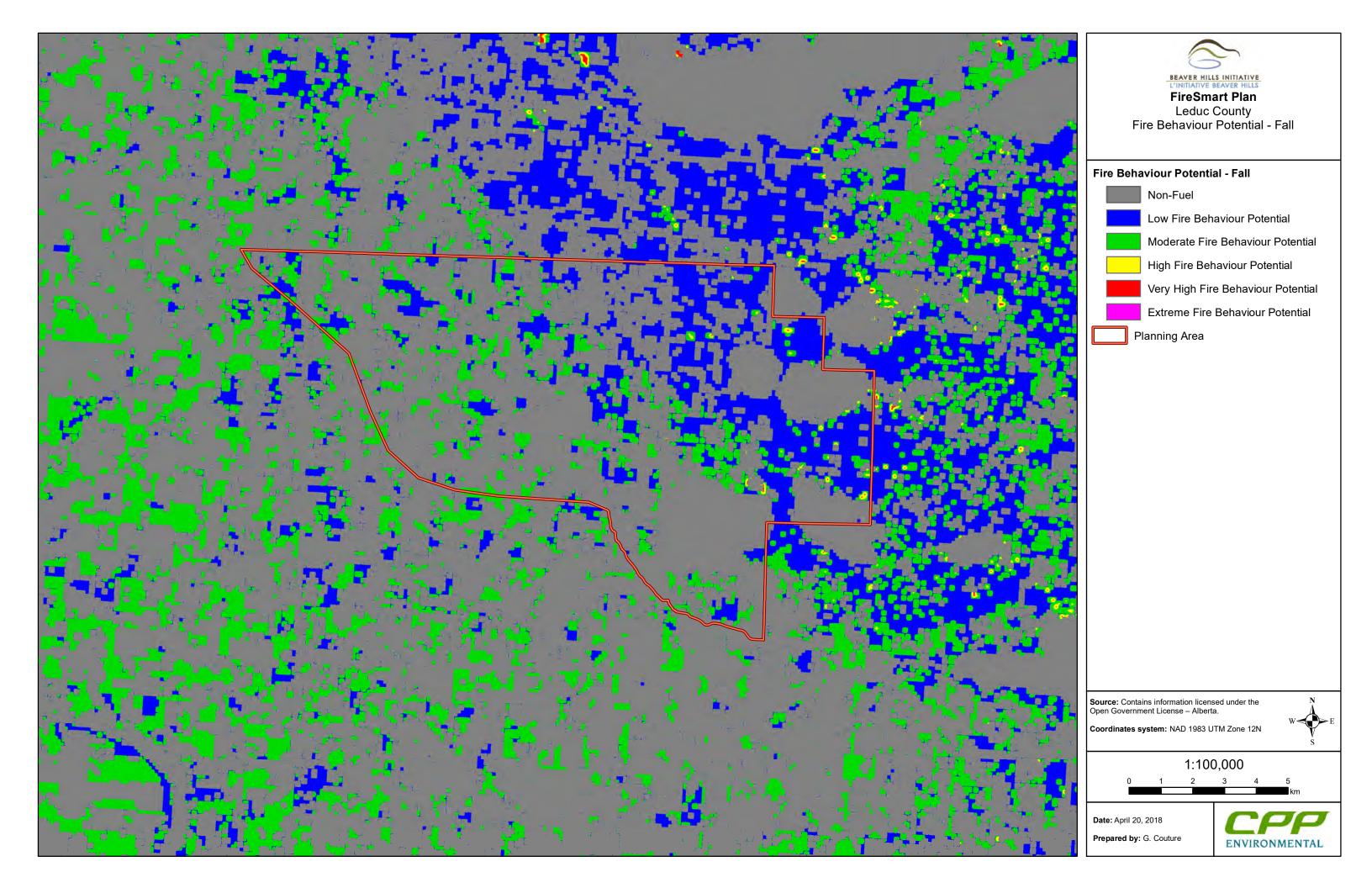


Appendix C7: Wildfire Behaviour Potential Maps

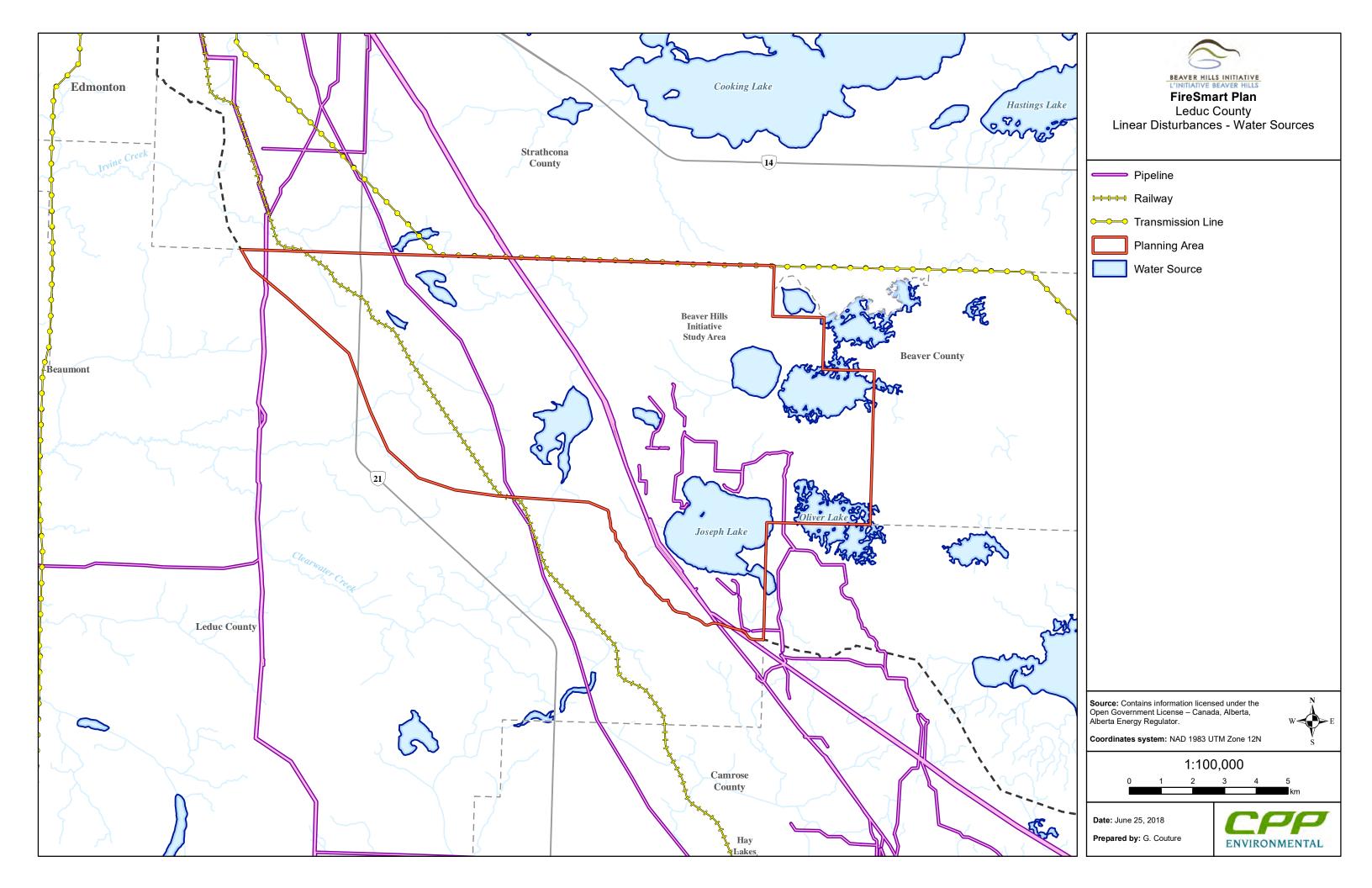
- Spring
- Summer
- Fall





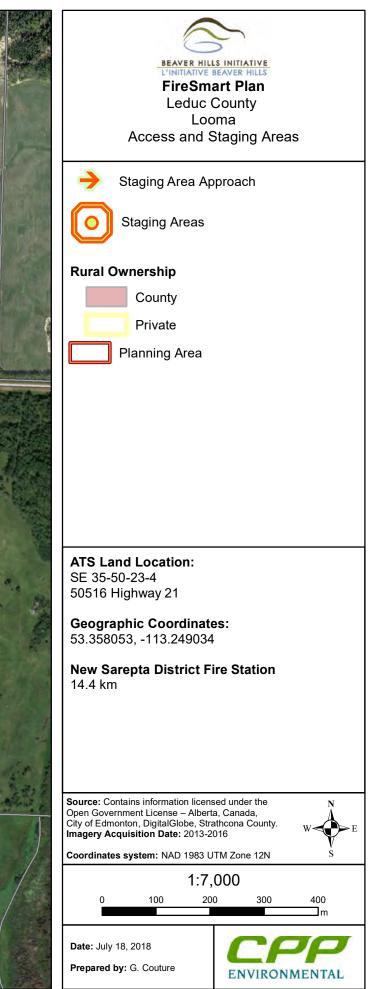


Appendix C8: Linear Disturbance and Water Sources Map

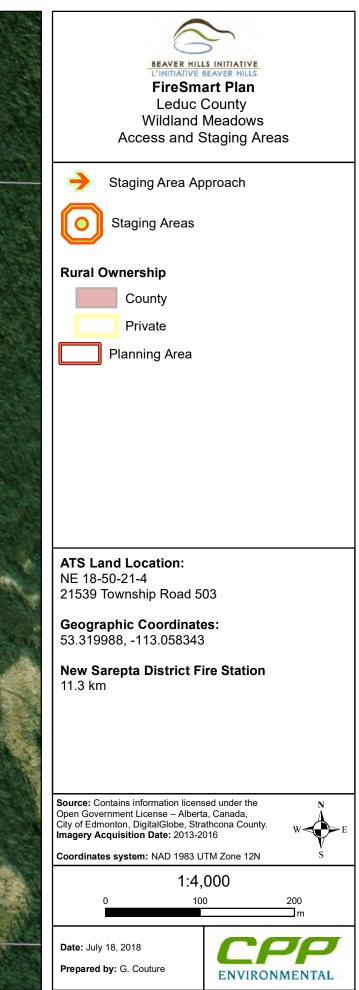


Appendix C9: Access and Staging Area Maps

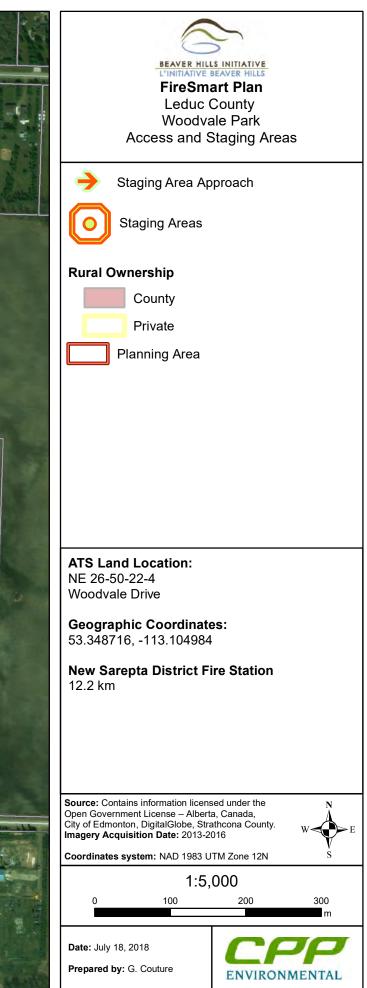




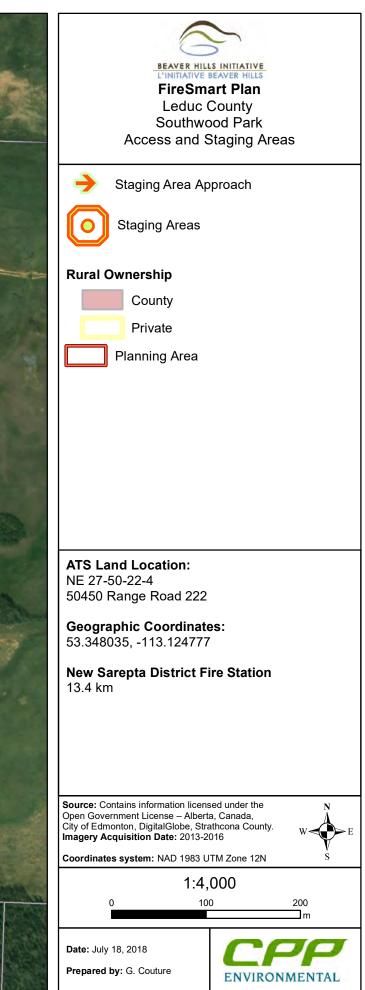




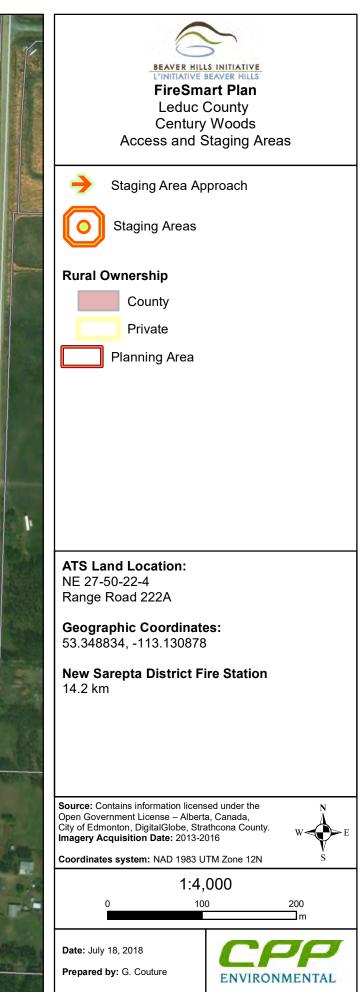




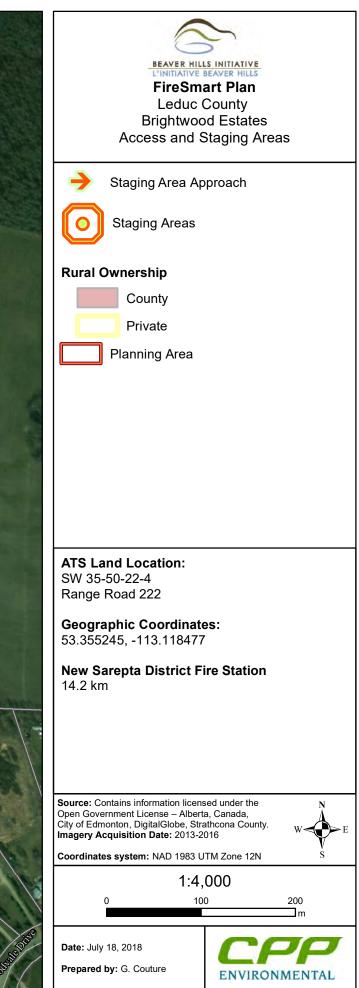




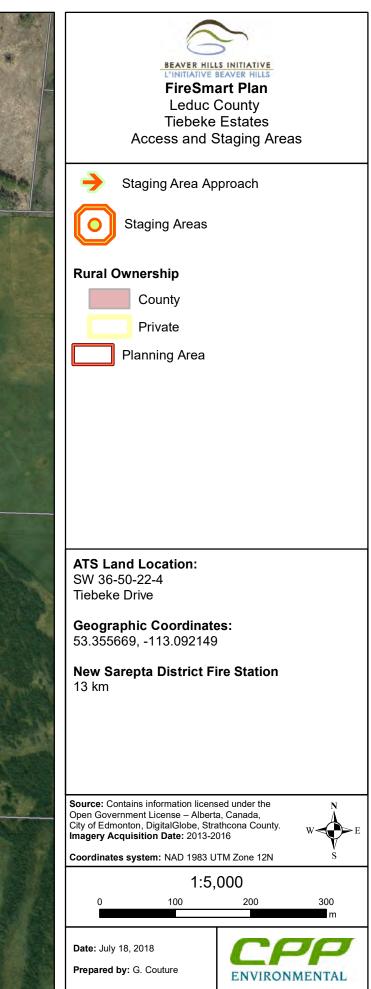


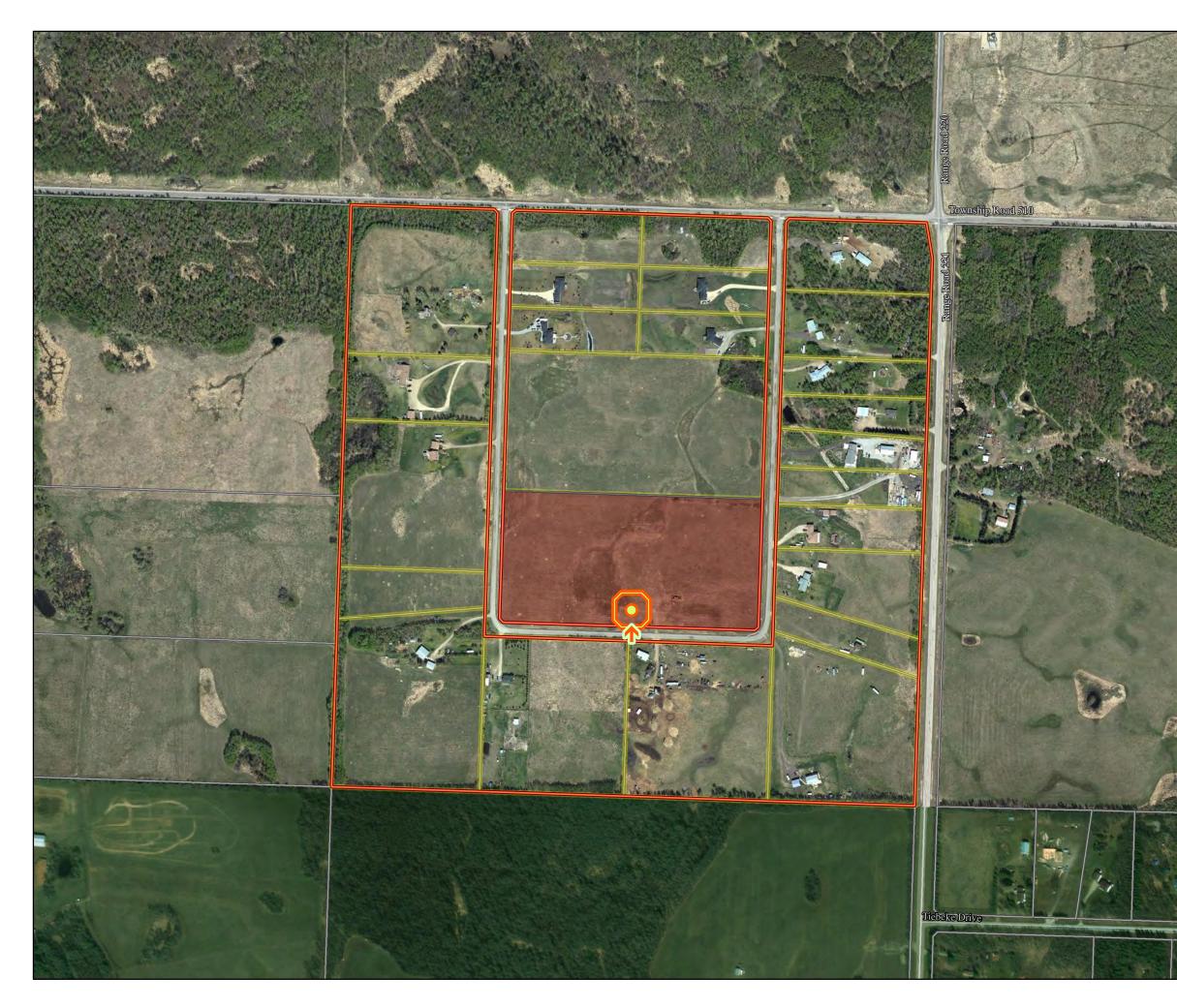


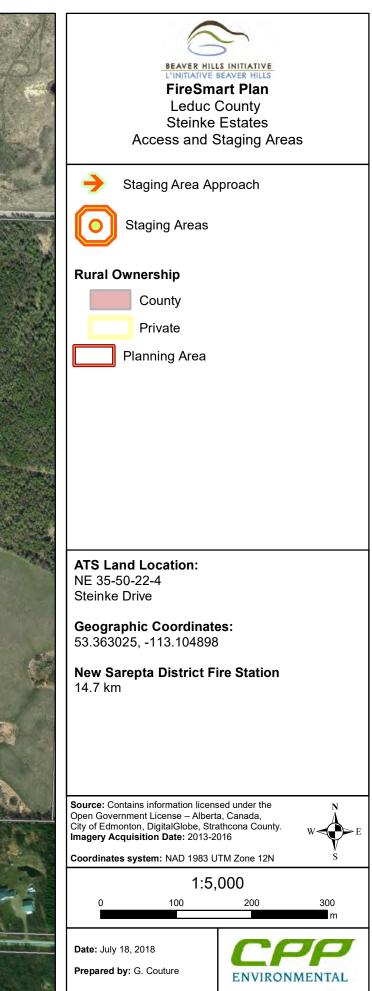


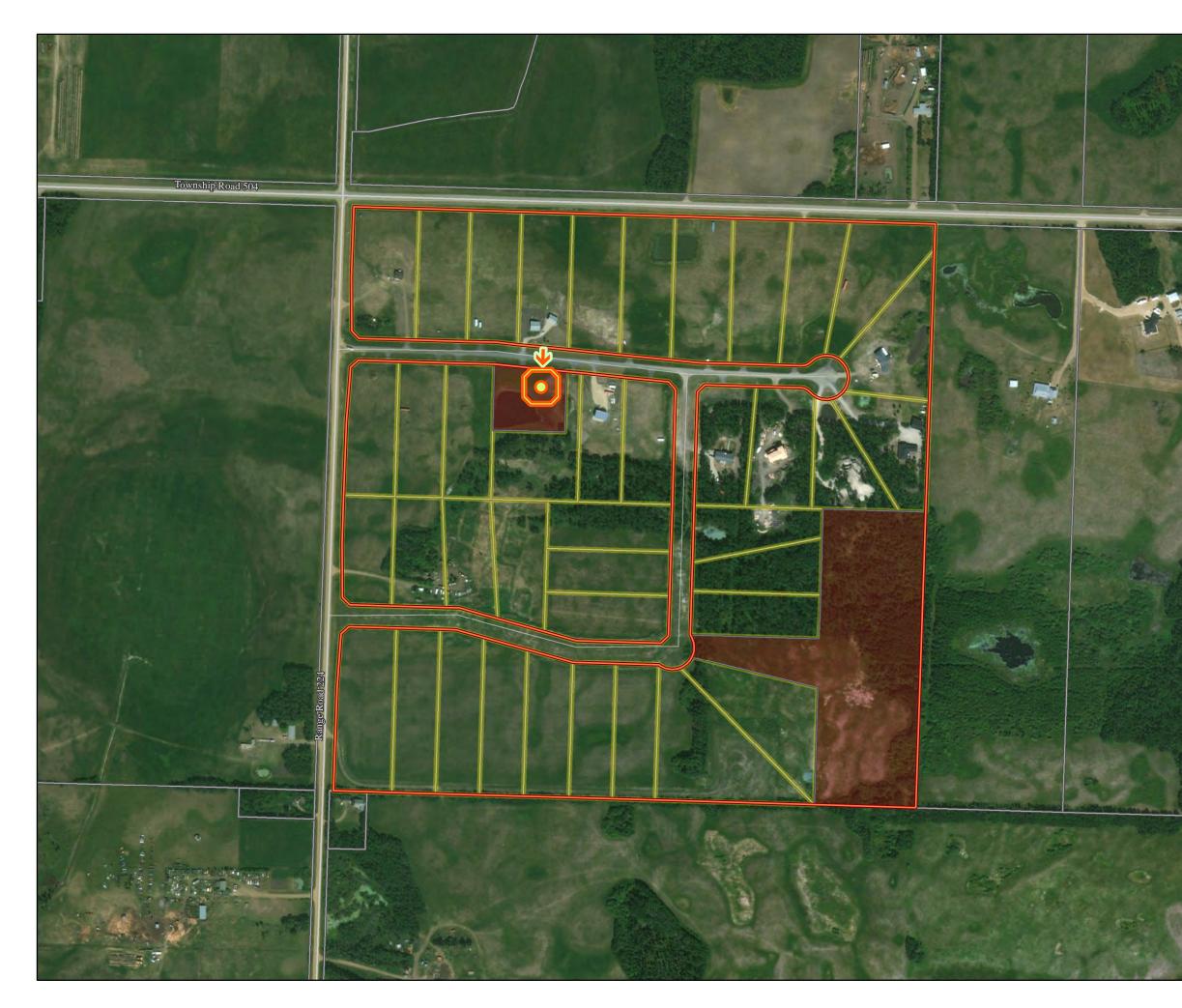


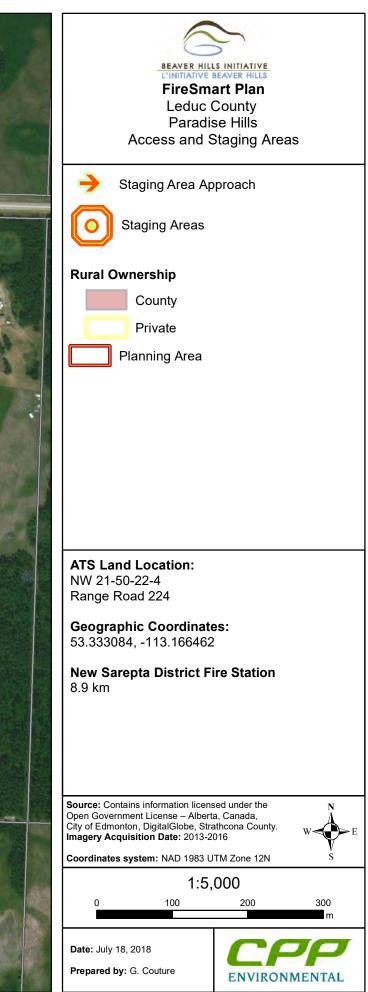




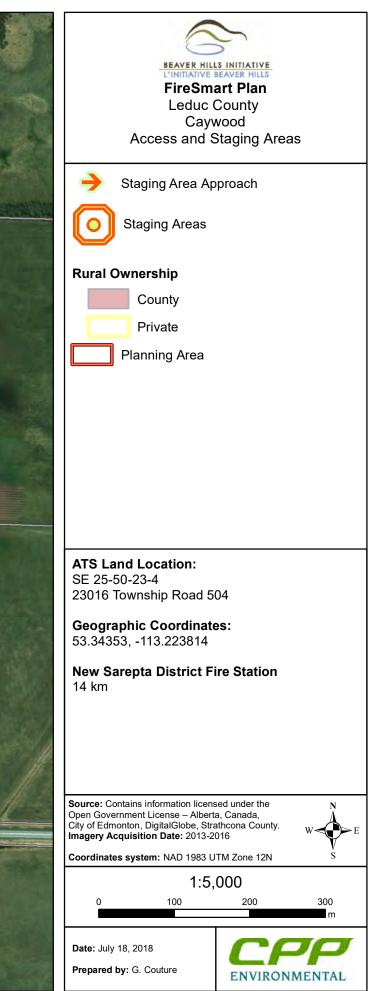


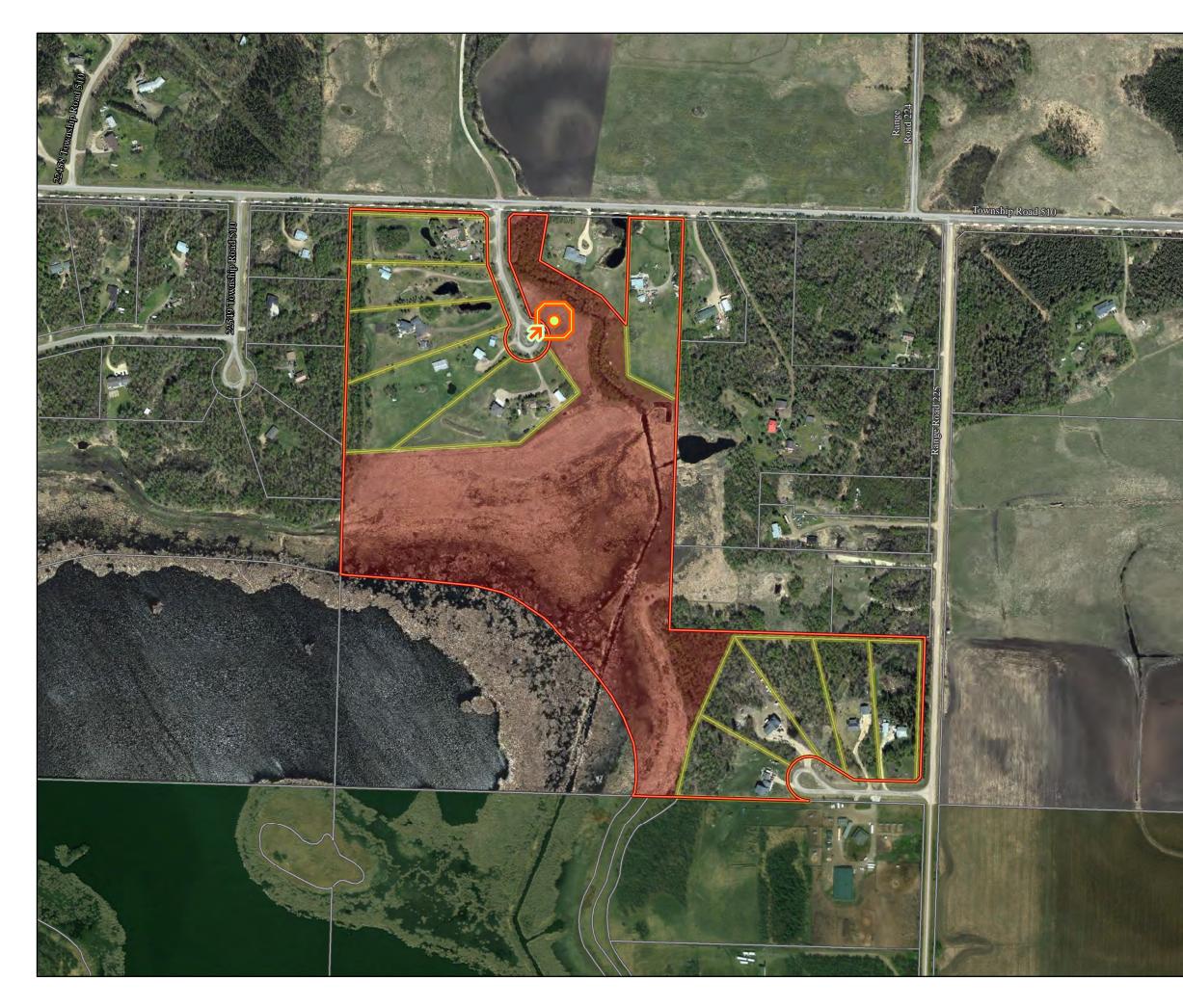


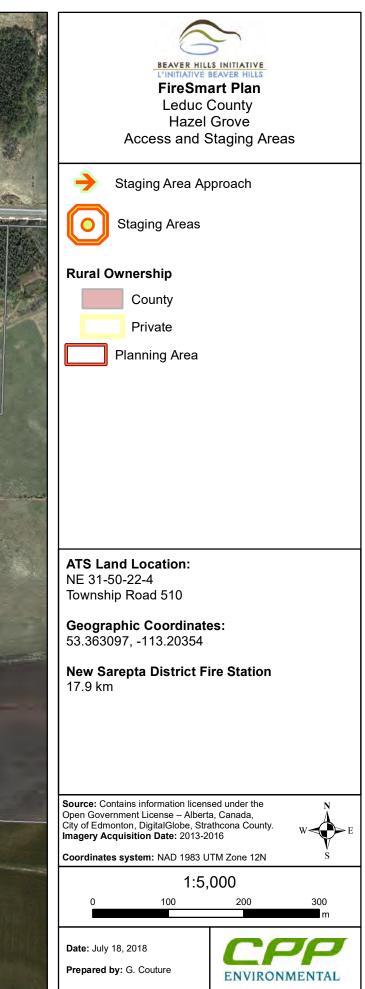


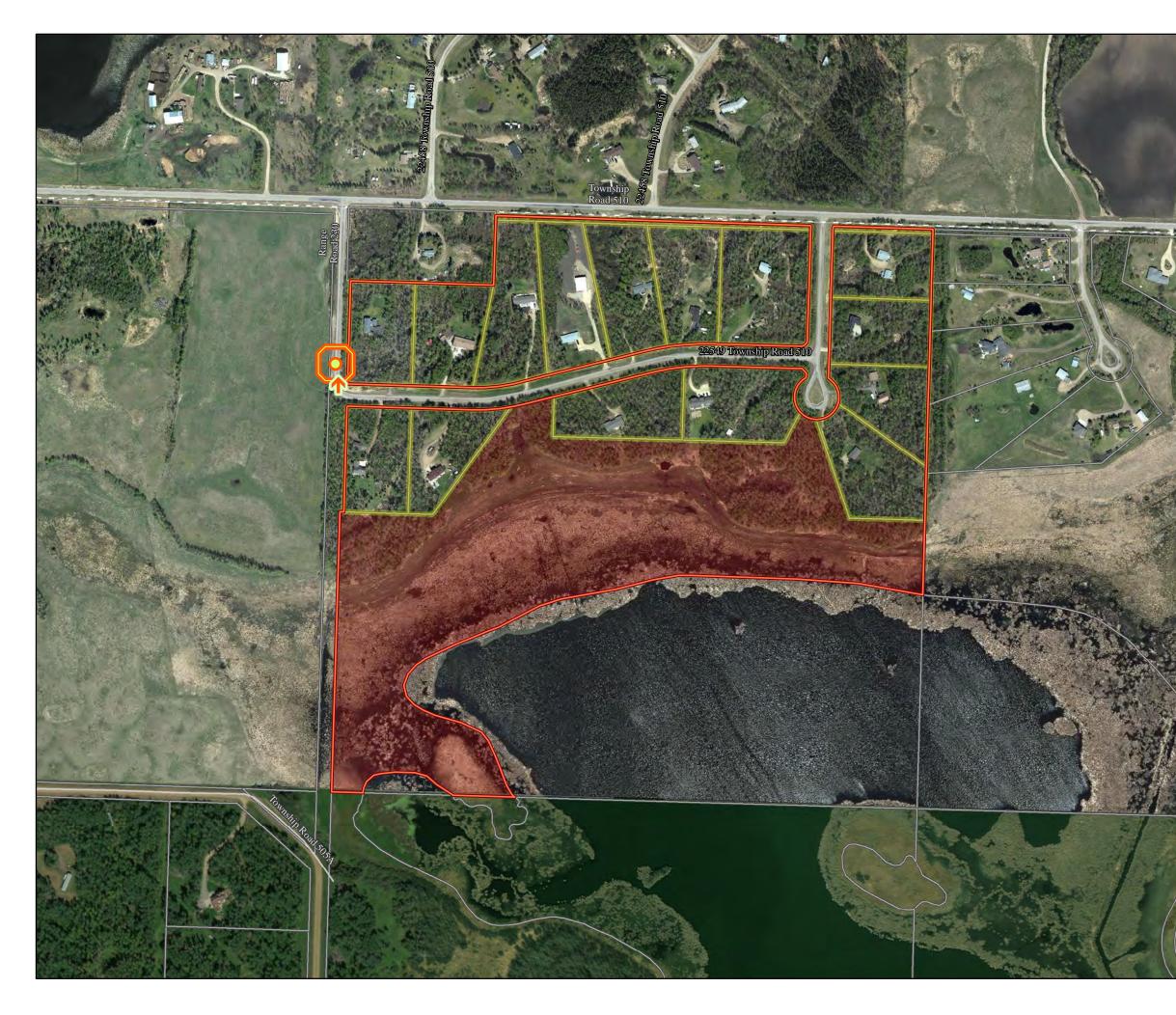


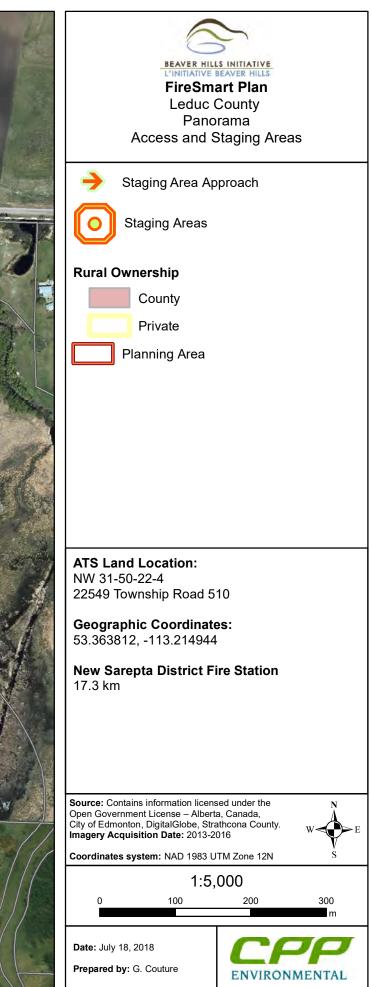




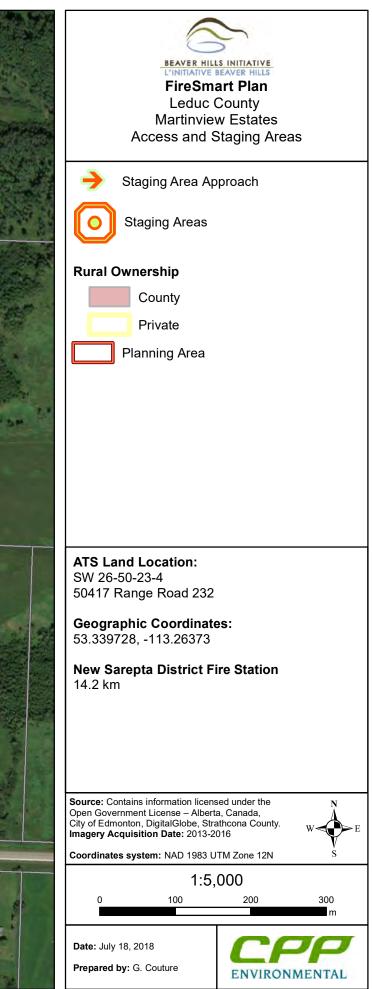




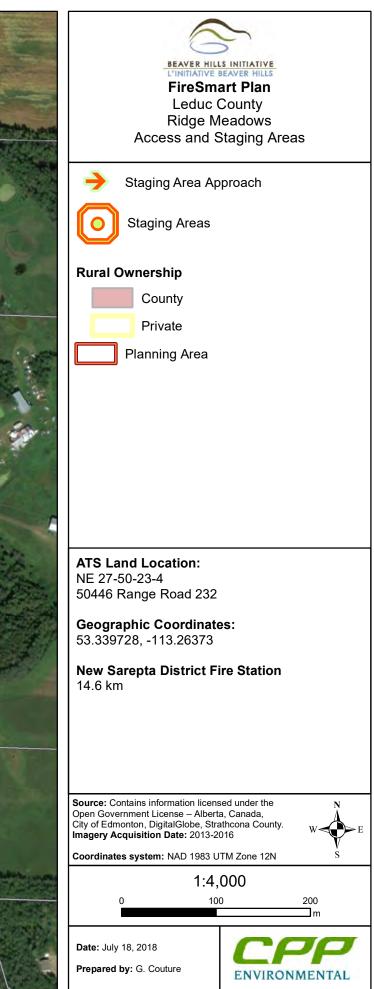




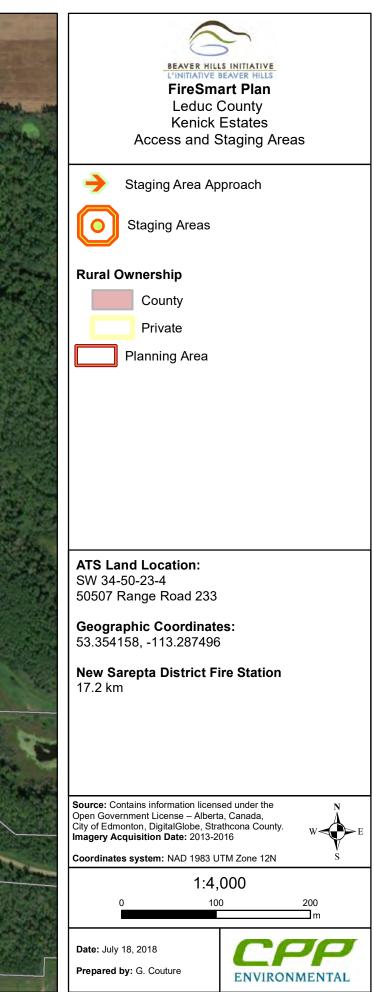




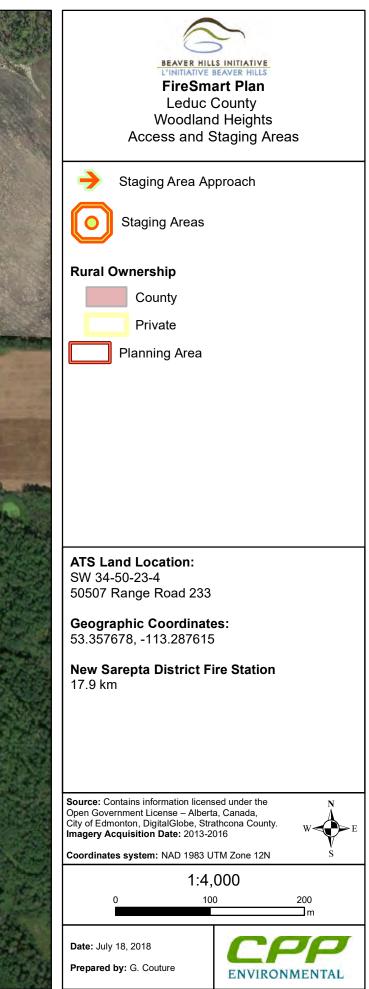












Section D. Strathcona County





Fire Weather and Wildfire Incidences Updates Strathcona County

Prepared for: Beaver Hills Initiative August 2018



Charette Pell Poscente

Executive Summary

The Wildfire Hazard and Risk Assessment and the Wildfire Mitigation Strategies for Strathcona County was developed in 2016, as part of the overall Strathcona County FireSmart Plan. As a part of the BHI FireSmart Plan, the weather data and wildfire incidences were update to reflect the new data.

The updated FireSmart Plan for Strathcona County were prepared in collaboration with Strathcona County representatives.

Gordon George (Community Safety Education Supervisor)

BHI - Strathcona County – Fire Weather and Wildfire Incidences Update, August 2018

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fires

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Appendix D1: Fire Season Weather and Fire Indices Charts

1 Planning Area

The planning area consists of the western portion of Strathcona County within the BHI study area. Strathcona County is located directly east of Edmonton, Alberta (Figure 1).

After discussion with Strathcona County representatives, an update of the weather and wildfire incidences from the 2016 Strathcona County FireSmart Plan was completed.

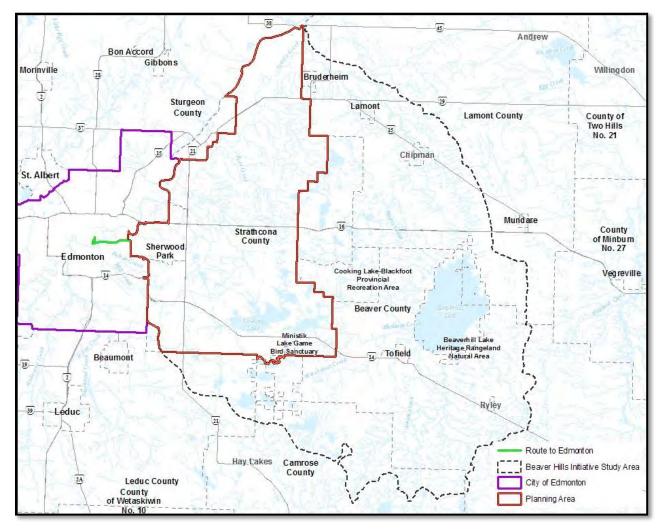


Figure 1. General location of Strathcona County within Beaver Hills Initiative boundary.

2 Fire Weather and Wildfire Incidences Updates

2.1 Fire Season Weather

The analysis of the historical weather included temperature, relative humidity, precipitation, wind speed, and wind direction.

Crossover days were used to identify periods of high fire concern. Crossover is wildfire term that identifies days when the minimum daily Relative Humidity (RH) becomes lower than the ambient temperature. As RH lowers, fuels dry at a quicker rate. The combination of low RH and higher temperatures reduces the moisture content of fine fuels (grasses, needles, herbaceous vegetation within forested stands), which can impact the Rate of Spread (ROS) of fires. Crossover days are easily identifiable by Emergency Services personnel when monitoring weather conditions during the fire season. The majority of crossover days occur in May during the spring fire season and will be a period of high concern for wildfire as dead fine fuels are dry and the new vegetation has yet to mature. The second season of concern is September when vegetation begins to die, the temperature is still high, and the RH drops significantly during the day. Burning periods in the fall decrease as the days get shorter, however, the low RH and higher temperatures amplify the wildfire risk.

Using daily noon actuals, temperature, relative humidity, precipitation, and wind speed were averaged. The data reflects the fire season weather by using data from March to October from 2009 to 2017. Temperature, relative humidity, precipitation, and wind speed was calculated averaging monthly totals.

See Table 1 and Appendix B1.

Weather Stations: Elk Island National Park, Oliver AGDM, Edmonton South Campus UA, and Edmonton Blatchford. March 1, 2009 - October 31, 2017								
Month	Average Temp. (°C)	Average Relative Humidity (%)	Average Wind Speed (km/h)	Average Precip. (mm)	Average Crossover (days/yr)	Average 90 th Percentile FWI (days/yr)	Average 90 th Percentile FFMC (days/yr)	Average 90 th Percentile ISI (days/yr)
March	-3.4	72.1	7.6	10.1	N/A	N/A	N/A	N/A
April	4.5	62.8	9.2	22.2	0.6	0.9	2.3	2.9
May	11.5	54.7	8.8	31.4	2.8	5.0	6.3	5.1
June	15.5	64.4	7.5	42.5	0.6	2.1	1.9	1.5
July	17.6	70.4	6.7	56.3	0.3	1.0	0.4	0.7
August	16.4	70.4	6.1	30.0	0.3	1.1	1.1	0.9
September	11.5	69.3	6.8	21.6	0.7	2.7	1.9	1.7
October	4.5	71.6	7.9	15.3	0.1	1.3	0.2	1.3

Table 1. Summary of data from four Weather Stations for the planning area.

*FWI/Daily data for April-October only due to snow cover

**Temp/RH/WS/Precip data based on hourly data

Wind rose depict the distribution of wind speed and direction. **Figure 2** illustrates the proportion of wind direction and speed for the days associated with the FWI 90th percentiles per season. The seasons represent the following months: spring (March to May), summer (June to August), and fall (September and October).

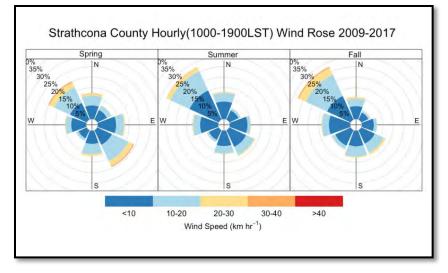


Figure 2. Strathcona County Hourly (1000-1900) Wind rose (2009-2017) for spring, summer, and fall.

Spring: Winds are predominately from the northwest and southeast. Wind speeds are generally greater than 10 km/hr and gusts may reach upwards of 40 km/hr. Southerly winds are often referred to as drying winds as moisture can be easily removed from fine fuels. The stronger the wind, the faster a fire will spreads due to more oxygen being supplied for combustion and drier surface fuels. Stronger wind speeds may result in spotting.

Summer: Winds are predominately from the northwest. Gusts may reach upwards of 20-30 km/hr.

Fall: Wind events are predominately from the northwest. Wind speeds are largely greater than 10 km/hr and gusts may reach upwards of 40 km/hr. Strong wind speeds may result in spotting.



Figure 3. Illustration of spotting during a wildfire (Adopted from <u>http://www.firewise.org</u>). Spotting occurs when embers from burning material gets transported by the wind which has the potential to start new secondary fires.

2.1.1 Fire Weather Indices

Being outside of the Forest Protection Area, there is limited access to fire weather indices. Three measures that provide further insight to wildfire situation are: Fire Weather Index (FWI), Fine Fuels Moisture Code (FFMC), and the Initial Spread Index (ISI).

The FWI is used as a general index of fire danger throughout forested areas in Canada (Natural Resources Canada, 2016). The daily FWI is calculated using temperature, relative humidity, wind speed, and precipitation at a specific time index (13:00). The 90th percentile FWI was calculated to better understand what months are at a higher risk of sustaining a wildfire in the planning areas.

The FFMC was also analyzed as grass fires have historically been a large concern for local Fire Departments. The FFMC considers the dryness of small and fine forest fuels, like grass. Daily FFMC is calculated using temperature, relative humidity, wind speed, and precipitation based on the previous day's weather information. The planning area is located within the central parkland and the dry mixedwood natural sub-region where standing or matted grass vegetation is commonly found.

The ISI is a key component in fire behavior regarding the Canadian Forest Fires Danger Rating System (CFFDRS). The ISI integrates fuel moisture for fine dead fuels and surface wind speed to estimate a spread potential. ISI is a key input for fire behavior predictions in the FBP system. The rate of spread predicts the speed of the fire and takes into account of the potential for spotting and crowning fires.

Table 2. 90th Percentile FWI, FFMC, and ISI rating results for the Strathcona County planning area based on Weather Station: Elk Island National Park, Oliver AGDM, Edmonton South Campus UA, and Edmonton Blatchford. (March 1, 2009 - October 31, 2017).

	FWI	FFMC	ISI
Hazard Rating	27	92	11
	(Very High)	(Extreme)	(Very High)

3 Wildfire Incidents

Strathcona County has documented wildfire incidents. General Fire response statistics (2015-2017) were gathered based upon the following criteria:

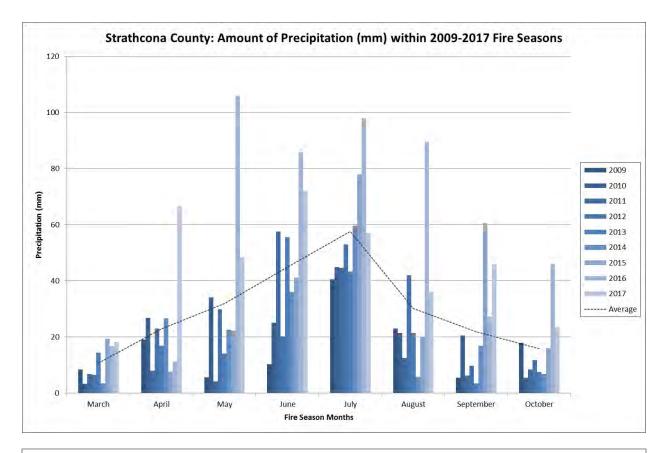
- calls within the Rural Strathcona Service Area;
- outside fires (95% did not spread to an adjacent property);
- brush trucks dispatched.

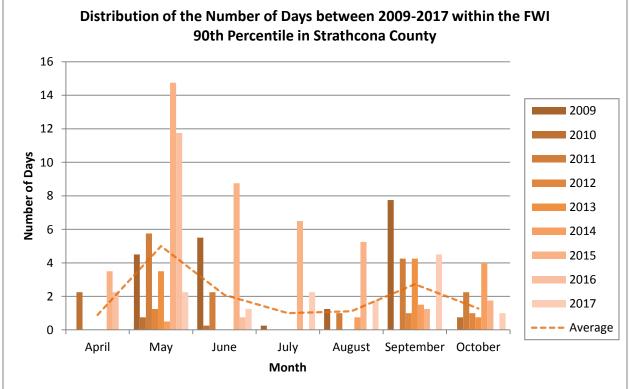
It must be noted that the following statistics could not analyzed for the type of call.

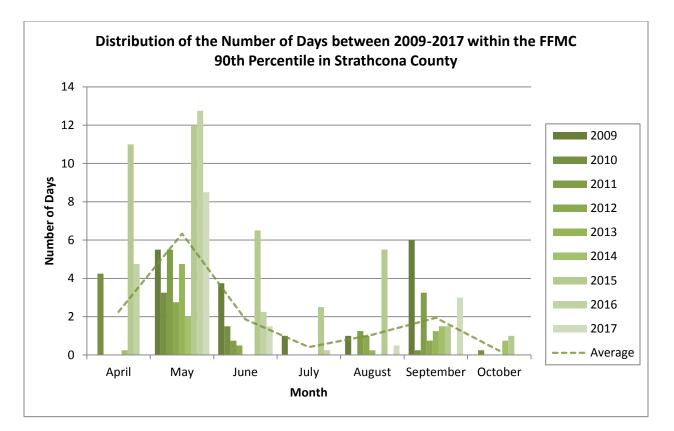
Table 3. Strathcona County Wildfire Incidence Statistics.

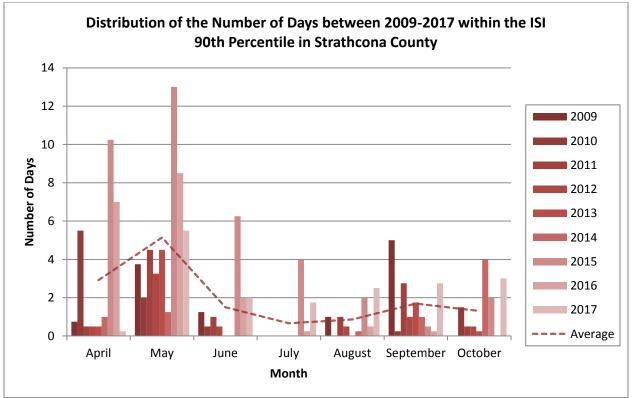
Strathcona County Outside Fire Incidences between 2015-2017			
Year	Count		
2015	124		
2016	101		
2017	78		

Appendix D1: Fire Season Weather and Fire Indices Charts









Section E. Elk Island National Park



Executive Summary

Elk Island National Park (EINP) is located within the Beaver Hills area and were one of the key stakeholders in the development of the FireSmart Plan for the Beaver Hills Initiative (BHI).

Through consultation with Dale Kirkland, Superintendent, Elk Island National Park and James Cook, Fire and Visitor Safety Coordinator, Elk Island National Park it was decided to produce a simple executive summary for the Elk Island National Park section of the BHI FireSmart plan.

The Fire Management Plan for EINP is in the final draft phase and is expected to be released in 2018. Once released, a copy will be provided to BHI to supplement the BHI FireSmart Plan. The Fire Management Plan for EINP will provide coverage to meet the objectives set out for the BHI FireSmart Plan project.

The following excerpts are from the Executive Summary and Section 3.2 of the EINP draft Fire Management Plan to give additional context:

"Elk Island National Park (EINP) is located within the Beaver Hills area, in central Alberta. EINP protects a portion of the Southern Boreal Plains and Plateaux Natural Region (Elk Island Management Plan 2011). The area is representative of the Boreal Transition ecoregion found along the southern fringes of the larger Boreal Plains ecozone. This ecosystem, a unique transitional area of the lower boreal mixedwood forest, is surrounded on all sides by the Aspen Parkland ecoregion.

"The EINP Fire Management Plan was developed in accordance with PCA and Park Management Planning guiding documents, and will provide the direction for the fire management program at Elk Island over the next 10 years. Evaluation and review of the success and management effectiveness of the program will be undertaken as defined in the Park condition and active management monitoring protocols."

"3.2 Parks Canada's Wildland Fire Management Directive

The Wildland Fire Management Directive provides detailed guidance to the fire program. Fire management activities will support Parks Canada's mandate by restoring and maintaining El, managing wildfire risk, and providing unique visitor experiences and educational opportunities. At a park level, this strategic direction is implemented through a WFMP that must address:

- Wildfire prevention
- Wildfire risk reduction
- Wildfire preparedness
- Wildfire management and response
- Prescribed fire implementation

The associated Standard Operating Procedure on Wildland Fire Management Planning directs development of a WFMP that incorporates the park's ecological and cultural objectives. The planning process includes an assessment of wildfire risk in communication with neighbouring communities and jurisdictions."



Section F. Alberta Environment and Park



Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies

Beaverhill Lake Heritage Rangeland Natural Area Cooking Lake-Blackfoot Provincial Recreational Area Ministik Lake Game Bird Sanctuary

Prepared for: Beaver Hills Initiative

August 2018



Charette Pell Poscente

Executive Summary

The Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies for the Cooking Lake - Blackfoot Provincial Recreation Area (PRA), the Beaverhill Lake Heritage Rangeland Natural Area, and the Ministik Lake Game Bird Sanctuary were developed as part of the overall FireSmart Plan for the Beaver Hills Initiative (BHI). The Wildfire Hazard and Risk Assessment was used to identify the landscape wildfire risk for three separate provincially held lands within the study area.

The *Guidebook for Community Protection* (Alberta Environment and Sustainable Resource Development, 2013), and *FireSmart: Protecting your Community from Wildfire* (Partners in Protection, 2013) were followed in the development of this section.

The Wildfire Hazard and Risk Assessment and the Wildfire Mitigation Strategies were prepared in collaboration with Alberta Environment and Parks (AEP) and Alberta Agriculture and Forestry (AAF) representatives.

Cooking Lake - Blackfoot Provincial Recreation Area (PRA)	Beaverhill Lake Heritage Rangeland Natural Area	Ministik Lake Game Bird Sanctuary
Terry N. Krause, (Land & Resource Management Coordinator)	Terry N. Krause, (Land & Resource Management Coordinator)	Terry N. Krause, (Land & Resource Management Coordinator)
Ksenija Vujnovic (Parks Ecologist) Kristofer Heemerych (Wildfire Prevention Officer)	Ksenija Vujnovic (Parks Ecologist) Kristofer Heemerych (Wildfire Prevention Officer)	Kristofer Heemerych (Wildfire Prevention Officer)

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- Appendix F6: Wildfire Behaviour Potential Maps
- Appendix F7: Linear Disturbance and Water Source Maps

1 Planning Area and Stakeholders

The Beaver Hill Initiative contains multiple provincially held lands. Of these lands, three main areas were analyzed for the Wildfire Hazard and Risk Assessment.

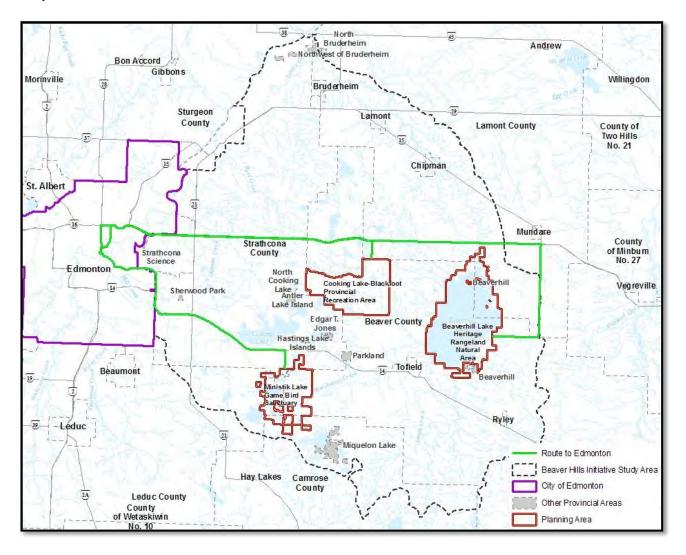


Figure 1: Overview of Beaverhill Lake Heritage Rangeland Natural Area, Cooking Lake - Blackfoot, and Ministik Lake Game Bird Sanctuary within the BHI study area.

1.1 Planning Area

All three planning areas fall within the Beaver Hills Initiative study area. See **Appendix F1** for the Planning Areas Overview map.

1.1.1 Beaverhill Lake Heritage Rangeland Natural Area

The Beaverhill Lake planning area is located approximately 106 kilometres east of Edmonton, Alberta (**Figure 1**) within Beaver County and Lamont County. The planning area is outside the Forest Protection Area. The land uses within the planning area includes: grazing dispositions, wildlife management zones, and recreational activities.

1.1.2 Cooking Lake - Blackfoot Provincial Recreational Area

The Cooking Lake - Blackfoot planning area is located approximately 44 kilometres east of Edmonton, Alberta **(Figure 1)** within Beaver County. The planning area is outside the Forest Protection Area. The land uses within the planning area includes: wildlife management zones, agriculture, recreational and education activities, and industry.

1.1.3 Ministik Lake Game Bird Sanctuary

The Minstik Bird Sanctuary planning area is located approximately 24 kilometres southeast of Edmonton, Alberta **(Figure 1)** within Beaver County, Camrose County, Leduc County, and Strathcona County. The planning area is outside the Forest Protection Area. The land uses within the planning area includes: wildlife management zones, recreational activities, and parcels of private land.

1.2 Stakeholders

The three planning areas are diverse and support a variety of land uses. **Table 1** lists the key stakeholders involved and their responsibilities in developing the Wildfire Hazard and Risk Assessment.

All stakeholders were provided opportunities to review the document and provide input during the process.

How do we get to a FireSmart landscape? Get the right people to participate. (Partners in Protection, 2003)

Stakeholders	Responsibilities	
Beaver Hills Initiative	 Develop and implementation of the project. Provide resources to complete the project. Provide funding for the project. Contract administration. 	
Beaver County	Provide local knowledge and inputs into the plan.Review and approve the plan.	

Table 1. List of stakeholders and their respective responsibilities in the development of the Wildfire Hazard and Risk Assessment and Wildfire Mitigation Strategies.

2 Previous FireSmart Plans

The Beaverhill Lake FireSmart Plan was developed in 2011 by Beaver County and Lamont County, for both the Beaverhill Lake Heritage Rangeland and Beaverhill Lake Natural Area. The 2011 plan consisted of a landscape fire assessment, wildland urban interface planning, and a fire hazard containment/ reduction

program. The Wildfire Hazard and Risk Assessment takes into account the information provided in the 2011 FireSmart Plan.

3 Wildfire Hazard and Risk Assessment

The Wildfire Hazard and Risk Assessment analyzes the Values at Risk, Wildfire Behavior Potential, wildfire incidence, and firefighting capabilities.

Season	Beaverhill Lake	Cooking Lake - Blackfoot	Minstik Bird Sanctuary
Spring	MODERATE	MODERATE	MODERATE
Summer	LOW	LOW	LOW
Fall	LOW	LOW	LOW

Table 2: Results for the Wildfire Hazard and Risk Assessment for each study area.

3.1 Values at Risk

Values at Risk are aspects within a community, either man-made or natural, which have measurable or intrinsic worth, and have the potential to be negatively altered by fire (Alberta Agriculture and Forestry, 2011).

Values at Risk encompass four broad types of values (Partners in Protection, 2003):

- Standard Values homes and other common structures found in communities.
- Critical Values infrastructure that is vital to the wellbeing of those who reside in the planning area (e.g. major roads, power lines, etc.).
- Dangerous Goods Values anything which may pose a safety threat to emergency responders or the public.
- **Special Values** areas that have natural, cultural, historical, or emotional importance to a community.

Table 3: Values at Risk within the planning areas.

Values At Risk	Beaverhill Lake	Cooking Lake - Blackfoot	Minstik Bird Sanctuary			
	Numerous farm residences and structures in surrounding area					
Standard *		 Bus Shelter (4) Vault Toilet (19) Fire Pit (40) Storage (12) Maintenance Facility Picnic Shelter (11) 	• Boat Launch			
Critical	Utilities and distribution power lines					

Values At Risk	Beaverhill Lake	Cooking Lake - Blackfoot	Minstik Bird Sanctuary		
Standard *	Numerous farm residences and structures in surrounding area				
		 Maintenance Yard Communication Tower Office (2) Water Valve Fire Spotting Tower 			
Dangerous Goods	• Wellsite	 Wellsite (24) Horse Excrement Storage Bin (3) Fuel Supply (2) Gas Meter and Waste Water Station 	• Wellsite (9)		

* Major utilities and distribution power lines are identified on Linear Disturbance and Water Sources maps

* Not all Standard Values at Risk identified are a concern to Alberta Parks as they follow the Fire Priority Suppression list: Human life, Communities ect.

Alberta Agriculture and Forestry (AAF) has its own fire suppression priority list to protect Values at Risk during a wildfire event. The priority list is as follows:

- 1. Human life (e.g. commercial/ industrial camps, campgrounds, etc.)
- 2. Communities (e.g. villages, hamlets, etc.)
- 3. Watersheds/ soils (e.g. critical fish habitat, sensitive soils, etc.)
- 4. Natural resources (e.g. agriculture, fisheries, etc.)
- 5. Infrastructure (e.g. major roads, distribution lines, etc.)

3.1.1 Areas for Special Consideration

The Beaverhill Lake Heritage Rangeland Natural Area contains areas of special consideration:

- Marsh Habitat Development Areas (3),
- Waterfowl Production Areas (2),
- Drainage Irrigation Areas (2), and
- Waterfowl Habitat Protection Area.

3.2 Wildfire Behavior Potential

Wildfire behavior is defined as "the manner in which fuel ignites, flame develops, and fire spreads and exhibits other related phenomena as determined by the interaction of fuels, weather, and topography" (Canadian Interagency Forest Fire Centre, 2002).

To better understand seasonal wildfire potential within the planning areas, fuels data, historical weather data, and fire weather indices was analyzed. The analysis included vegetation types, temperature, relative humidity, precipitation, wind speed and wind direction, Fire Weather Index (FWI), Fine Fuel Moisture Code (FFMC), and Initial Spread Index (ISI).

3.2.1 Vegetation Fuel Type

The Beaver Hills area is located in the central parkland and dry mixedwood sub-regions of Alberta. Forests within these sub-regions are characterized by trembling aspen (*Populus tremuloides*), white spruce (*Picea*

glauca), balsam poplar (*Populus balsamifera*), black spruce (*Picea mariana*), and white birch (*Betula papyrifera*). The area is part of the Cooking Lake Moraine, this moraine is comprised of hummocky "knob and kettle" terrain that creates variable fuel types and a large quantity of pothole waterbodies.

Vegetation fuel data was acquired from the AAF Fireweb website. Satellite imagery and google earth were used to compare against the provincial vegetation fuel data.

See Appendix F3 for Fuels Maps.

Beaverhill Lake Heritage Rangeland Natural Area

Fuel types consist mainly of deciduous dominated vegetation that consist of trembling aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*). Inputs from the FireSmart Committee have verified the historical lake bed is no longer dominated by surface water. The waterbody has transitioned and now dominated by grass vegetation. Areas utilized for agricultural uses (hay and pasture) are also dominated by grass vegetation.

Cooking Lake - Blackfoot Provincial Recreational Area

Fuel types within the planning area consists mainly of deciduous vegetation (D1/D2). Higher densities of coniferous tree species are concentrated along the southwest section of the area. Grass vegetation dominates the interior portion of the area.

Ministik Lake Game Bird Sanctuary

Fuel types within the planning area consist mainly of deciduous vegetation at large densities. Higher densities of coniferous tree species are scattered throughout the area. Agricultural farmland and grass vegetation are commonly found outside the Ministik with only small segments within the area.

Table 4: Canadian Forest Fire Danger Rating System Fire Behavior Prec	ediction (CFFDRS FBP) System Fuel Types.
---	--

CFFDRS FBP System Fuel Types	Common language Equivalent		
D1/D2	Aspen		
M1/M2	Boreal Mixedwood (50% conifer)		
01	Grass		
C1/C2	Spruce – Lichen Woodland		
Vegetated Non-Fuel	Vegetated Non-Fuel		
Non-Fuel	Non-Fuel		

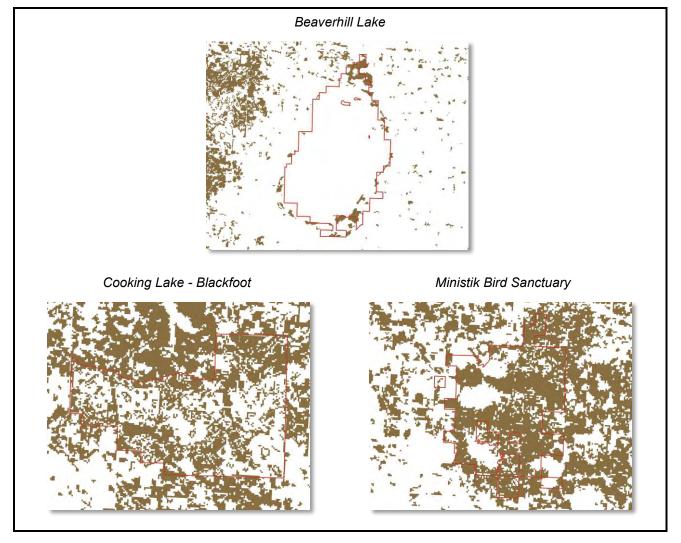
Table 5: Canadian Forest Fire Danger Rating System Fire Behavior Prediction (CFFDRS FBP) System Fuel Types within the planning areas.

CFFDRS FBP System Fuel	Beaverhill Lake		Cooking Blac	g Lake - kfoot	Ministik Bird Sanctuary	
Types	ha	%	ha	%	ha	%
D1/D2	831	4.8	4,736	47.9	4,817	65
M1/M2	26	0.2	29	0.3	136	1.9
01	1,450	8.3	4,374	44.2	4	0.1
C1/C2	38	0.2	40	0.4	497	6.8

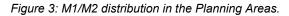
Vegetated Non- Fuel	2,881	16.5	<0.01	<0.01	336	4.6
Non-Fuel	4	0.02	716	7.2	<0.01	<0.01

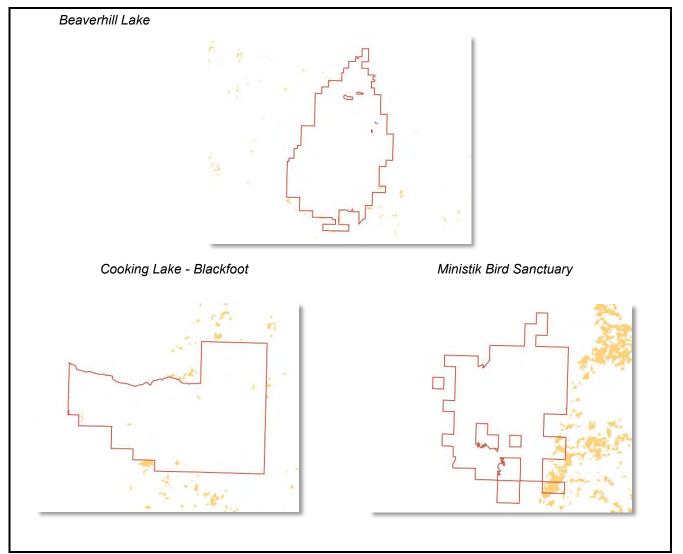
* The Beaverhill Lake has mostly dried up and fuels have not been updated to reflect this; thus, a red hatched area has been added to show the additional O1 fuels in this area.

Figure 2: D1/D2 distribution in the Planning Areas.

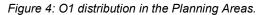


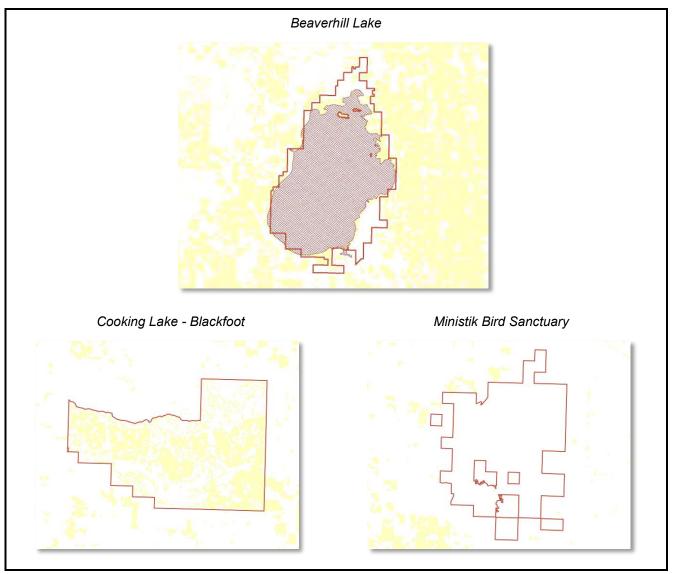
Deciduous stands are most likely to burn prior to green-up in the spring due to the resin in the buds being highly flammable or during the fall after the leaves drop. The wildfire intensity is lower compared to spruce stands, because deciduous stands are unlikely to have a crown fire due to the lack of ladder fuels. Instead, a vigorous surface fire is most likely to be experienced in these stands due to the grasses and forbs that make up the composition of the ground vegetation. The deciduous stands consist of aspen (*Populus tremuloides*) and balsam poplar (*Populus balsamifera*).





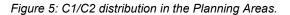
Mixedwood stands are comprised of a mixture of deciduous and coniferous vegetation. Coniferous trees are associated with being volatile fuels and have a higher probability of ignition than deciduous trees. The presence of conifers in a mixedwood stand increases the potential for spotting as well as crown fire due to an increased presence of ladder fuels. Consequently, a wildfire in a mixedwood stand will have a higher degree of difficulty in controlling.





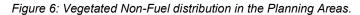
A common concern for the planning areas is the ignition risks for grass fires. Grass fuels are a concern in the spring and fall when grass is dead and dry (cured fine fuel conditions), which provides for easy ignition and fast moving fires. Cured grass fires will have a high rate of spread (ROS, m/ min).

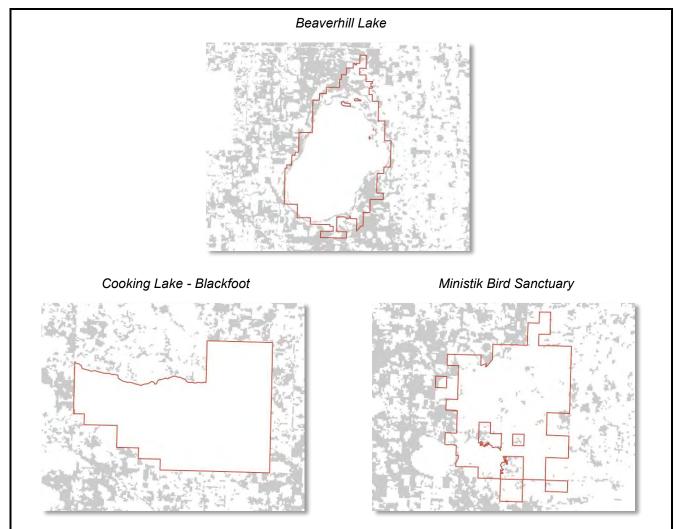
The Beaverhill Lake has mostly dried up and fuels have not been updated to reflect this; thus, a red hatched area has been added to show the additional O1 fuels in this area.



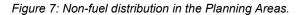


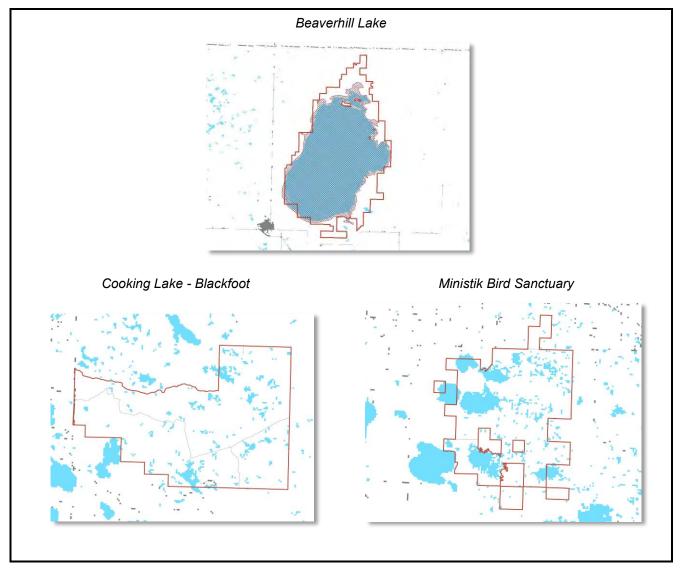
Coniferous species such as white spruce (*Picea glauca*) and black spruce (*Picea mariana*) are considered volatile fuels. Conifer fuels are considered a high risk due to: the ability to burn throughout the fire season, the likelihood and high potential for spotting, and the likelihood and high potential for crown fires.





The distribution of vegetated non-fuels varies within the planning areas due to being predominantly composed of forest fuels. Vegetated non-fuels includes areas of maintained grass and managed agriculture land.





The distribution of non-fuels varies within the planning areas. Non-fuels includes road networks (gray), waterbodies (blue), and anthropogenic features (gray). Inputs from the FireSmart Committee have verified the historical lake bed (Beaverhill Lake) is no longer dominated by surface water. The waterbody has transitioned and now dominated by herbaceous and low shrubby vegetation.

3.2.2 Fire Season Weather

Crossover days were used to identify periods of high fire concern. Crossover is a wildfire term that identifies days when the minimum daily Relative Humidity (RH) becomes lower than the ambient temperature. As RH lowers, fuels dry at a quicker rate. The combination of low RH and higher temperatures reduces the moisture content of fine fuels (grasses, needles, herbaceous vegetation), which can impact the rate of spread of fires. Crossover days are easily identifiable by Emergency Services personnel when monitoring weather conditions

during the fire season. The majority of crossover days occur in May during the spring fire season and will be a period of high concern for wildfire as dead fine fuels are dry and the new vegetation has yet to mature. The second season of concern is September when vegetation begins to die, the temperature is still high, and the RH drops significantly during the day. Burning periods in the fall decrease as the days get shorter, however, the low RH and higher temperatures amplify the wildfire risk.

See Appendix F4 for Fire Season Weather and Fire Indices Charts.

Weather data was retrieved from Weather Station Data Viewer for Camrose, Edmonton South Campus UA, Elk Island Nat Park, and Mundare AGDM. The data reflects the fire season weather by using data from March to October from 2009 to 2017.

Weather Statio (March 1, 2009 Month		· · ·	Average Precip./ month (mm)	Average Wind Speed (km/h)	Average Crossover days/year	Average 90 th Percentile FWI (days/year)	Average 90 th Percentile FFMC (days/year)	Average 90 th Percentile ISI (days/year)
March	-4	76	11	11	N/A	N/A	N/A	N/A
April	4	67	26	13	1	1	2	3
Мау	11	57	38	12	3	5	8	6
June	15	68	58	11	1	3	2	2
July	17	75	70	10	0	1	1	0
August	16	74	38	9	0	1	1	1
September	11	71	24	10	1	5	3	3
October	4	74	16	11	0	2	0	2

Table 6. Summary of data from four Weather Stations for Planning Areas.

*FWI/Daily data for April-October only due to snow cover

**Temp/RH/WS/Precip. data based on hourly data

....

Wind roses depict the distribution of wind speed and direction. The **Figure 8** illustrates the proportion of wind direction and speed for the days associated with the FWI 90th percentiles per season. The seasons represent the following months: spring (March to May), summer (June to August), and fall (September and October).

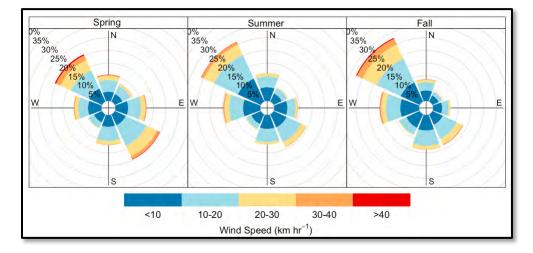


Figure 8: Planning Areas Hourly (10:00 – 19:00 LST) Wind Rose (2009 – 2017): spring, summer, and fall.

Spring: Winds are predominately from the northwest and southeast, and may have gusts upwards of 40 km/hr. Southerly winds are often referred to as drying winds as moisture can be easily removed from fine fuels. The stronger the wind, the faster a fire will spreads due to more oxygen being supplied for combustion and drier surface fuels. Stronger wind speeds may result in spotting.

Summer: Winds are predominately from the northwest. Gusts may reach upwards of 30-40 km/hr but are generally less than 20 km/hr.

Fall: Wind events are predominately from the northwest and gusts may reach upwards of 40 km/hr. Stronger wind speeds may result in spotting.



Figure 9: Illustration of spotting during a wildfire (Adopted from http://www.firewise.org). Spotting occurs when embers from burning material gets transported by the wind which has the potential to start new secondary fires.

3.2.3 Fire Weather Indices

Being outside of the Forest Protection Area, there is limited access to fire weather indices. Three measures that provide further insight to wildfire condition are: Fire Weather Index (FWI), Fine Fuels Moisture Code (FFMC), and the Initial Spread Index (ISI).

The FWI is used as a general index of fire danger throughout forested areas in Canada (Natural Resources Canada, 2016). The daily FWI is calculated using temperature, relative humidity, wind speed, and precipitation at a specific time index (13:00). The 90th percentile FWI was calculated to better understand what months are at a higher risk of sustaining a wildfire in the AEP planning areas. **Appendix F4** illustrates the distribution of days that are within the FWI 90th percentile.

The FFMC was also analyzed to provide insight into the risk associated with fine fuels. Grass fires have historically been a large concern for the local Fire Departments. The FFMC considers the dryness of small and fine forest fuels, like grass. Daily FFMC is calculated using temperature, relative humidity, wind speed, and precipitation based on the previous day's weather information. All three planning areas are located within the central parkland and/or the dry mixedwood subregion where standing or matted grass vegetation is commonly found. **Appendix F4** shows the distribution of days that are within the FFMC 90th percentile.

The ISI is a key component in fire behavior regarding the Canadian Forest Fires Danger Rating System (CFFDRS). It integrates fuel moisture for fine dead fuels and surface wind speeds to estimate a spread potential. ISI is a key input for fire behavior predictions in the Fire Behaviour Prediction system. The rate of spread predicts the speed of the fire and takes into account of the potential for spotting and crowning fires. Standard units utilized for this variable is usually placed as meters per minute (m/min). **Appendix F4** shows the distribution of days that are within the ISI 90th percentile.

Table 7: 90th Percentile FWI, FFMC, and ISI rating results for the three Planning Areas based on Weather Stations: Camrose, Edmonton South Campus U of A, Elk Island Nat Park, and Mundare AGDM (March 1, 2009 – October 31, 2017).

	FWI	FFMC	ISI	
Hazard Rating	29.5	91	13	
	(Very High)	(Very High)	(Very High)	

3.2.4 Topography

Topography influences fire behaviour similar to wind where slopes can directly impacts the rate of spread of a fire. The area is part of the Cooking Lake Moraine, this moraine is comprised of hummocky "knob and kettle" terrain that creates variable local topography.

See Appendix F1 for Overview and Topography Maps.

Beaverhill Lake Heritage Rangeland Natural Area

Beaverhill Lake is mainly flat with some limited elevation changes along the boundary, as well as in the historical lake bed. The subtle elevation changes throughout the planning area will have little effect on fire behaviour. Both the grass fuels and the dead and down woody debris that are present on the slopes of the lake bed may increase the wildfire rate of spread and thereby increasing the overall risk in the area.

Cooking Lake- Blackfoot Provincial Recreation Area

Cooking Lake - Blackfoot consists of gentle slopes with moderate elevation changes especially near the southwest section. The greater slope percentages present in this area could increase the rate of spread of a wildfire. The coniferous fuels as well as the dead and down woody debris present on steeper slopes may further increase the wildfire rate of spread thereby increasing the overall risk in the area.

Ministik Lake Game Bird Sanctuary

Ministik Lake Game Bird Sanctuary consists of mainly flat terrain with some gently slopes. The area has minimal elevation changes throughout with the exception of the northern and southern boundaries. The areas with minimal elevation changes will have little effect on fire behaviour. The coniferous fuels as well as the dead and down woody debris present on the steeper slopes may further increase the wildfire rate of spread, thereby increasing the overall risk.

3.3 Wildfire Behavior Analysis

Fire weather predictions are based on the analysis of fuels, weather, and topography. Two methods were utilized to predict fire behavior: Wildfire Behaviour Potential and Wildfire Threat Rating, and the Prometheus Wildfire Model.

3.3.1 Wildfire Behaviour Potential and Wildfire Threat Rating

Wildfire Behaviour Potential and Wildfire Threat Rating maps were acquired from the Alberta FireWeb (Alberta Agriculture and Forestry). The Alberta FireWeb is a spatial tool that allows wildfire planners to better understand wildfire threat in an area. Wildfire Threat Rating and Fire Behaviour Potential maps for spring, summer and fall from FireWeb were analyzed.

It is important to note that wildfire threat rating calculations were not intended to be used outside the Forest Protection Area. This is because it does not account for municipal firefighting resources that the municipalities and counties have at their disposal, as well as the quick response times from the fire halls.

See Appendix F5 and F6 for Wildfire Threat Rating and Fire Behaviour Potential maps.

Beaverhill Lake Heritage Rangeland Natural Area

The Fire Behaviour Potential varies seasonally within the planning area. The Fire Behavior Potential for spring has a <u>moderate</u> fire potential, while the summer and fall season ranges from <u>low to moderate</u>. During the summer season, fire behaviour potential is reduced to mainly a low rating due to green up. The surface water within Beaverhill Lake has receded significantly over the past years. As a result, the fireweb database has not captured the vegetation that now occupies the historic lake bed and therefore not representing an accurate rating within the historic lake boundary.

Wildfire Hazard and Risk ratings depict seasonal ranges in the Wildfire Threat Rating. The Wildfire Threat Rating is <u>low</u> to <u>moderate</u>.

Cooking Lake- Blackfoot Provincial Recreation Area

The Fire Behaviour Potential varies seasonally within the planning area. The Fire Behavior Potential for spring is predominately <u>low</u> with the southeast section at moderate. During the summer and fall season, the fire potential is <u>low</u> as fuels are no longer cured/dried.

Wildfire Hazard and Risk ratings depict seasonal ranges in the Wildfire Threat Rating. The wildfire threat rating during spring is <u>moderate</u> with isolated patches of extreme correlating to where the coniferous fuels reside. The summer season is mainly <u>low</u> where the fall is intermixed between <u>low and moderate</u> fire behaviour potential.

Ministik Lake Game Bird Sanctuary

The Fire Behaviour Potential varies seasonally within the study area. The fire behavior potential for spring is predominately <u>moderate</u> with isolated patches of extreme fire behaviour potential. During the summer and fall season it ranges from <u>low to moderate</u> fire potential. During the summer season, fire behaviour potential is reduced to mainly a <u>low</u> rating due to green up.

Wildfire Hazard and Risk ratings depict seasonal ranges in the wildfire threat rating. The wildfire threat rating during spring, summer, and fall is mainly <u>low</u>.

3.3.2 Prometheus Wildfire Model

Prometheus runs were completed at a landscape scale that included the entire Beaver Hill Initiative study area. Historical fire season weather was modelled and the 90th FWI percentile was used to identify burning days. Ignition point were selected based on dominate wind direction, continuity of fuels, and the potential to impact communities within the study area. The Prometheus models are discussed in further detail in Section 3 of the BHI FireSmart Plan.

4 Wildfire Incidents

Information on wildfire incidents that occur outside the Forest Protection Area are not recorded by AAF. Based on information from AEP, Table 8 details the wildfire and land use history in the area. According to AEP, the main source of recent fires are human-caused.

Table 8: Historical Wildfire and Land Use, Beaverhill Lake, Cooking Lake – Blackfoot Provincial Recreation Area, Ministik Lake Bird Game Sanctuary.

Date	Historical Wildfire and Land Use
1880's	Part of Beaver Hills Timber Reserve administered by Federal Government
1892	Area designated as a Timber Reserve
1895	Major fires swept through the area
1895	Wm. Stephens appointed first Forest Ranger; originally 170 sq. miles set aside as a Forest Reserve
1899	Proclaimed a Forest Reserve by Departmental Order
1910-1911	First Tree Nursery established
1915	First grazing began
1924	Fire destroyed most of the plantings in the tree nursery
1928	The original fire tower was built
1929	Fires swept through the area
1930	Beaver Hills Forest Reserve taken over by the province of Alberta
1953	Fires swept through the area
1880's	Part of Beaver Hills Timber Reserve administered by Federal Government
1892	Area designated as a Timber Reserve
1895	Major fires swept through the area

5 Firefighting Capabilities

As per the *Forest and Prairie Protection Act, Section 7,* counties and municipal districts are responsible for fighting and controlling all wildfires within their municipal boundary. This includes wildfires within all public lands (occupied and unoccupied) that are within their municipal boundaries.

In all cases of wildfire within the planning area, AAF assists in fighting wildfires when requested through the mutual aid agreements. AEP has a Memorandum of Understanding (MOU) with AAF where they can request assistance to fight wildfires in parks. There are Mutual Aid Agreements between the municipalities that provide adequate coverage for fighting wildfire within the planning area.

6 Wildfire Mitigation Strategies

Recommendation numbering corresponds to the master mitigation overview table for the BHI study area.

Recommendations	Beaverhill Lake Heritage Rangeland Natural Area	Cooking Lake – Blackfoot Provincial Recreation Park	Ministik Lake Game Bird Sanctuary
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1. Education

Education of local residents will assist in mitigating wildfire occurrences. Through platforms such as social media, open houses, rural newsletters, and local school presentations/events, FireSmart objectives can be highlighted, explained, and/or demonstrated.

Information should also focus and highlight the critical FireSmart Priority Zones: Non-combustible Zone, Priority Zone 1. Non-combustible Zone focuses on the materials and vegetation in a 1.5 meter radius from a selected structure. Priority Zone 1 is the area within a 10 meter radius from structures. Structures within the Priority Zone 1 could range from bins and sheds to garages and houses. These areas should be priority, as maintenance will reduce the risk of ignition and increase the definability of the structure. Information should also include, but not be limited to fuel removal, reduction, and conversion of the property.

1c. Distribute and/or post information regarding			
FireSmart and wildfire prevention at strategic locations	х	х	х
such as public buildings, kiosks, and trail heads.			

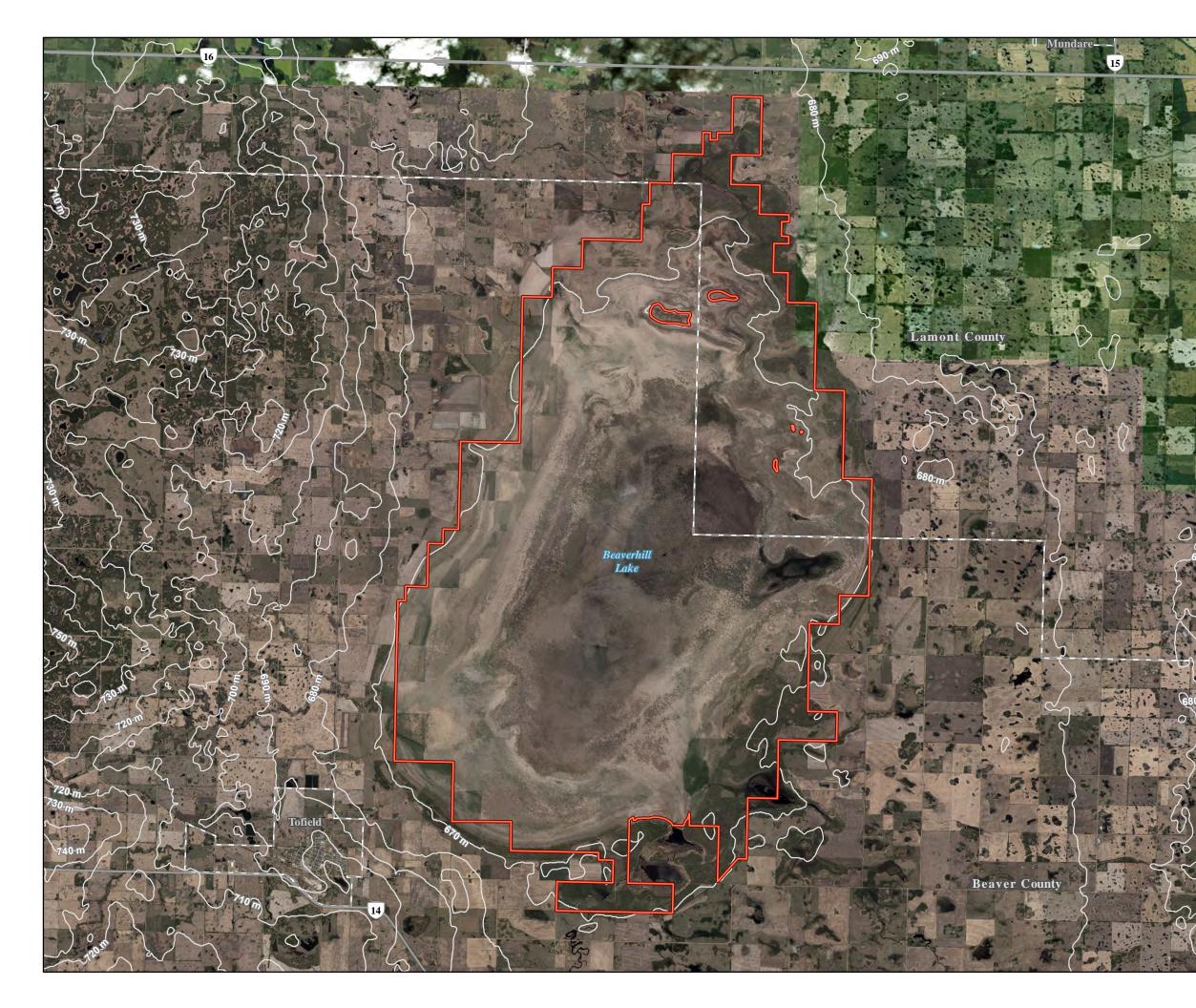
2. Development

The provincial areas contain the largest amount of continuous fuels within the BHI study area. A network of township and range roads are available for landowners who reside closest to the provincial area. The roads are designed to accommodate two way traffic and are wide enough to allow for evacuation past responding emergency personnel and equipment. Road maintenance is required during spring melt to minimize deep ruts, large potholes, and/or a washboard surface roads frequently used for access. In the right conditions, wildfires can be caused from power lines. Staging areas for directing field operations are determined on a case by case basis and consider key elements such as fire location and wind direction.

2a. Develop and implement Best Management Practices			
for road construction to ensure suitable access for	х	х	х
emergency services.			

Recommendations	Beaverhill Lake Heritage Rangeland Natural Area	Cooking Lake – Blackfoot Provincial Recreation Park	Ministik Lake Game Bird Sanctuary
2b. Ensure that the primary and secondary power lines are maintained.	х	х	х
4. Legislation	•		
4d. Continue to limit development within the planning area.			х

Appendix F1: Overview and Topography Maps



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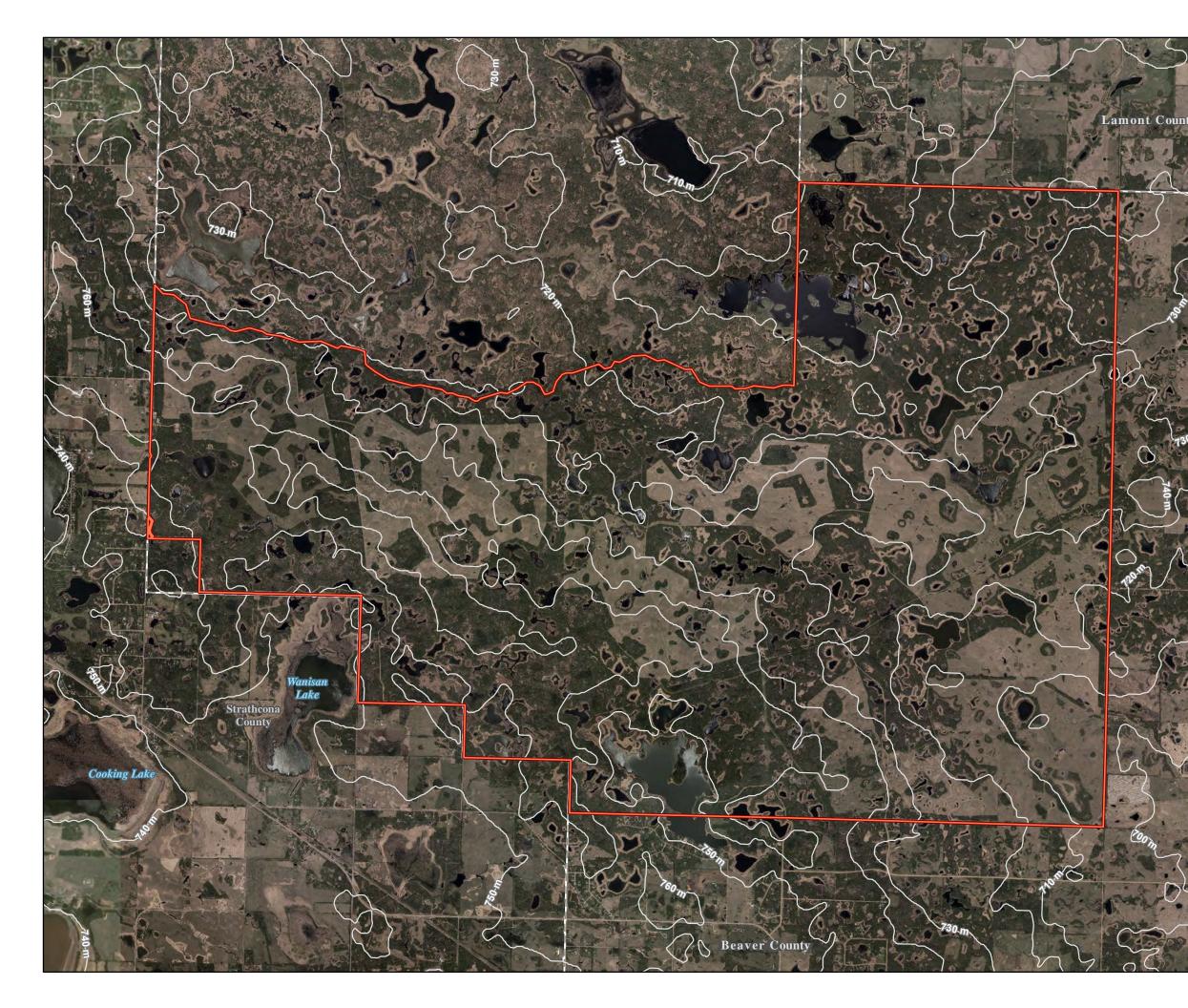
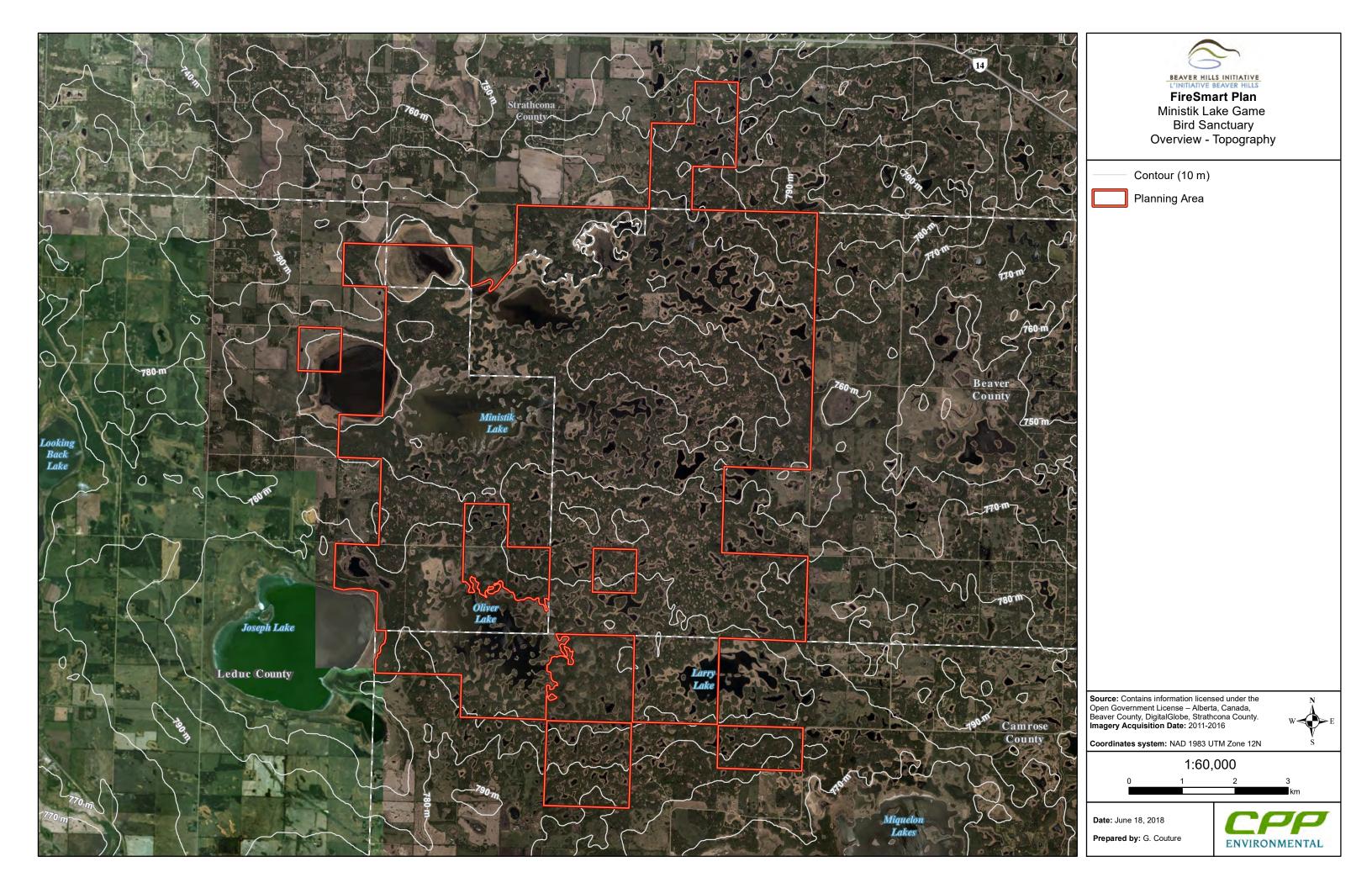
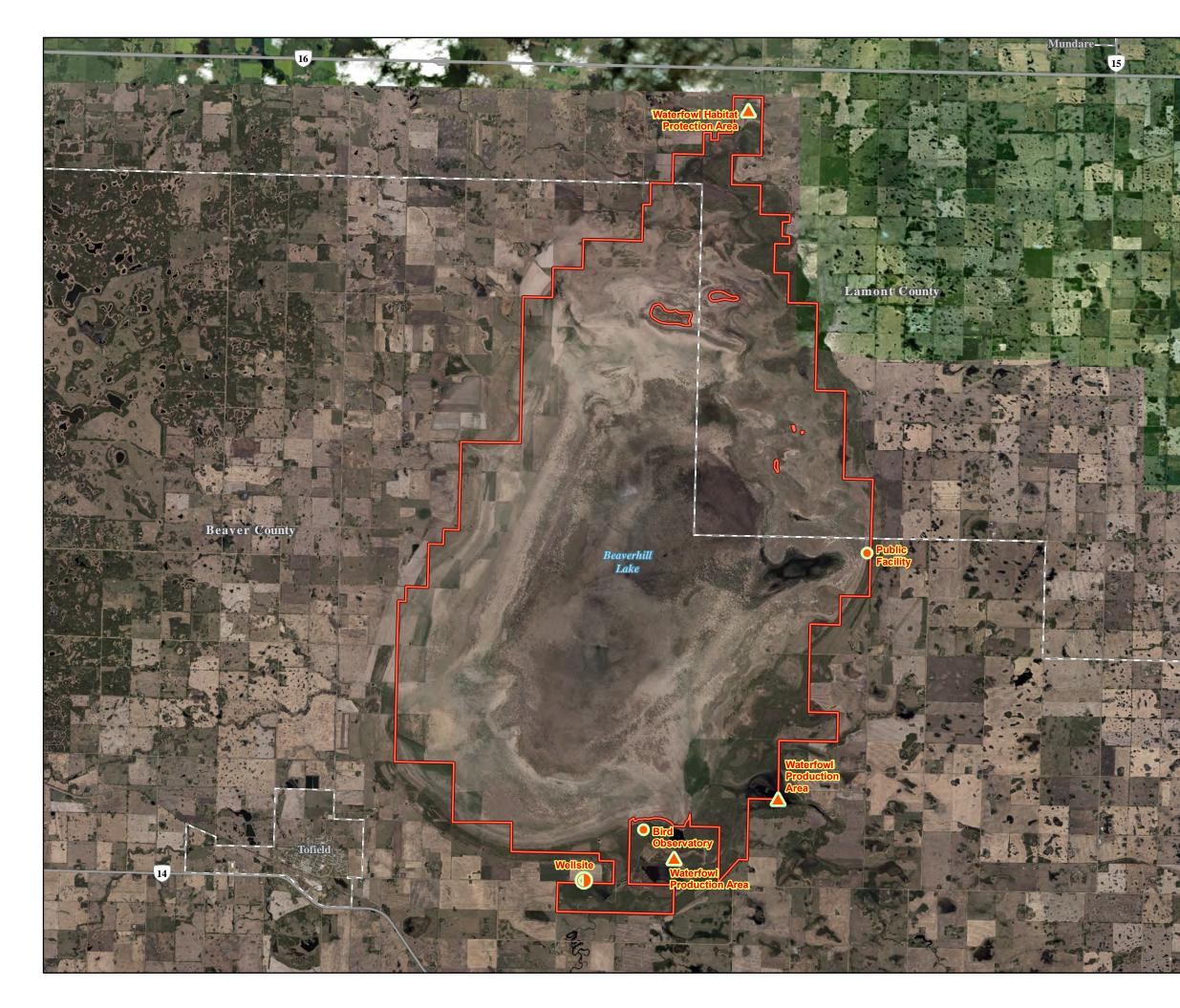
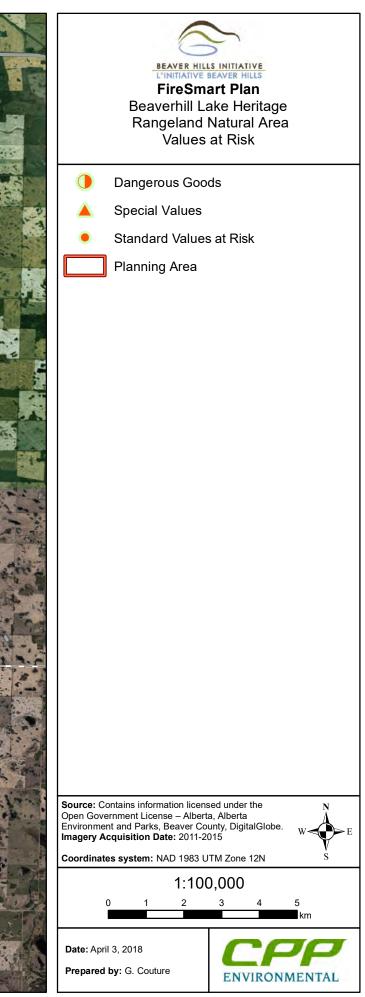


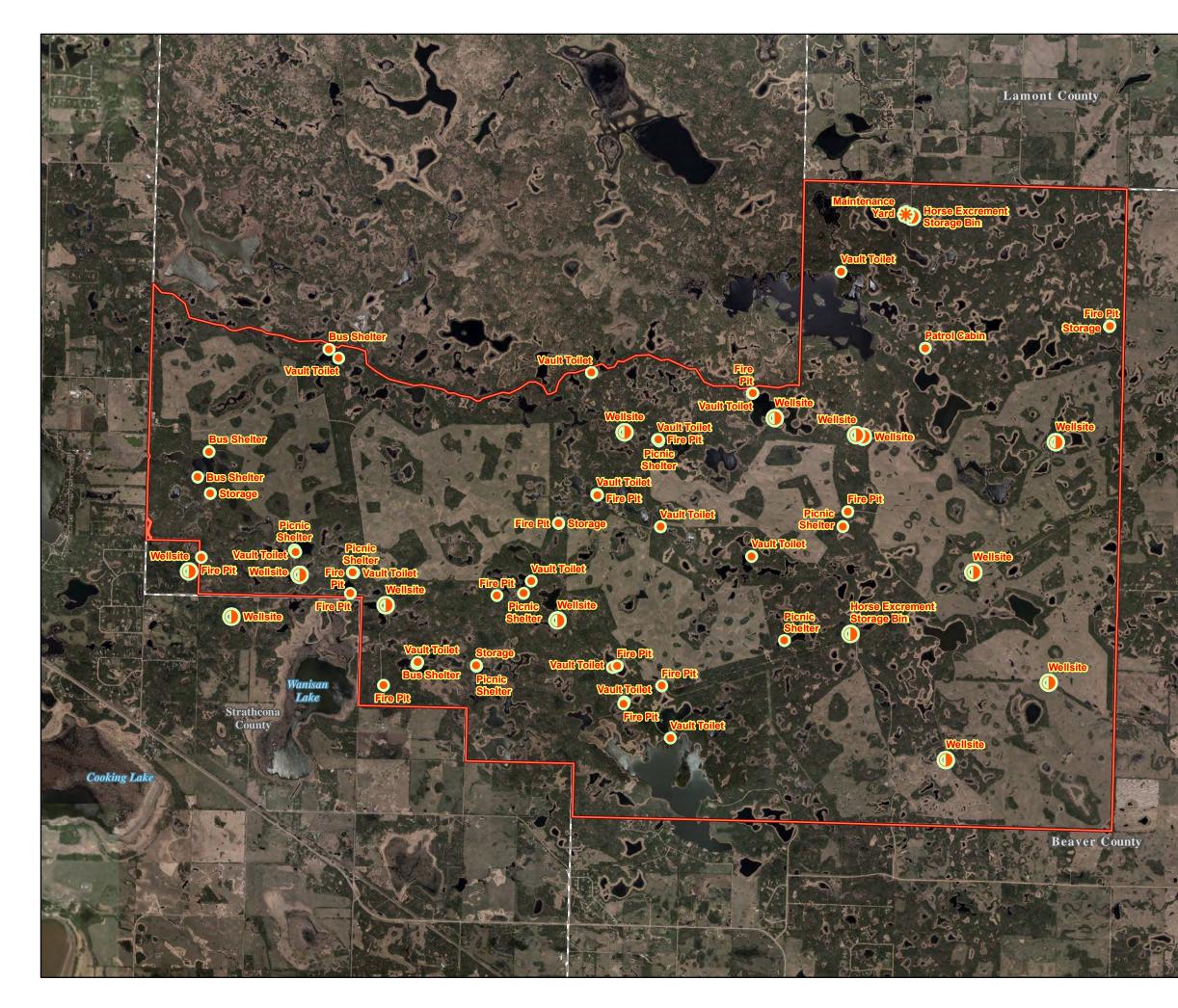
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Appendix F2: Values at Risk Maps

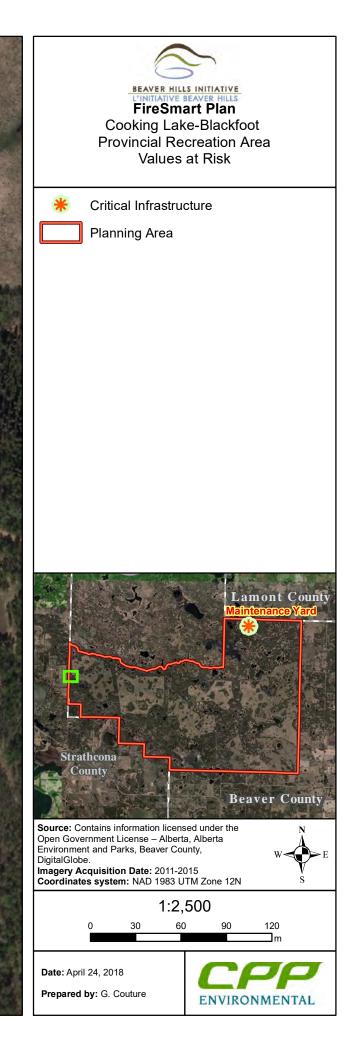


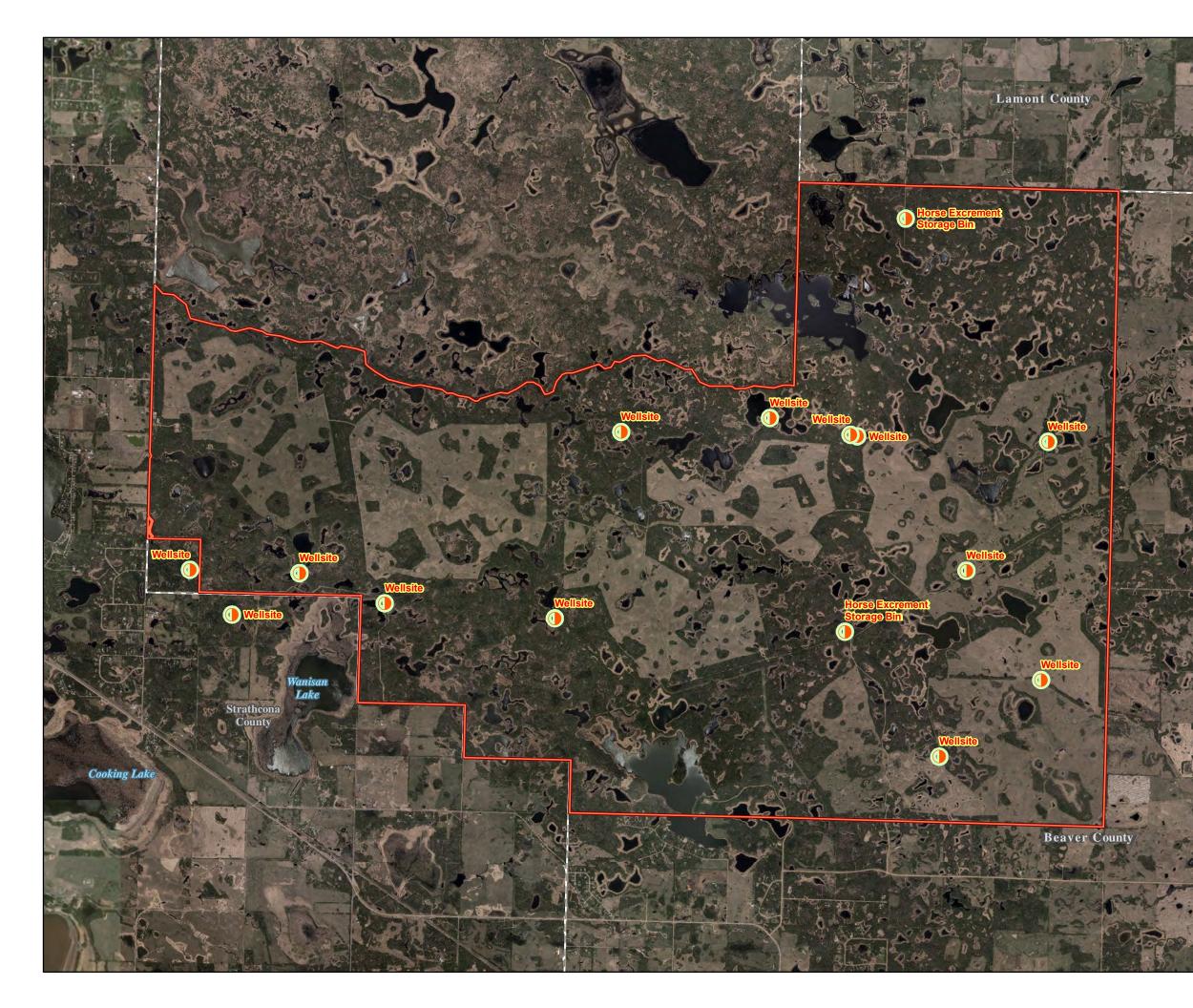


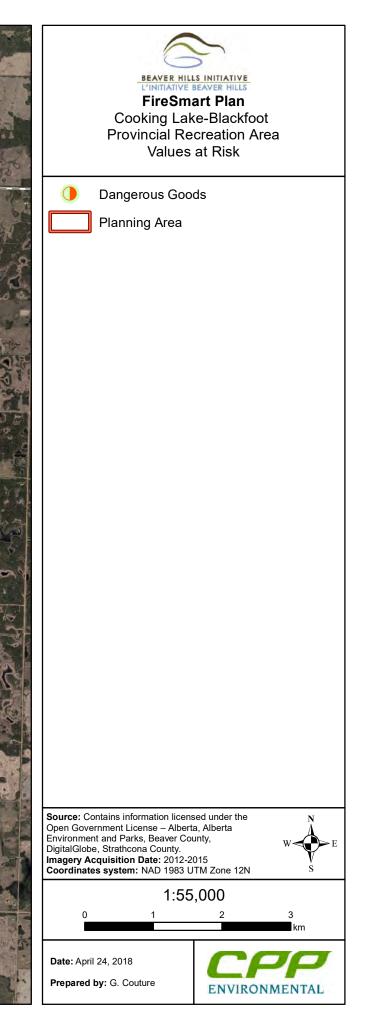








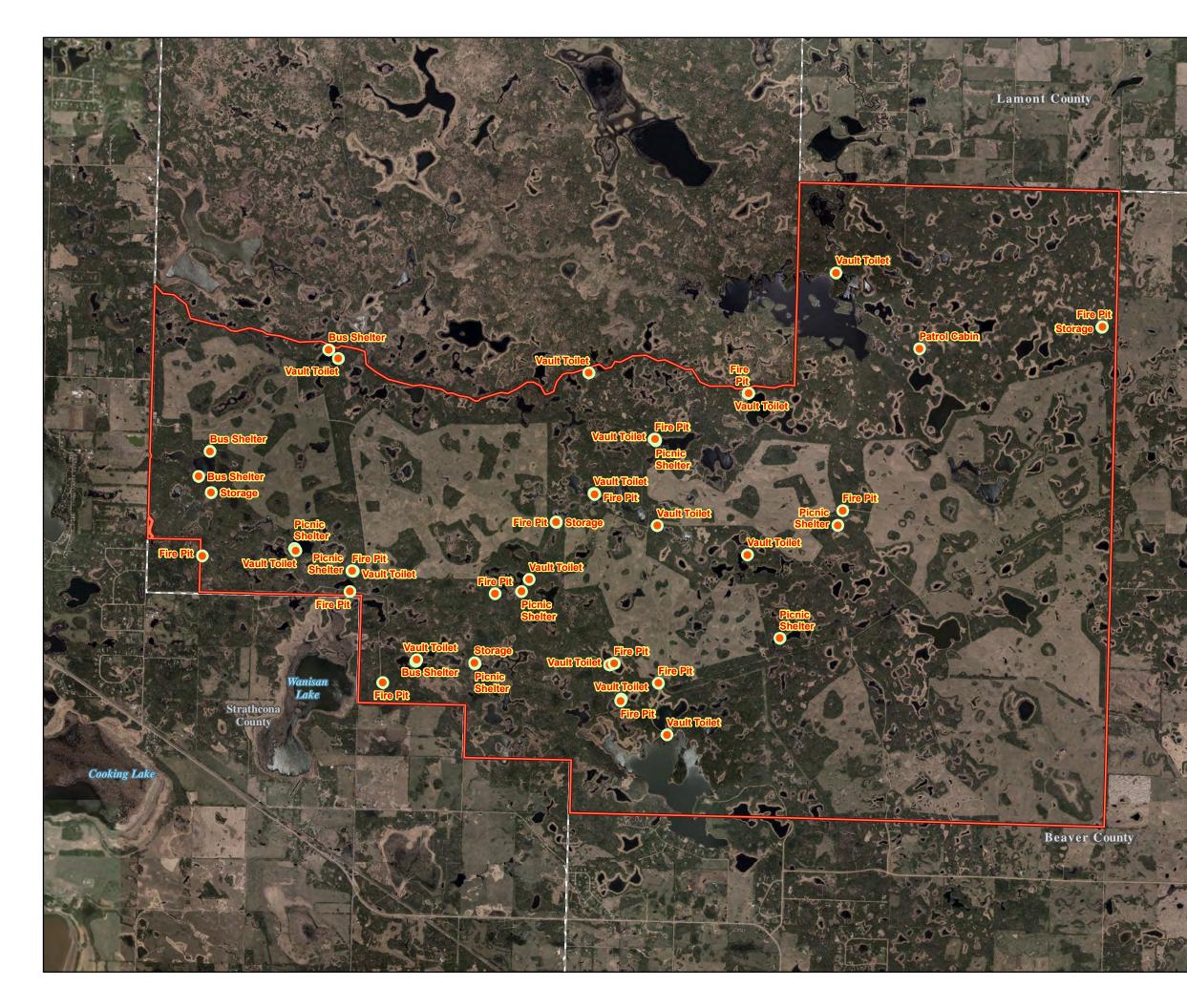








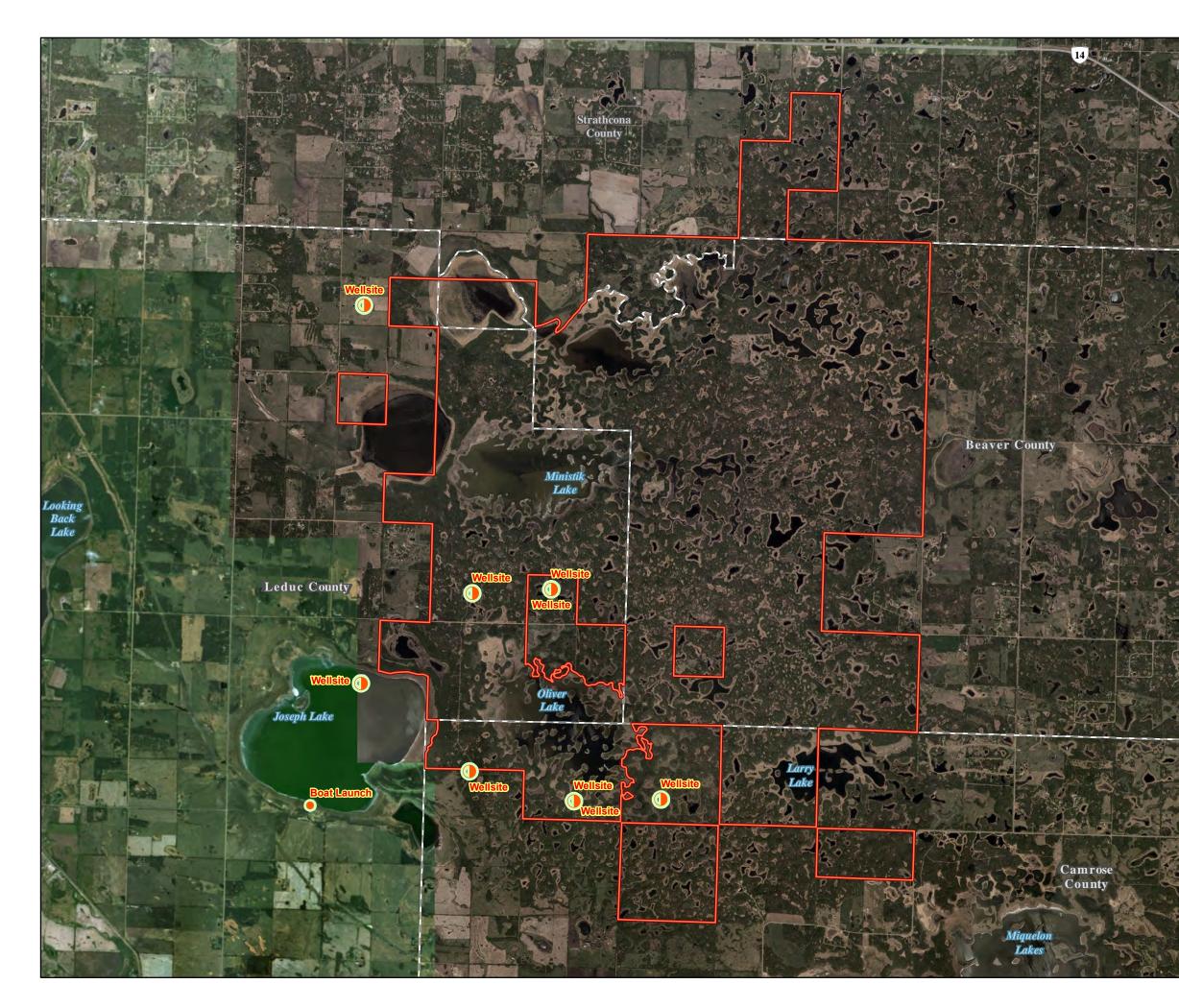


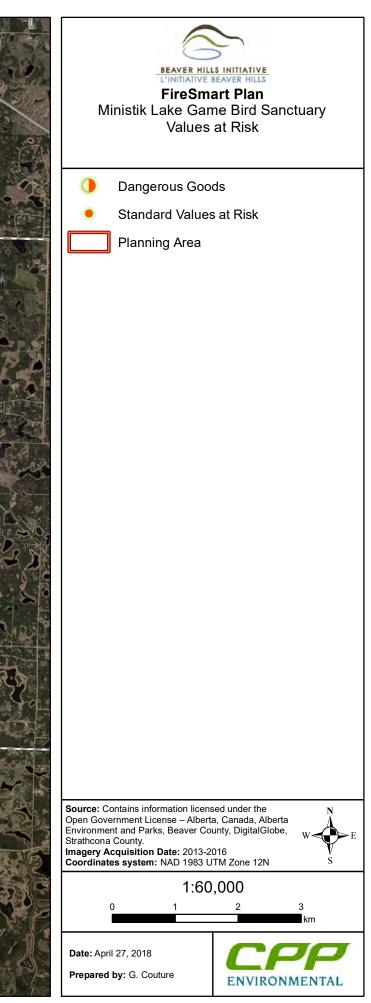




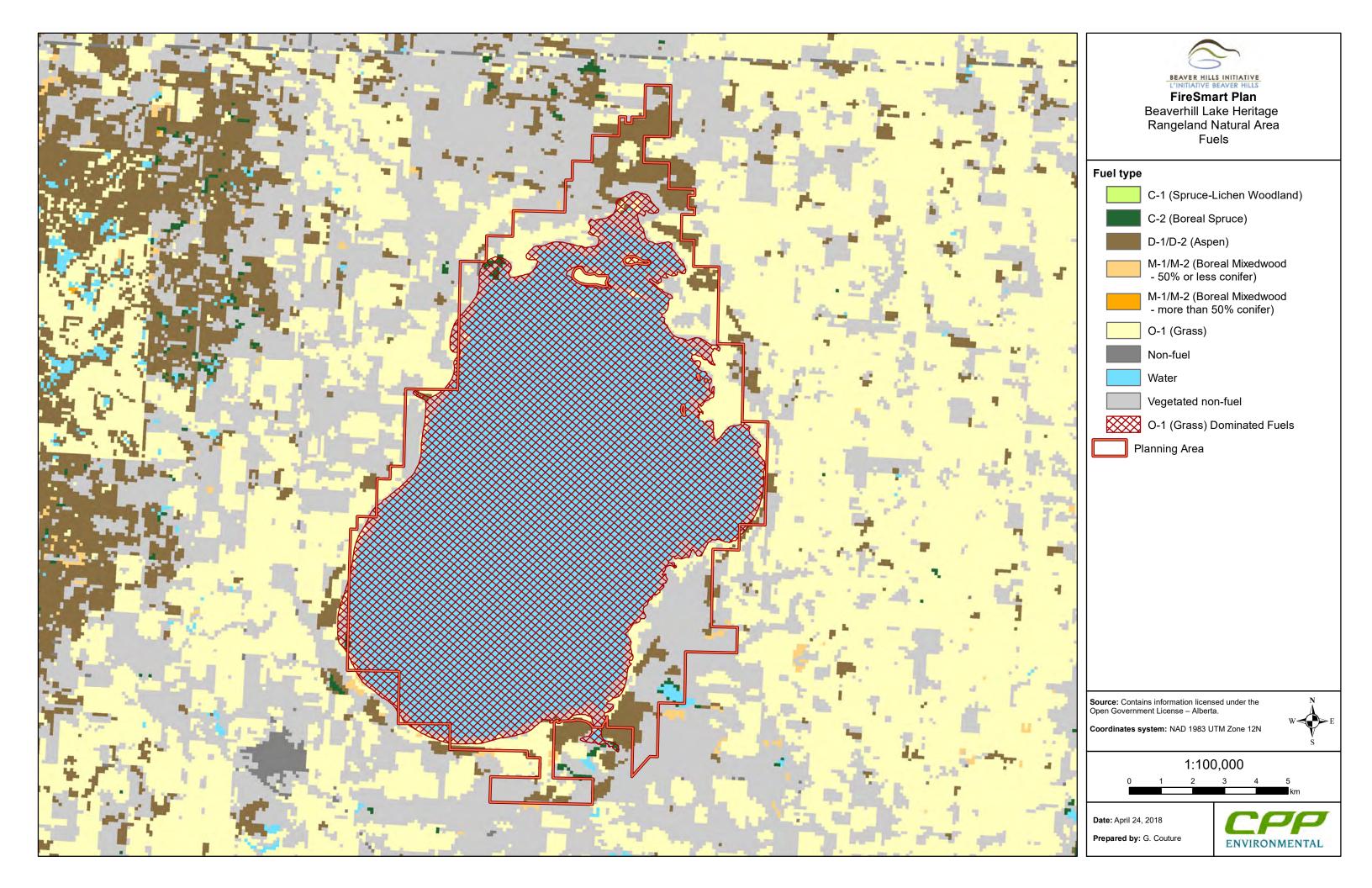


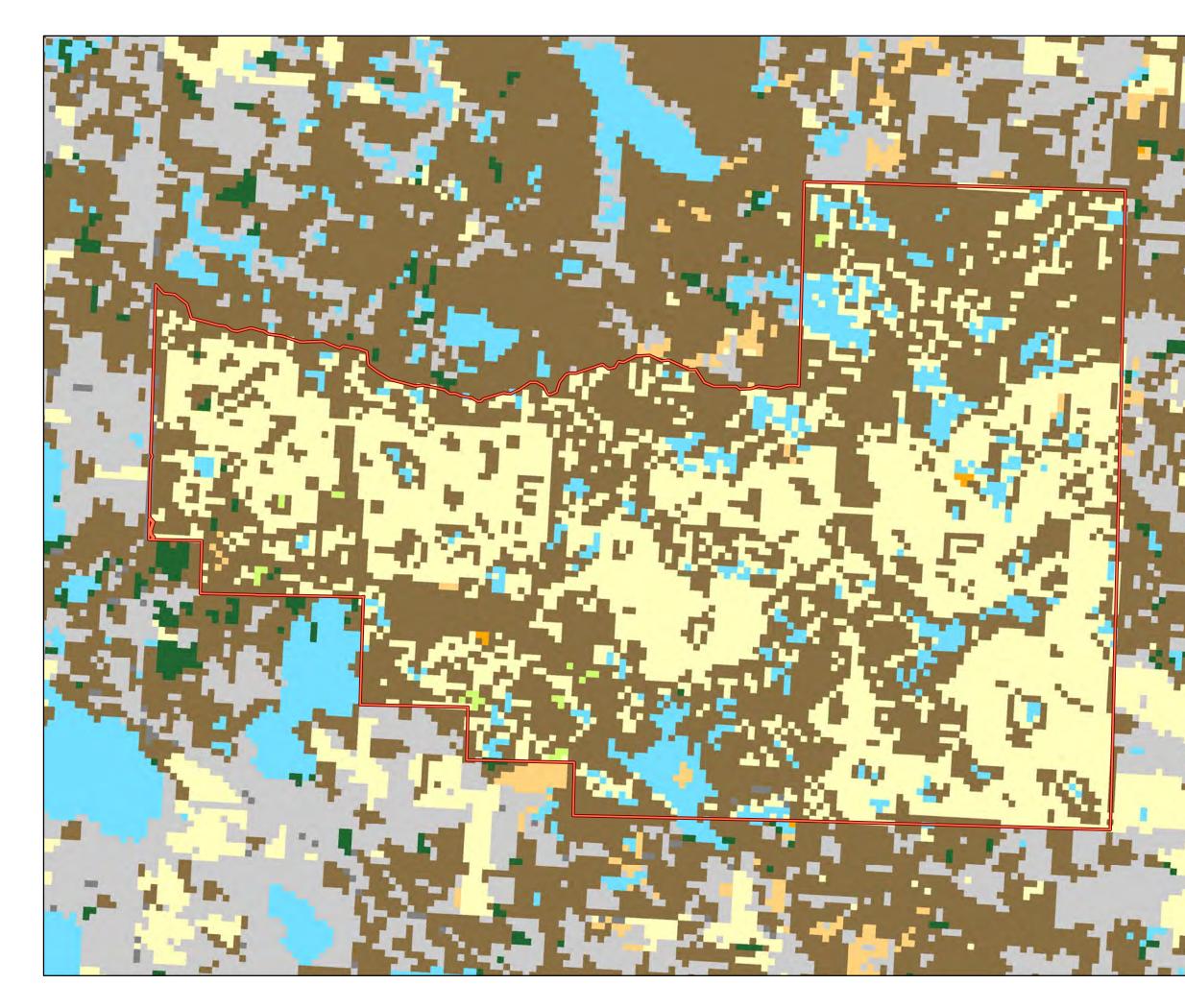


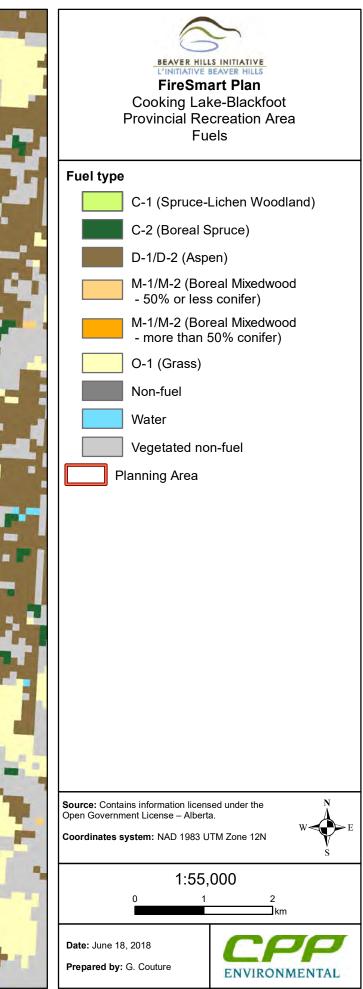


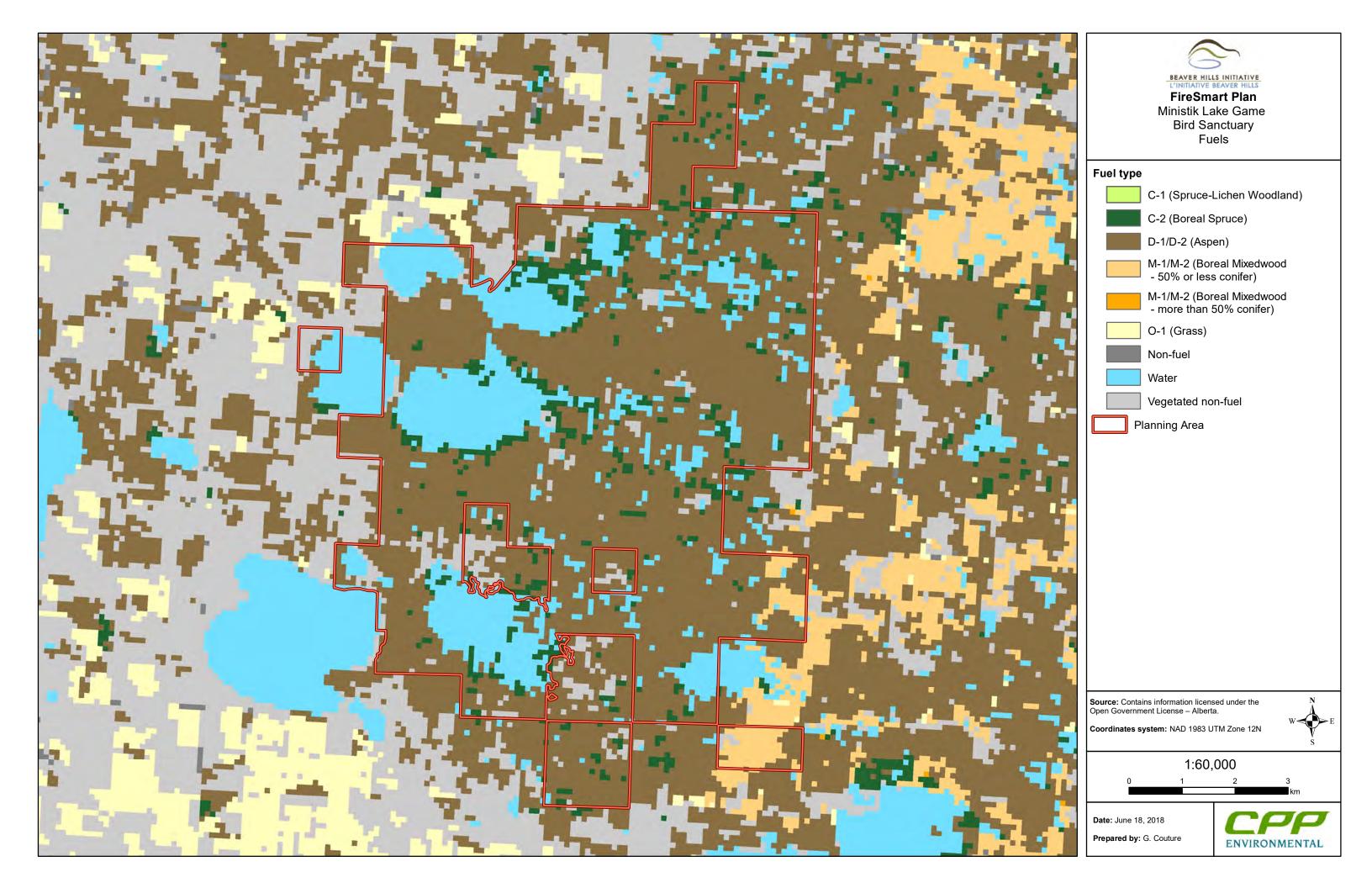


Appendix F3: Fuels Maps





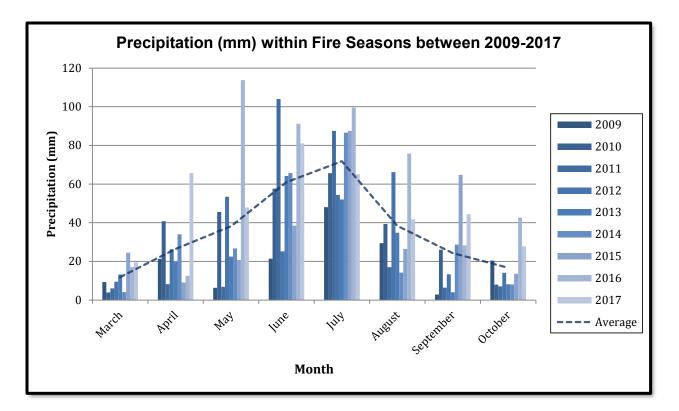


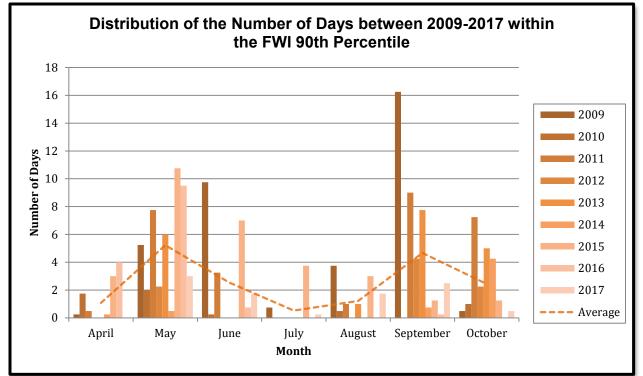


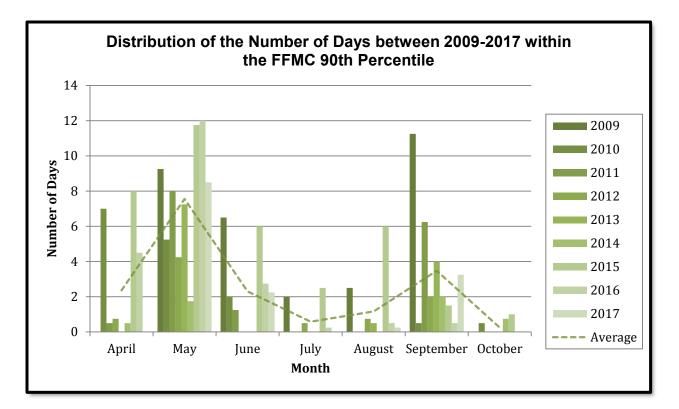
Appendix F4: Fire Season Weather and Fire Indice Charts

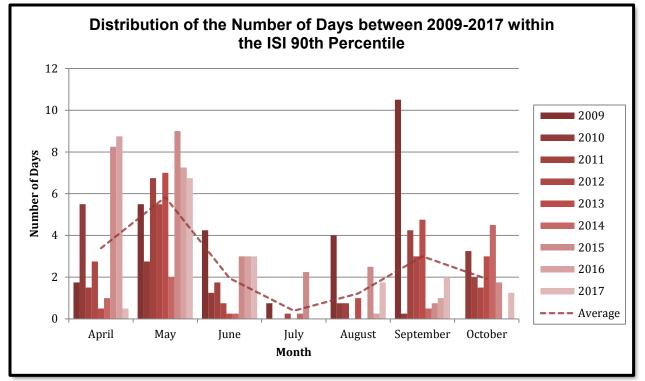
Weather data obtained from the following AGDM Weather Stations (March 1, 2009 – October 31, 2017):

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- Edmonton South Campus U of A
- Elk Island Nattional Park
- Mundare

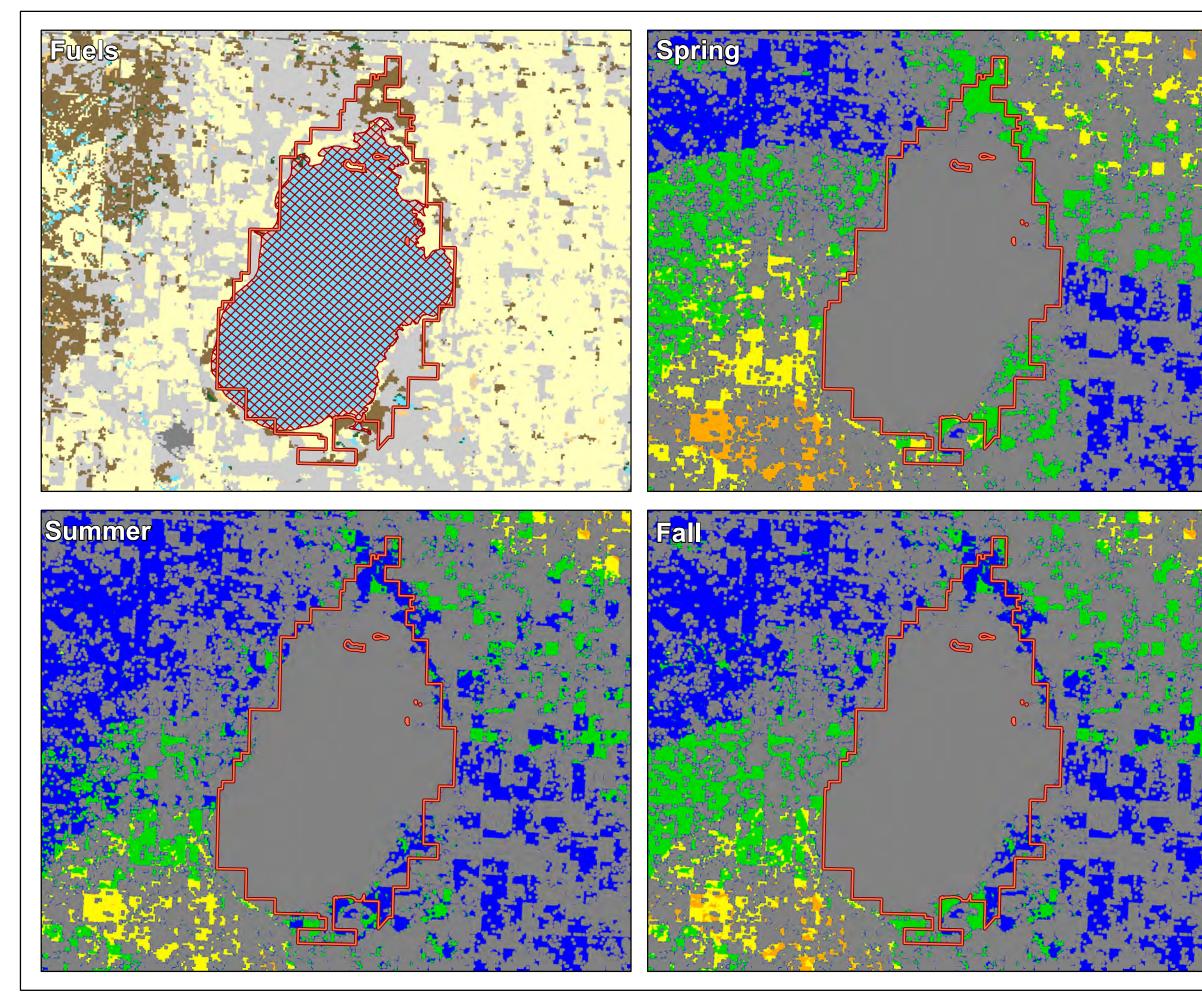


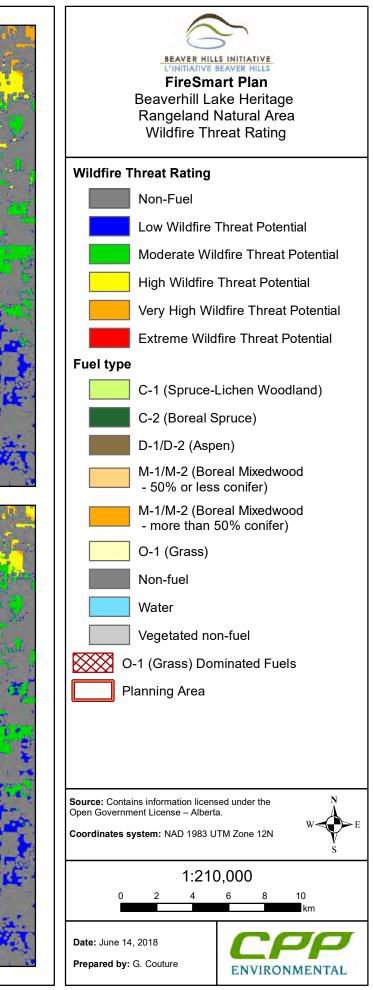


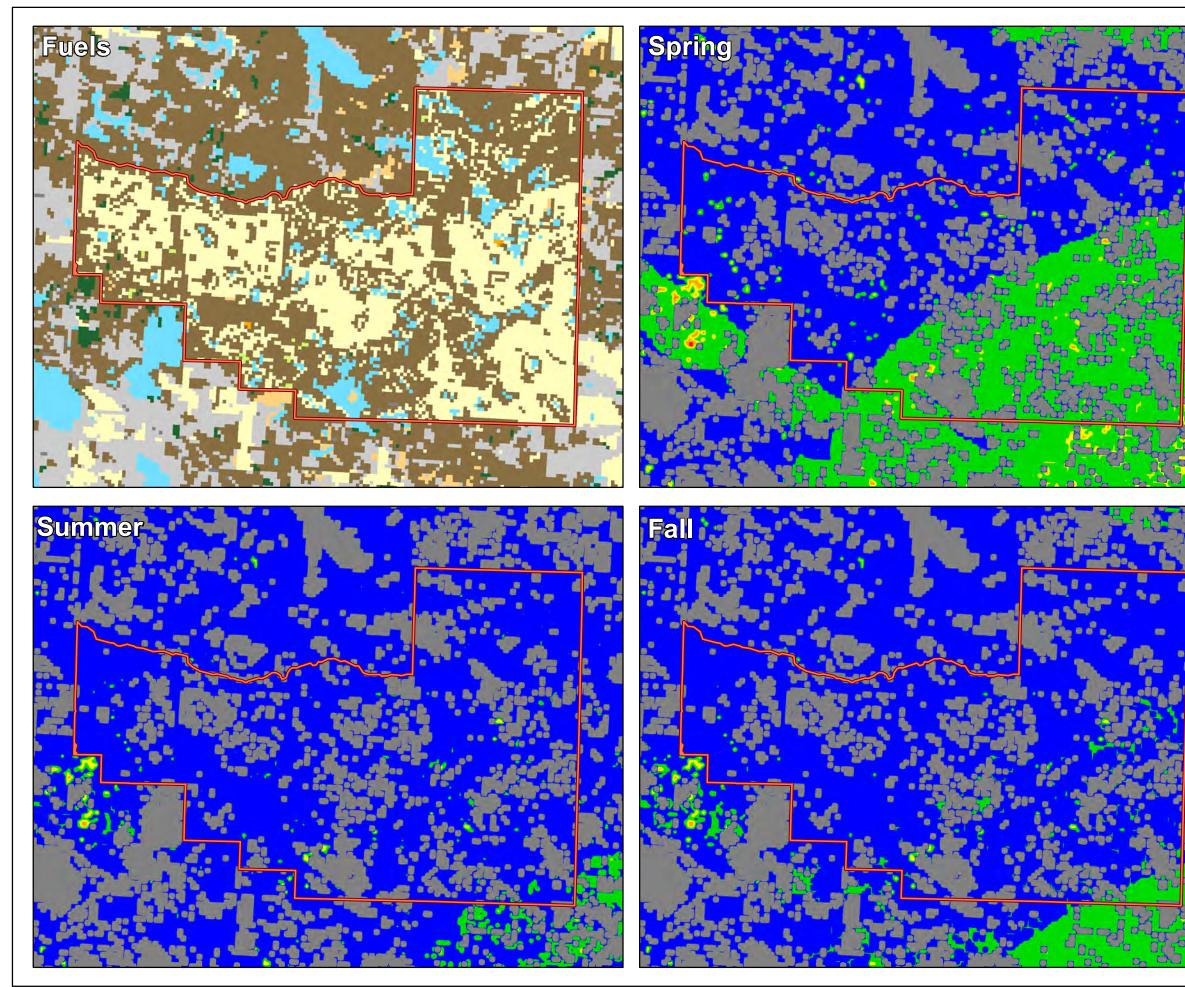


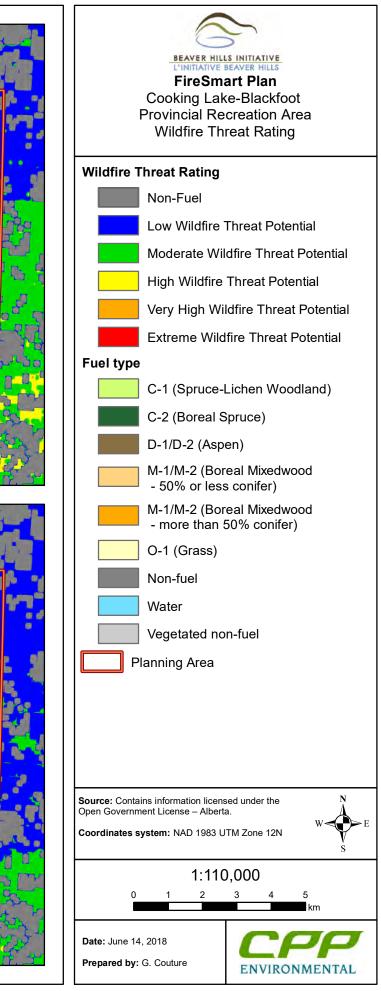


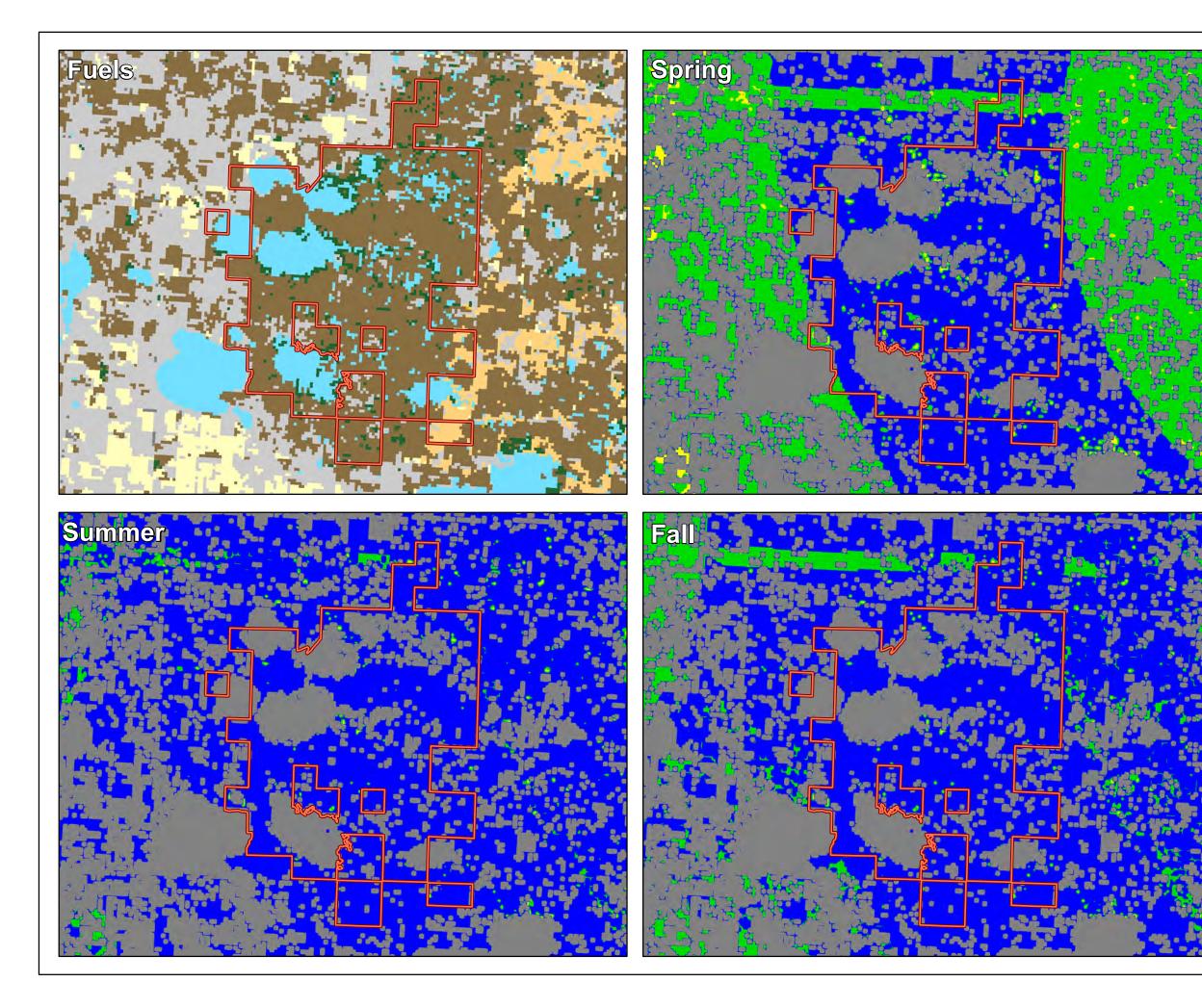
Appendix F5: Wildfire Threat Rating Maps

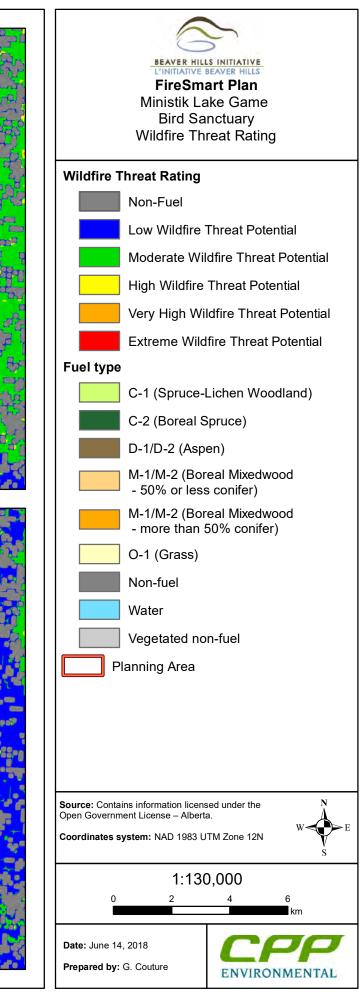




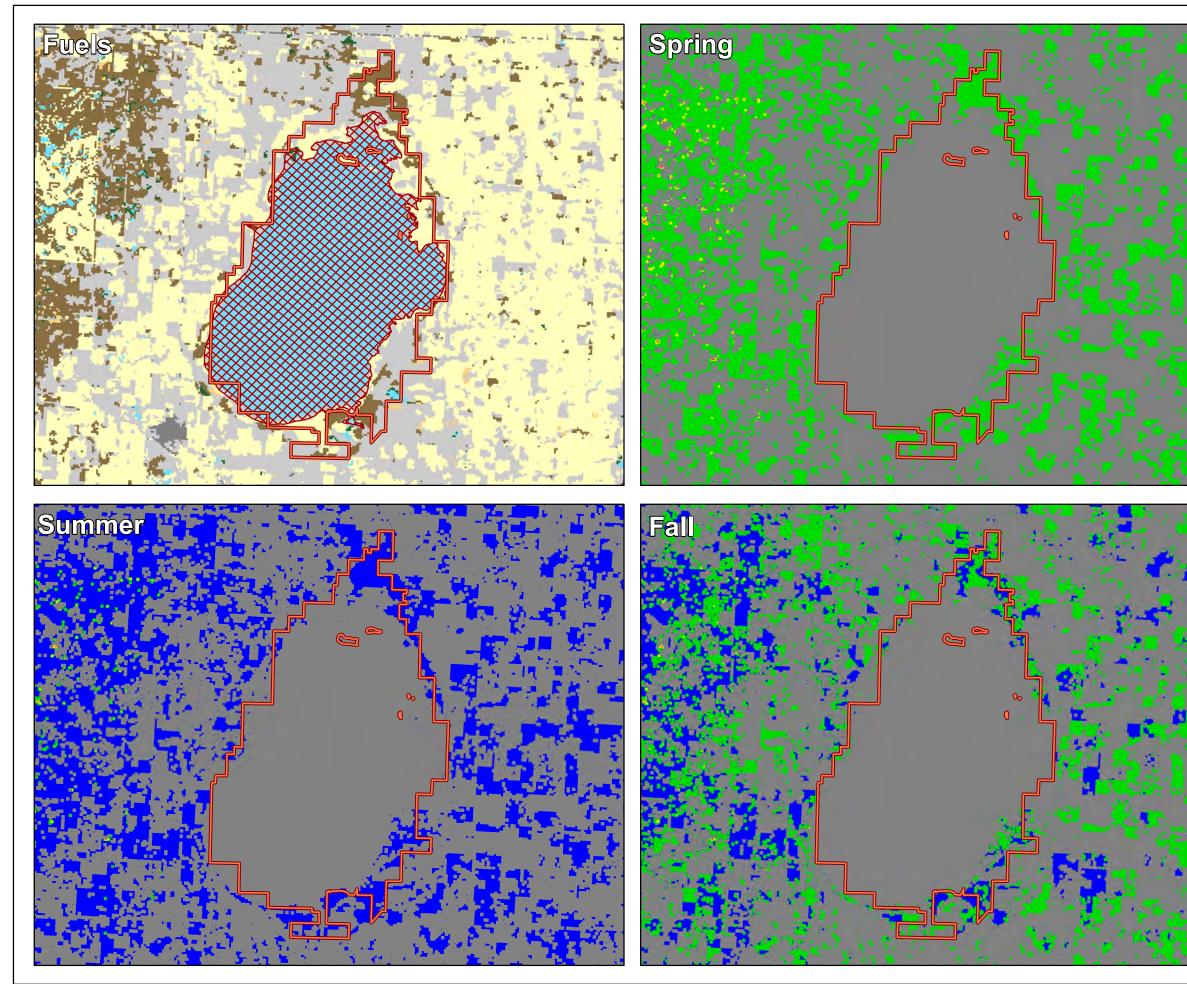


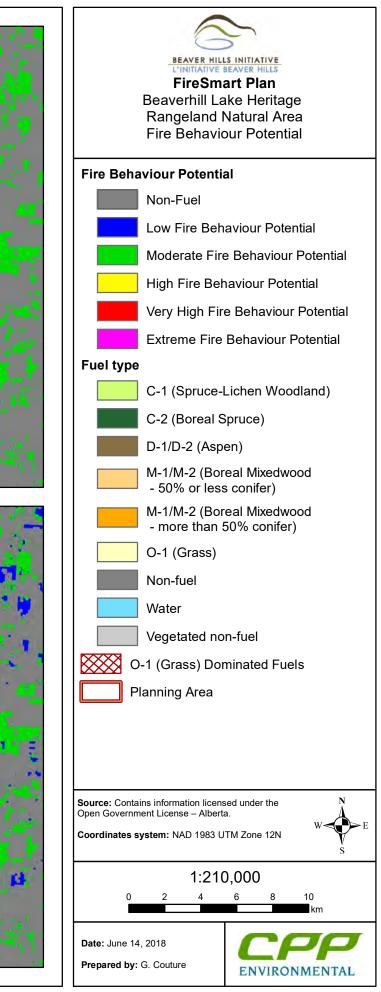


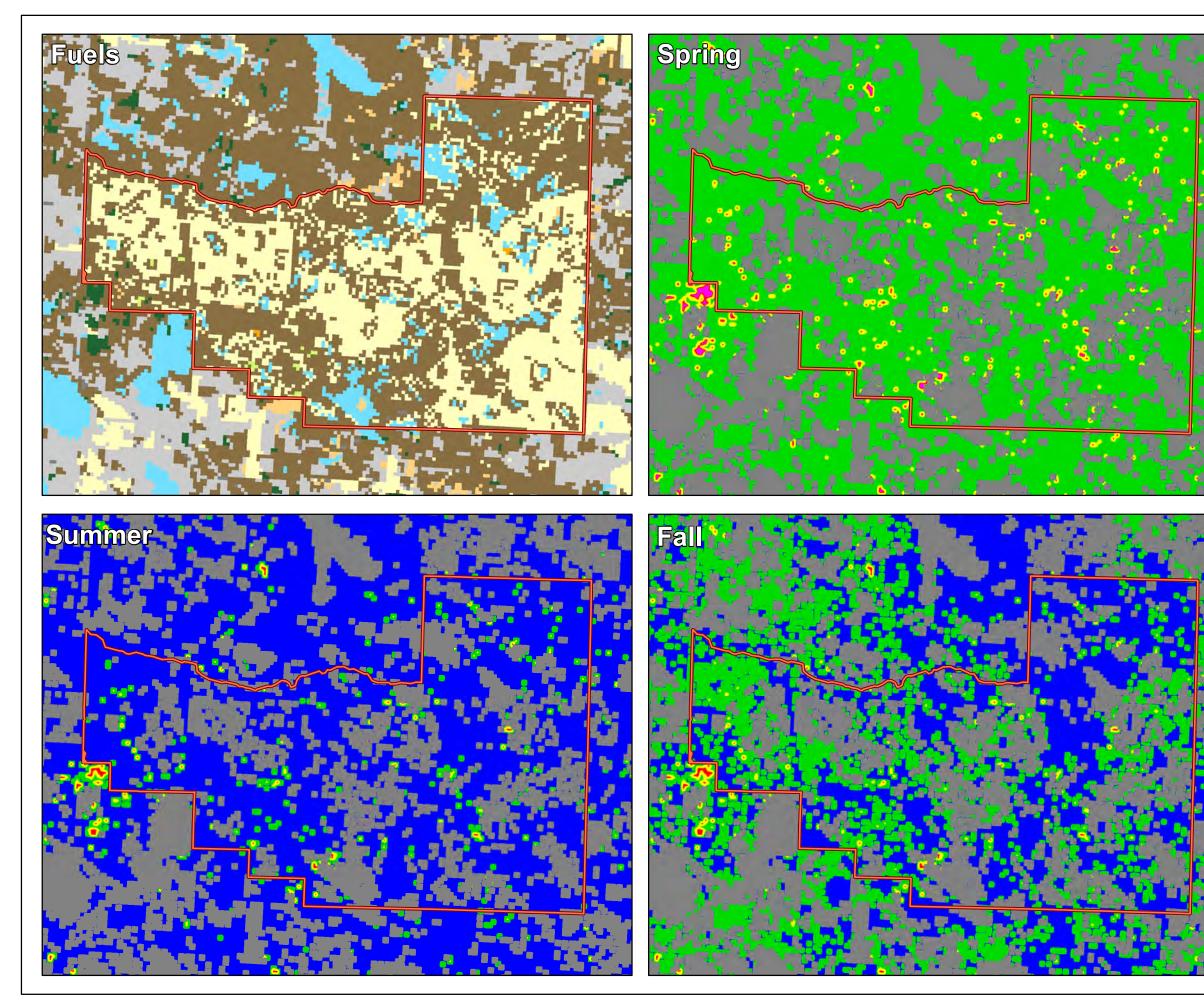


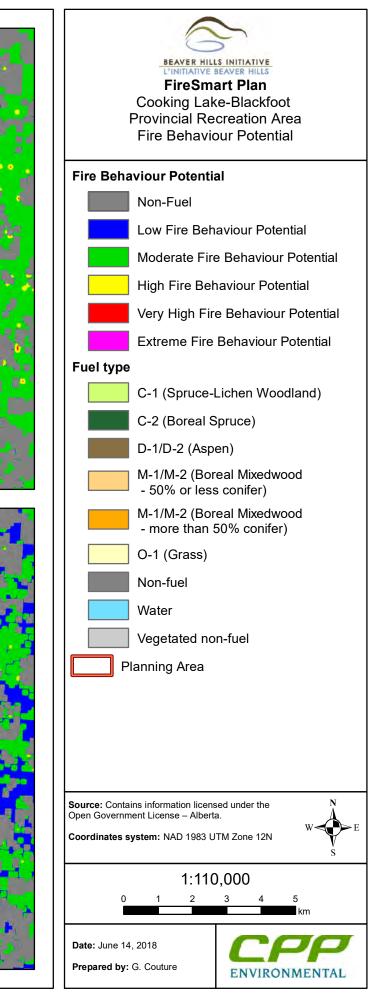


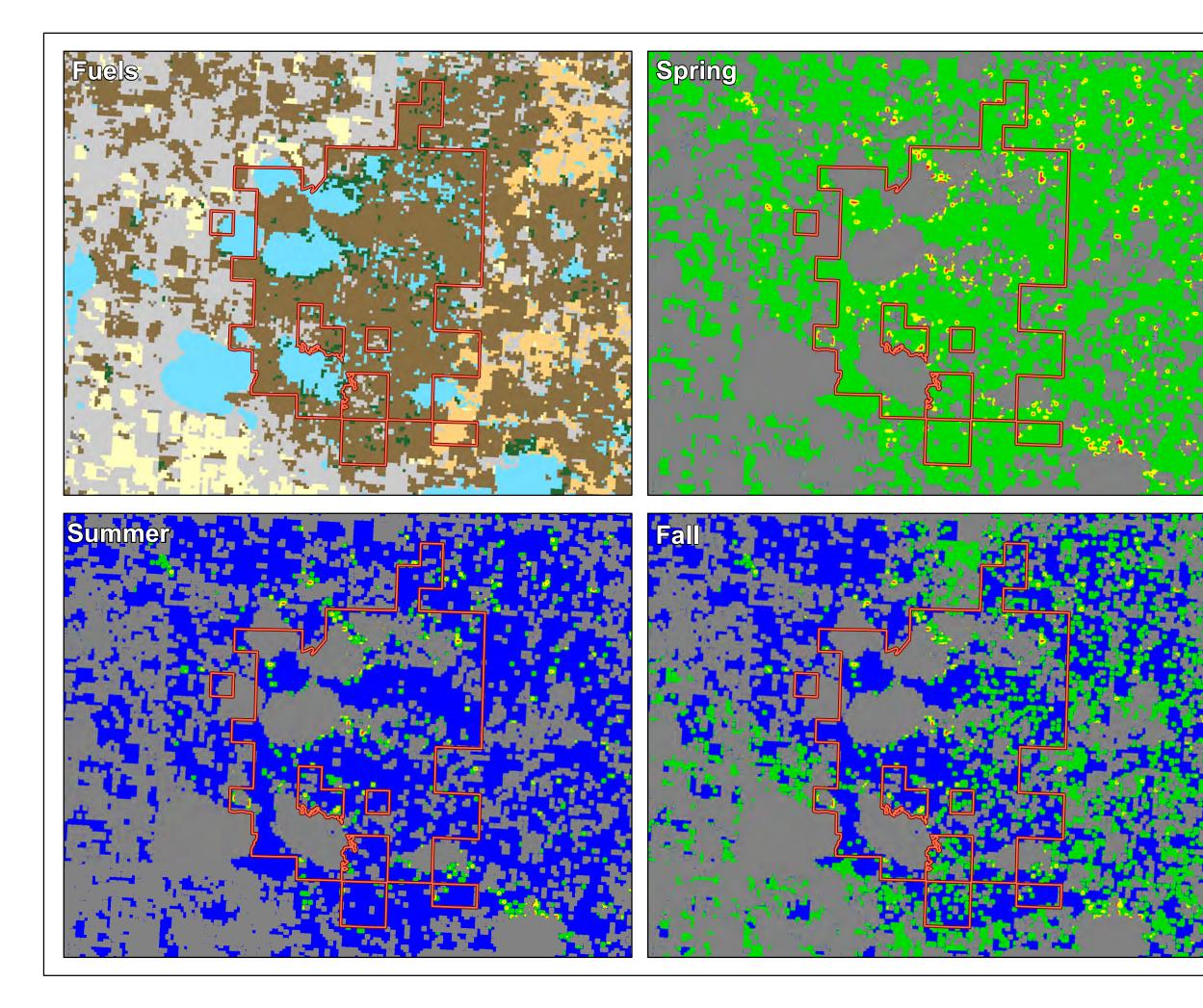
Appendix F6: Wildfire Behavior Potential Maps

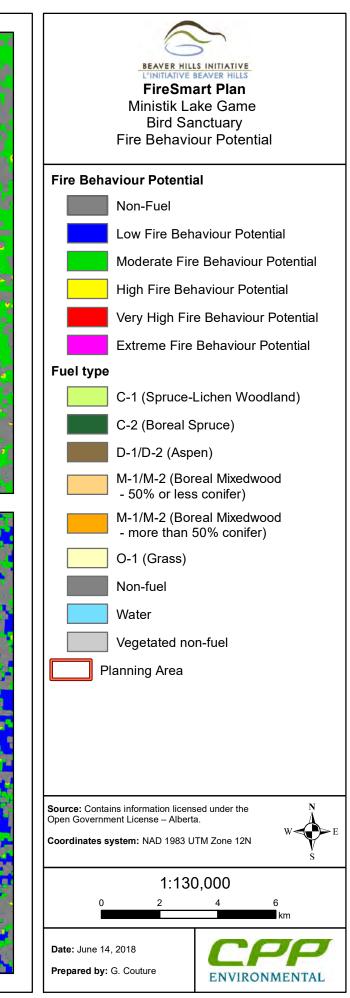




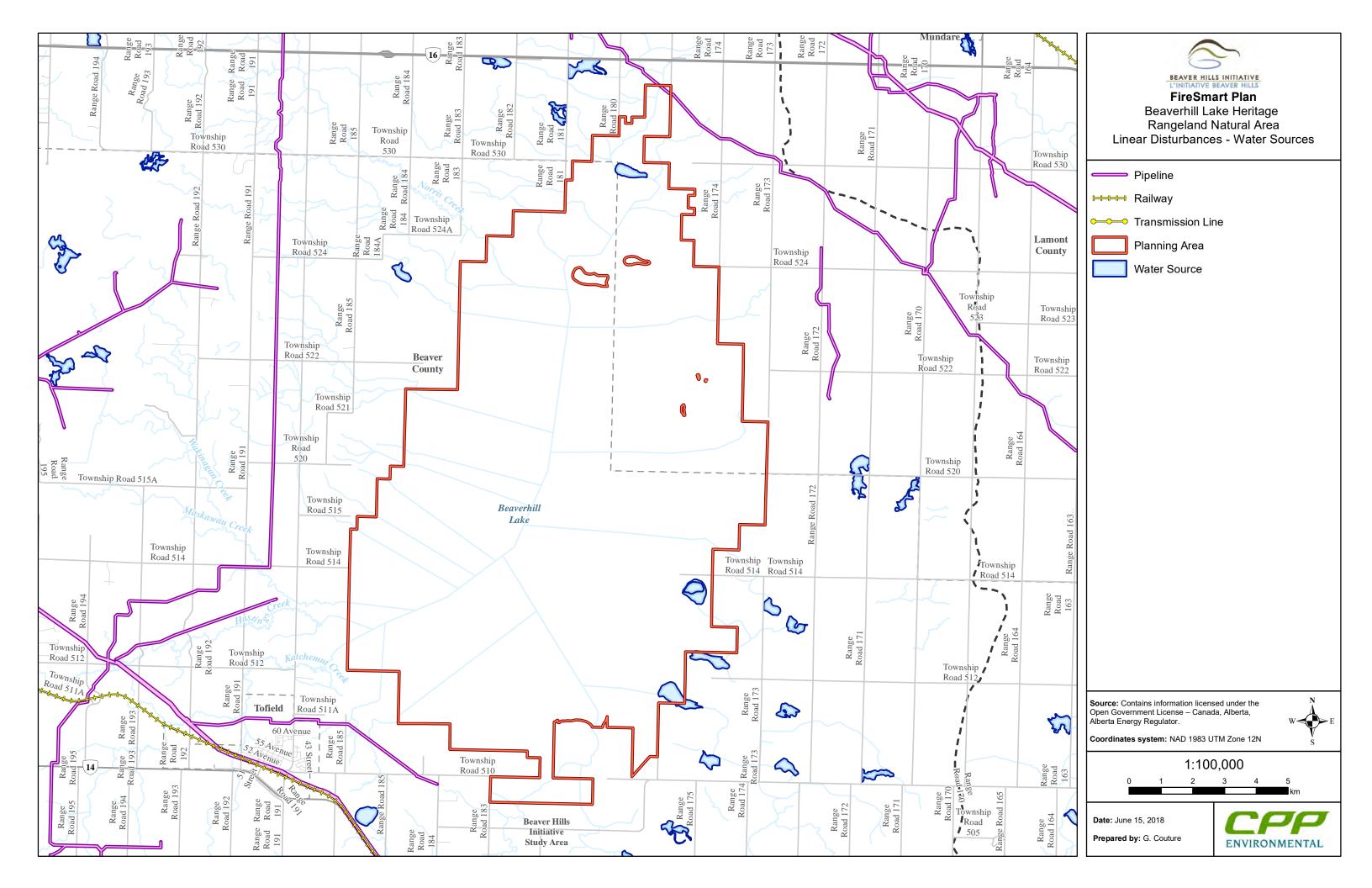


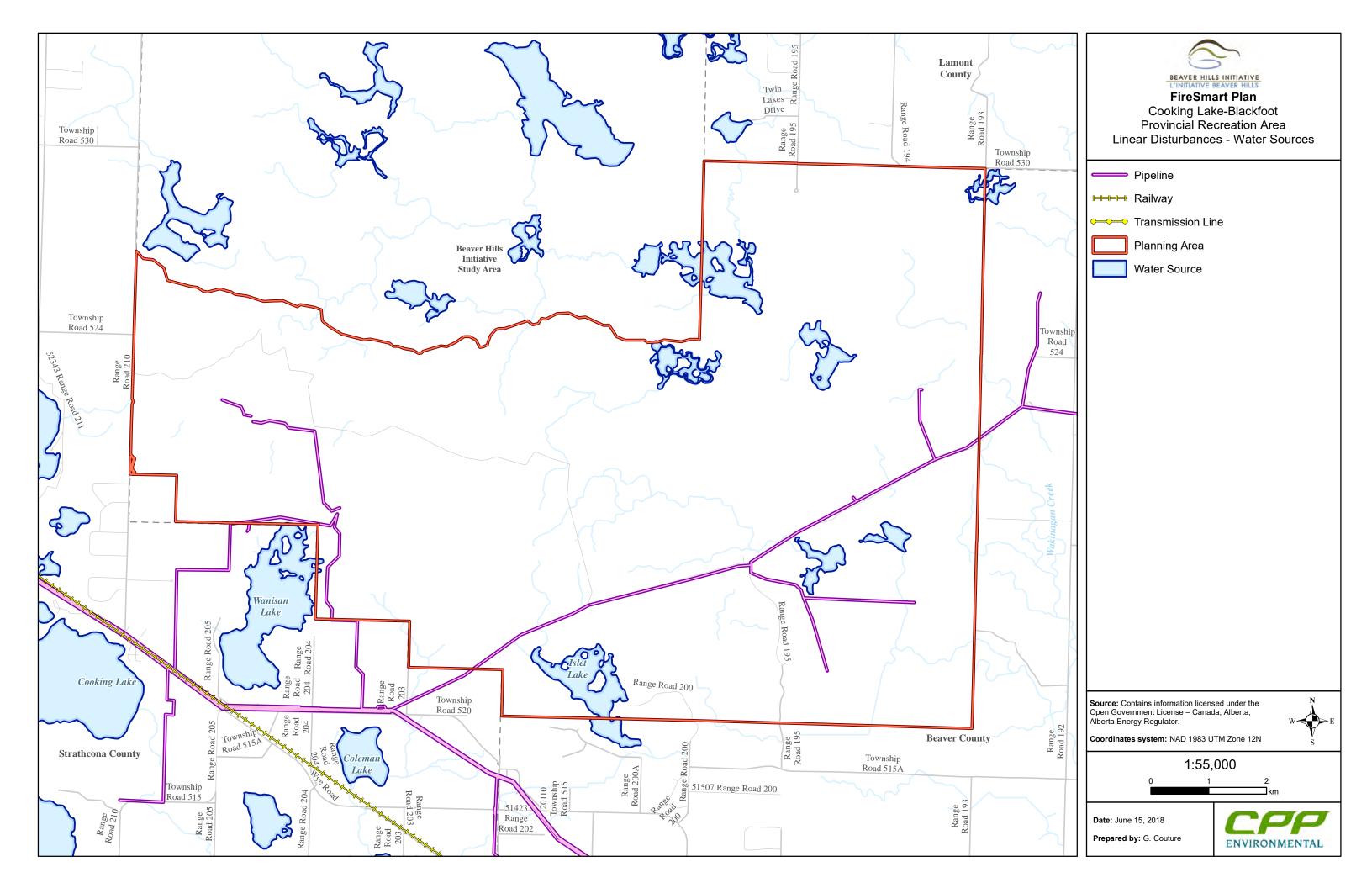


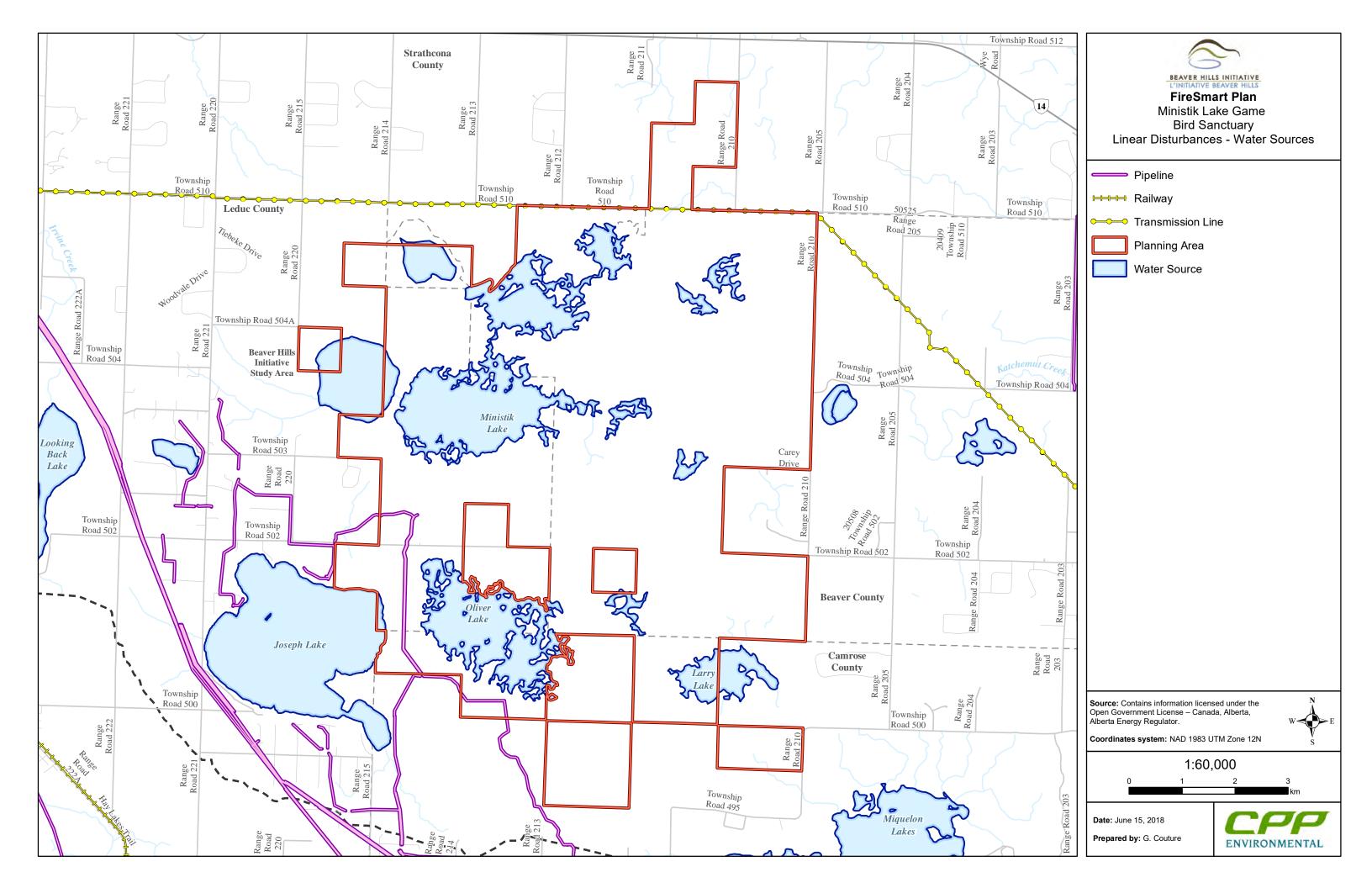




Appendix F7: Linear Disturbance and Water Source Maps







3. Prometheus Fire Model

Prometheus is a wildfire growth model that is widely utilized across Canada (Tymstra et al., 2010). The model was implemented within this analysis to better understand how a fire may be influenced by the fuel types, weather, and topography within the planning area. Prometheus simulations assist by allowing for the analysis of: fire intensities, sizes, ignitions points, weather conditions, and thus, overall consequence of a wildfire within the project area.

This section includes a general overview of vegetation fuels within the BHI study area and a description of the Prometheus simulations.

BHI Vegetation Fuel Types

The Beaver Hills area is located in the central parkland and dry mixedwood sub-regions of Alberta. Forests within these sub-regions are characterized by trembling aspen (*Populus tremuloides*), white spruce (*Picea glauca*), balsam poplar (*Populus balsamifera*), black spruce (*Picea mariana*), and white birch (*Betula papyrifera*). The area is part of the Cooking Lake Moraine, this moraine is comprised of hummocky "knob and kettle" terrain that creates variable fuel types and a large quantity of pothole waterbodies.

Fuel types within the planning area consists of small patches of deciduous forests. Agricultural land is common on the landscape and makes up most of the vegetated non fuel grass fuel types. Grass vegetation is present and common, and is present on utility corridors, open fields, right-of-ways, and water course channels or ditches.

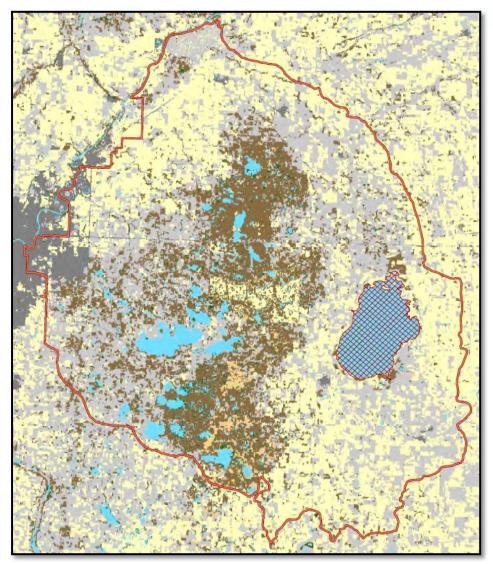
Vegetation fuel data was acquired from the Alberta Agriculture and Forestry (AAF) Fireweb website. Field assessments, satellite imagery, and google earth were used to compare against the provincial vegetation fuel data.

CFFDRS FBP	Common Language	Fuel Coverage in the BHI Study Area						
System Fuel Types	Equivalent	ha	%					
D1/D2	Aspen	81,054	21.0					
M1/M2	Boreal Mixedwood	4,219	1.0					
01	Grass	11,9219	31.0					
C1/C2	Spruce-Lichen and Boreal Spruce	3,371	1.0					
Vegetated Non-Fuel	Vegetated Non-Fuel	134,095	35.0					
Non-fuel	Non-Fuel	37,899	10.0					

Table 6.Canadian Forest Fire Danger Rating System Fire Behavior Prediction (CFFDRS FBP) System Fuel Types for the BHI study area



Beaver Hills Initiative FireSmart Plan, August 2018



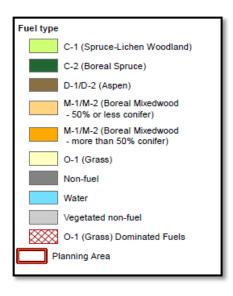


Figure 2: Fuels Map for BHI Study Area



Prometheus Simulations

As with all models, Prometheus has practical limitations and assumptions. The assumptions made for the analysis are listed in the table below. Three simulations were completed for this plan. All ignition points were selected in mixedwood (M1/ M2) stands with continuous fuels.

Prometheus Assump	tions
Model Assumption	 No fire suppression Fuel types consistent Forest and grass fuels considered Barriers include waterbodies and roads (10 or 8 meter width) Terrain effect was enabled Breaching was enabled
User Assumption	 Grass 100% cured and no green-up in May Scenario start at mid-morning to mid-afternoon 25.4 or greater FWI will support fire growth. Weather in BHI does not vary from the Oliver AGDM, Mundare AGDM, Holden AGDM, Elk Island National Park, Edmonton South Campus UA, Edmonton Blatchford, and Camrose weather stations. Topography - elevation and aspect are not considered Non-fuel area has 25% or less vegetation

Table 7: Assumptions implemented in the Prometheus Simulations



Beaver Hills Initiative FireSmart Plan, August 2018

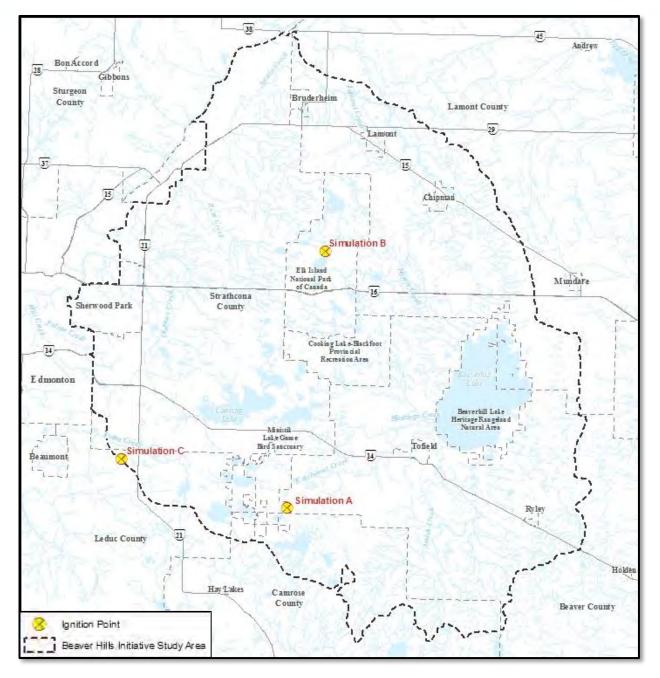


Figure 3: Prometheus Simulations Ignition Points



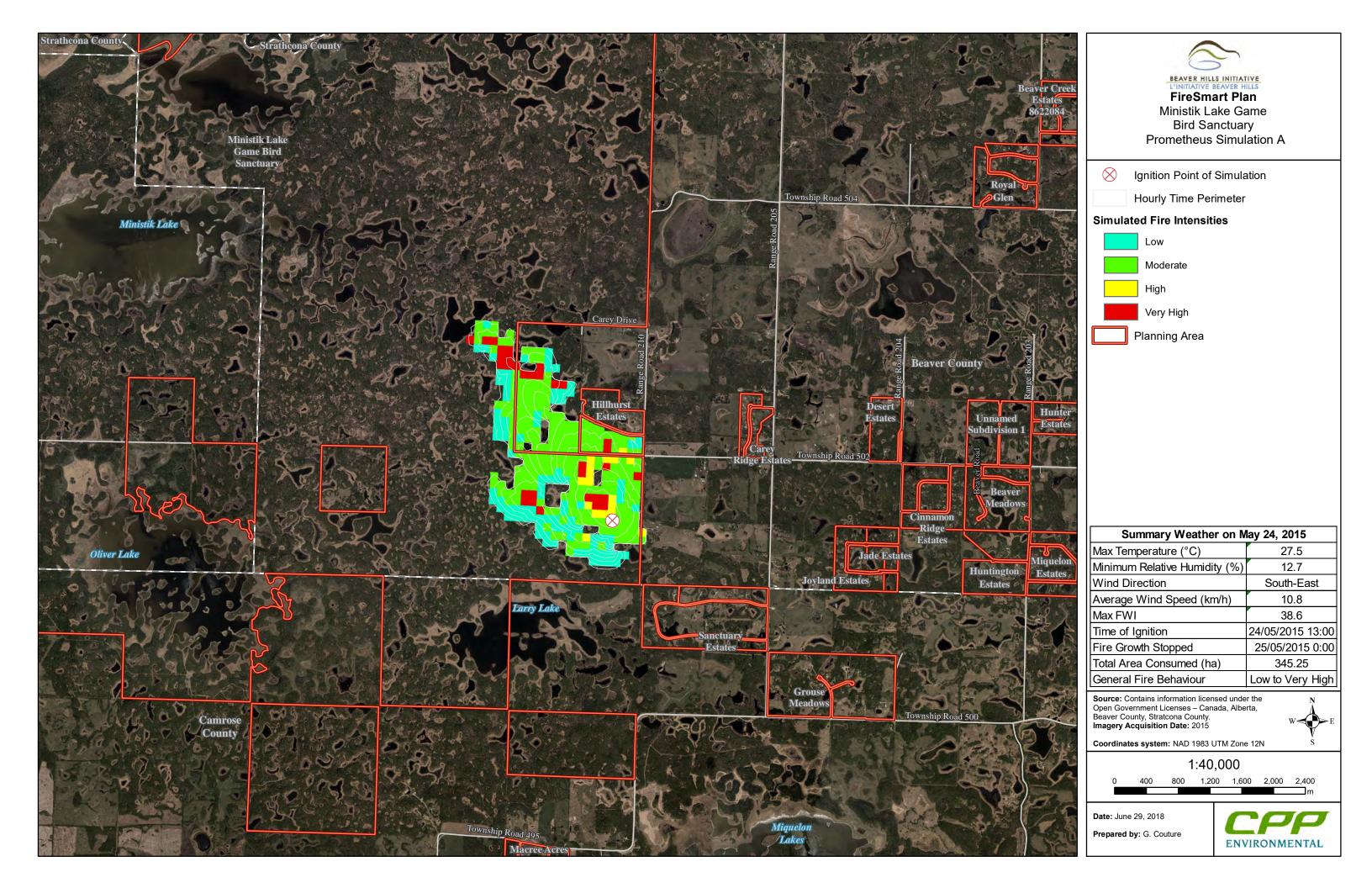
Simulation A:

The Prometheus simulation illustrates an extreme fire event (minimum FWI in the 90th percentile or greater) within the available fuel types. The simulation was developed under spring conditions (May 24th, 2015) and had a burn time of eleven hours (13:00 to 00:00). The ignition point was located within the Ministik Lake Game Bird Sanctuary and directly south of Hillhurst Estates. Simulated fire intensity varied from low to very high.

Prometheus Simulation A

Time Step	Date and Time	Temp (°C)	RH (%)	Precip (mm)	WS (km/h)	WD (deg)	HFFMC	HISI	DMC	DC	BUI	HFWI	Area (ha)	Perimeter (m)	Active Perimeter (m)	Time to Completion	FFMC	FWI	ISI
0	24/05/2015 13:00	25.3	12.7	0	12.0	164	94.1	14.1	63.3	140.2	63.2	31.7	0.00	1.56	1.56	11:00:00	96.3	38.6	19
1	24/05/2015 14:00	27.5	13.2	0	11.7	194	94.6	14.7	63.3	140.2	63.2	32.6	15.48	1521.31	1521.31	10:00:00	96.3	38.6	19
2	24/05/2015 15:00	27.0	13.2	0	6.6	178	94.9	11.8	63.3	140.2	63.2	28.1	43.43	3076.45	2593.87	9:00:00	96.3	38.6	19
3	24/05/2015 16:00	26.3	13.1	0	18.0	108	95.1	21.9	63.3	140.2	63.2	42.2	74.59	4426.42	3247.32	8:00:00	96.3	38.6	19
4	24/05/2015 17:00	25.5	13.9	0	14.7	126	95.2	18.7	63.3	140.2	63.2	38.2	109.63	5639.44	3694.82	7:00:00	96.3	38.6	19
5	24/05/2015 18:00	26.1	13.9	0	10.8	149	95.4	15.6	63.3	140.2	63.2	33.9	142.52	6280.62	2881.42	6:00:00	96.3	38.6	19
6	24/05/2015 19:00	24.8	17.1	0	18.8	123	95.4	23.5	63.3	140.2	63.2	44.2	164.89	7378.44	2894.28	5:00:00	96.3	38.6	19
7	24/05/2015 20:00	23.0	20.0	0	9.0	133	95.3	14.3	63.3	140.2	63.2	31.9	186.71	8713.39	3405.51	4:00:00	96.3	38.6	19
8	24/05/2015 21:00	22.1	21.9	0	7.6	156	95.3	13.2	63.3	140.2	63.2	30.3	228.14	11508.01	5413.47	3:00:00	96.3	38.6	19
9	24/05/2015 22:00	20.3	25.5	0	7.9	171	95.1	13.1	63.3	140.2	63.2	30.1	269.43	12337.41	4707.23	2:00:00	96.3	38.6	19
10	24/05/2015 23:00	18.0	29.1	0	9.3	167	94.8	13.5	63.3	140.2	63.2	30.8	311.75	14929.48	5514.17	1:00:00	96.3	38.6	19
11	25/05/2015 0:00	15.8	34.0	0	3.4	183	94.5	9.6	63.3	140.2	63.2	24.4	345.25	16323.45	5718.36	0:00:00	96.3	38.6	19





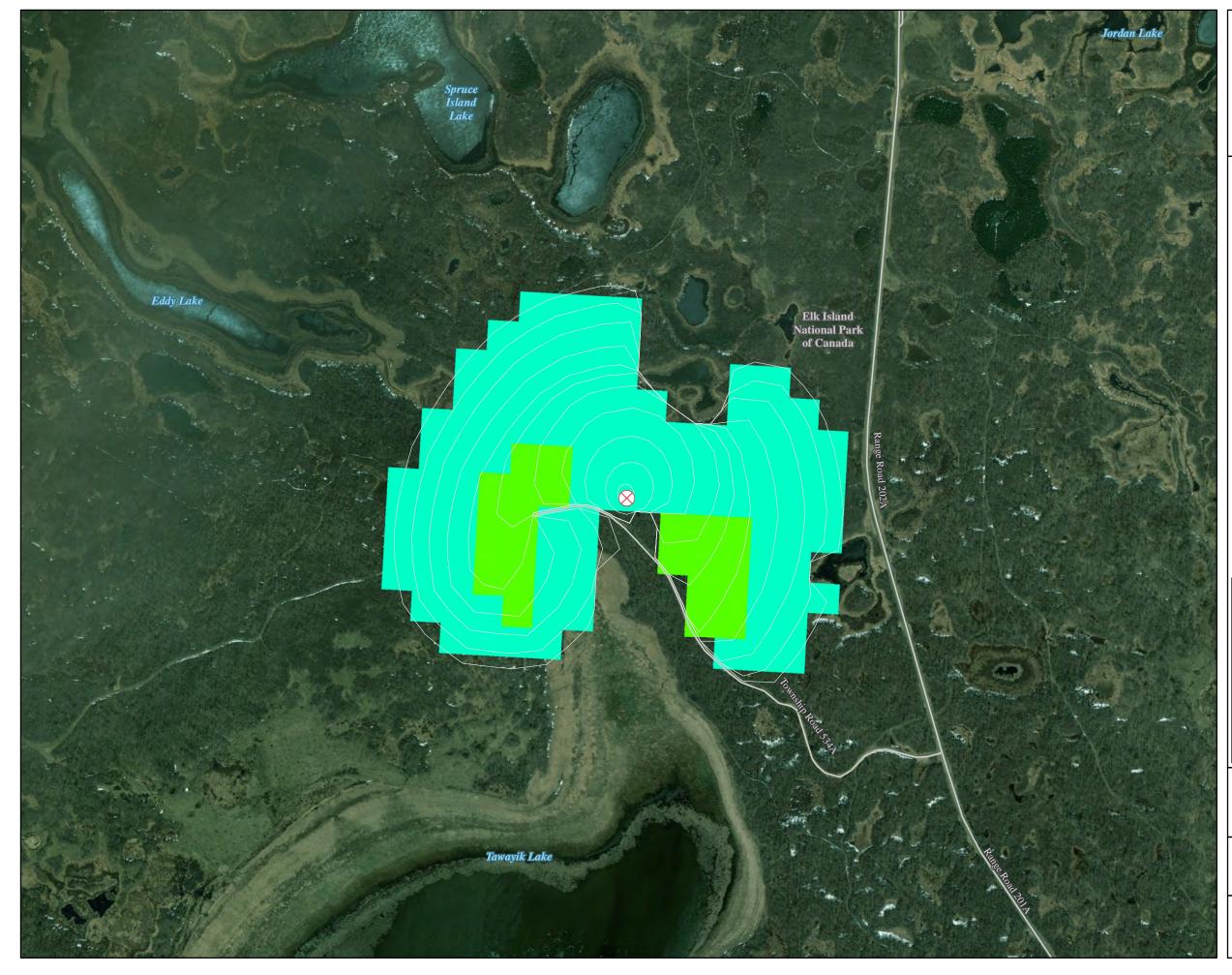
Simulation B:

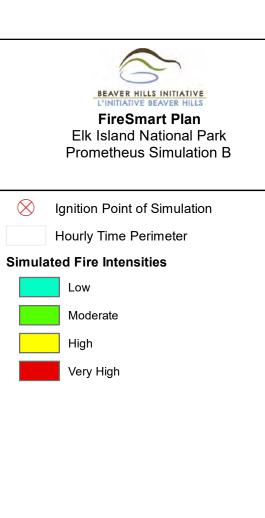
The Prometheus simulation illustrates an extreme fire event (minimum FWI in the 90th percentile or greater) within the available fuel types. The simulation was developed under spring conditions (May 25th, 2015) and had a burn time of eleven hours (13:00 to 00:00). The ignition point was located within Elk Island Nation Park just north of Tawayik Lake. Simulated fire intensity varied from low to moderate.

Elk Island National Park

Time Step	Date and Time	Temp (°C)	RH (%)	Precip (mm)	WS (km/h)	WD (deg)	HFFMC	HISI	DMC	DC	BUI	HFWI	Area (ha)	Perimeter (m)	Active Perimeter (m)	Time to Completion	FFMC	FWI	ISI
0	25/05/2015 13:00	25.8	18.4	0	8.0	272	93.0	9.8	69.1	147.2	69	25.8	0.00	1.56	1.56	11:00:00	96.1	34.5	15.1
1	25/05/2015 14:00	24.7	18.6	0	7.6	267	93.2	9.9	69.1	147.2	69	26.1	0.26	181.43	181.43	10:00:00	96.1	34.5	15.1
2	25/05/2015 15:00	26.4	15.6	0	8.8	248	93.7	11.2	69.1	147.2	69	28.3	2.07	515.53	515.53	9:00:00	96.1	34.5	15.1
3	25/05/2015 16:00	26.7	14.8	0	7.7	344	94.0	11.2	69.1	147.2	69	28.3	5.96	903.16	721.24	8:00:00	96.1	34.5	15.1
4	25/05/2015 17:00	26.5	15.4	0	7.3	126	94.3	11.4	69.1	147.2	69	28.6	12.11	1313.89	1034.64	7:00:00	96.1	34.5	15.1
5	25/05/2015 18:00	24.9	18.3	0	7.0	198	94.3	11.2	69.1	147.2	69	28.4	21.26	1848.06	1395.42	6:00:00	96.1	34.5	15.1
6	25/05/2015 19:00	23.7	20.9	0	12.1	304	94.3	14.6	69.1	147.2	69	33.8	30.91	2486.88	1665.75	5:00:00	96.1	34.5	15.1
7	25/05/2015 20:00	22.0	26.8	0	13.7	352	94.3	15.6	69.1	147.2	69	35.3	43.50	3346.76	2285.13	4:00:00	96.1	34.5	15.1
8	25/05/2015 21:00	21.0	25.2	0	8.8	89	94.2	12.1	69.1	147.2	69	29.8	61.54	4047.21	2843.76	3:00:00	96.1	34.5	15.1
9	25/05/2015 22:00	19.0	30.1	0	3.5	166	94.0	9.1	69.1	147.2	69	24.5	83.39	4855.54	3537.45	2:00:00	96.1	34.5	15.1
10	25/05/2015 23:00	17.1	35.4	0	0.6	321	93.8	7.6	69.1	147.2	69	21.6	105.19	5564.52	3739.69	1:00:00	96.1	34.5	15.1
11	26/05/2015 0:00	15.4	44.0	0	3.2	83	93.4	8.2	69.1	147.2	69	22.7	125.11	6236.18	4043.65	0:00:00	96.1	34.5	15.1







Summary Weather on May 25, 2015									
Max Temperature (°C)	26.7								
Minimum Relative Humidity (%)	14.8								
Wind Direction	South-West								
Average Wind Speed (km/h)	7.4								
Max FWI	34.5								
Time of Ignition	25/05/2015 13:00								
Fire Growth Stopped	26/05/2015 0:00								
Total Area Consumed (ha)	125.11								
General Fire Behaviour	Low to Moderate								
Source: Contains information licensed under Open Government Licenses – Canada, Alber DigitalGlobe. Imagery Acquisition Date: 2013									
Coordinates system: NAD 1983 UTM Zone	e 12N Š								
1:12,000									
0 100 200 300 400	500 600								
Date: June 29, 2018 Prepared by: G. Couture ENV	PP								

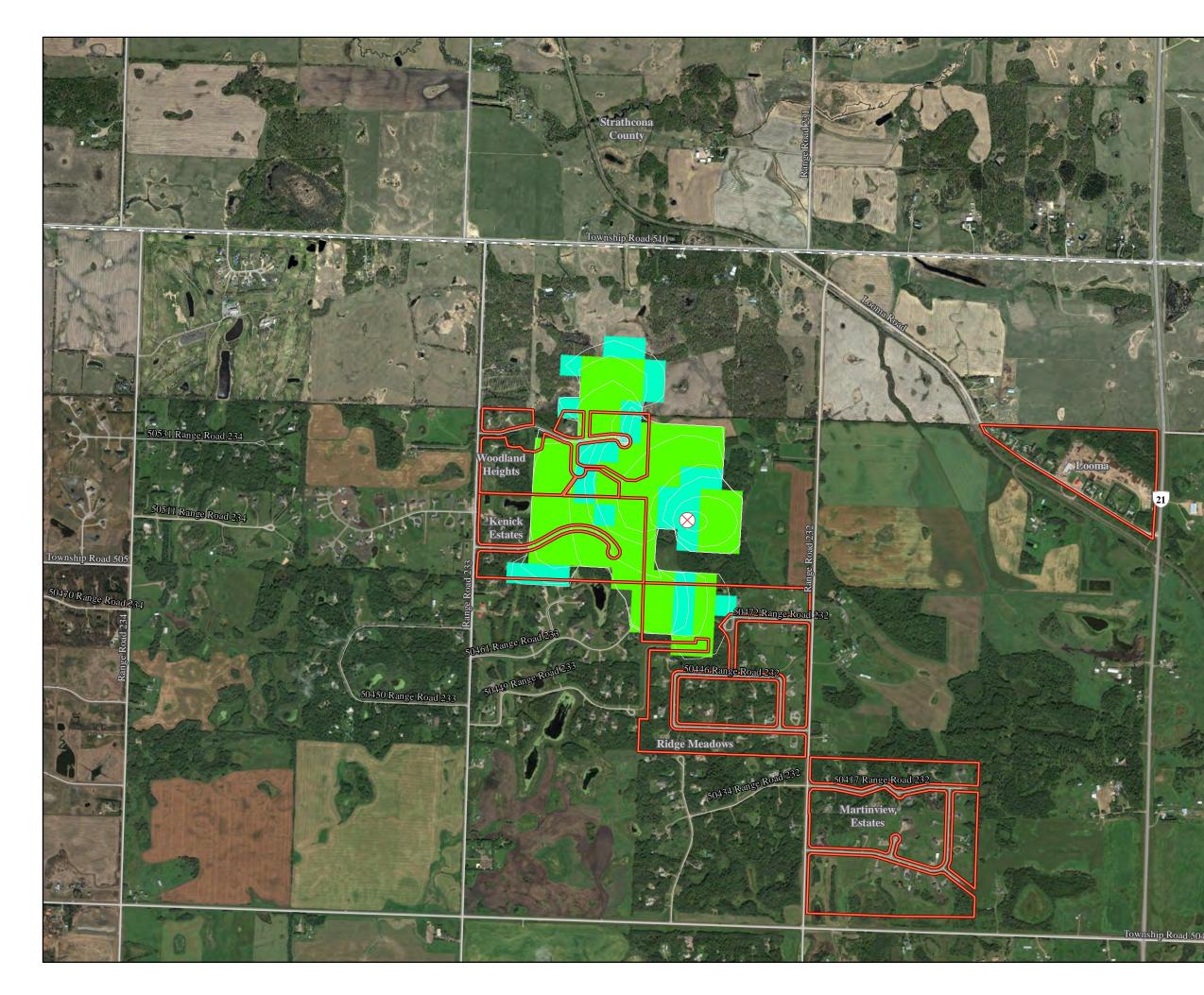
Simulation C:

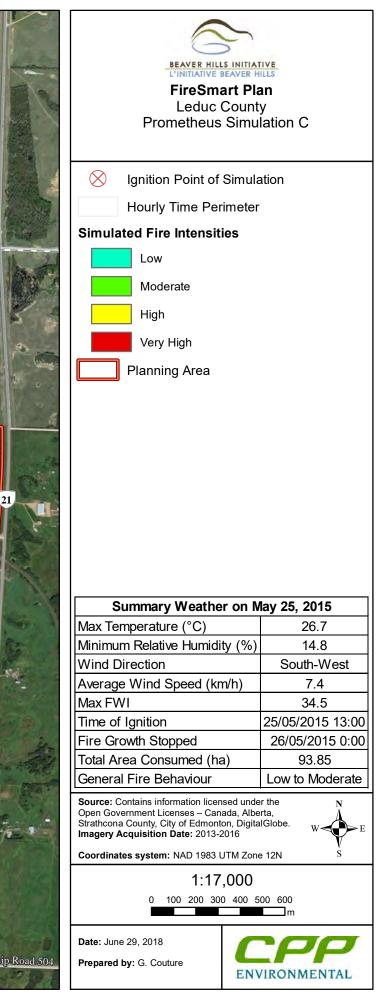
The Prometheus simulation illustrates an extreme fire event (minimum FWI in the 90th percentile or greater) within the available fuel types. The simulation was developed under spring conditions (May 25th, 2015) and had a burn time of eleven hours (13:00 to 00:00). The ignition point was located within Leduc County just north of Ridge Meadows and east of Kenick Estates. Simulated fire intensity varied from low to moderate.

Leduc County

Time Step	Date and Time	Temp (°C)	RH (%)	Precip (mm)	WS (km/h)	WD (deg)	HFFMC	HISI	DMC	DC	BUI	HFWI	Area (ha)	Perimeter (m)	Active Perimeter (m)	Time to Completion	FFMC	FWI	ISI
0	25/05/2015 13:00	25.8	18.4	0	8.0	272	93.0	9.8	69.1	147.2	69	25.8	0.00	1.56	1.56	11:00:00	96.1	34.5	15.1
1	25/05/2015 14:00	24.7	18.6	0	7.6	267	93.2	9.9	69.1	147.2	69	26.1	0.88	338.92	338.92	10:00:00	96.1	34.5	15.1
2	25/05/2015 15:00	26.4	15.6	0	8.8	248	93.7	11.2	69.1	147.2	69	28.3	5.72	863.62	863.62	9:00:00	96.1	34.5	15.1
3	25/05/2015 16:00	26.7	14.8	0	7.7	344	94.0	11.2	69.1	147.2	69	28.3	10.64	1212.44	467.72	8:00:00	96.1	34.5	15.1
4	25/05/2015 17:00	26.5	15.4	0	7.3	126	94.3	11.4	69.1	147.2	69	28.6	13.60	1414.23	591.36	7:00:00	96.1	34.5	15.1
5	25/05/2015 18:00	24.9	18.3	0	7.0	198	94.3	11.2	69.1	147.2	69	28.4	23.88	1935.39	1033.89	6:00:00	96.1	34.5	15.1
6	25/05/2015 19:00	23.7	20.9	0	12.1	304	94.3	14.6	69.1	147.2	69	33.8	34.22	2796.99	940.74	5:00:00	96.1	34.5	15.1
7	25/05/2015 20:00	22.0	26.8	0	13.7	352	94.3	15.6	69.1	147.2	69	35.3	40.16	3005.82	1200.73	4:00:00	96.1	34.5	15.1
8	25/05/2015 21:00	21.0	25.2	0	8.8	89	94.2	12.1	69.1	147.2	69	29.8	54.10	3930.89	1534.05	3:00:00	96.1	34.5	15.1
9	25/05/2015 22:00	19.0	30.1	0	3.5	166	94.0	9.1	69.1	147.2	69	24.5	71.48	4758.16	1824.66	2:00:00	96.1	34.5	15.1
10	25/05/2015 23:00	17.1	35.4	0	0.6	321	93.8	7.6	69.1	147.2	69	21.6	82.52	5689.99	1564.36	1:00:00	96.1	34.5	15.1
11	26/05/2015 0:00	15.4	44.0	0	3.2	83	93.4	8.2	69.1	147.2	69	22.7	93.85	6514.50	1437.95	0:00:00	96.1	34.5	15.1







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5. Glossary

Barriers to Spread – A fire barrier is an area that cannot burn, or burns slowly, which emergency responders may use as a staging point, anchor point, safety zone, or evacuation route.

Buildup Index (BUI) - Total amount of fuel available for combustion.

Combustible Material – Materials that must be heated at temperatures above normal, between 37.8°C and 93.3 °C (100°F and 200 °F), before they will ignite.

Conduction: when heat (energy) is transferred through solid matter.

Coniferous – Plants that do not shed leaves in the fall. In this report coniferous is synonymous with spruce or pine trees.

Continuous Fuels – Patches of forest or grass fuels that do not have any barriers to spread. These areas may have the ability to support fire over longer distances.

Convection: when heat (energy) is transferred between objects that are in physical contact.

Crossover – Occurs when the value of the RH is equal to, or lower than, the value of the temperature and is an indicator of potential extreme fire behavior.

Cured or Curing – Dried or drying grass. Grass cures in the fall and remains cured until green up in the spring.

Deciduous – Plants that shed leaves in the fall. In this report deciduous is synonymous with aspen or poplar trees.

Drafting Water – The use of suction to move water from a vessel or body of water below the intake of the suction tank.

Dry Hydrant – A fire hydrant that is not pressurized. A dry hydrant is a pipe that goes out to a water body so that a pumper truck can draw water from water body.

Fine Fuel Moisture Code (FFMC) – A numerical indicator of the ease of ignition of litter and other cured fine fuels such as small twigs, needles and grasses.

Fire Behavior – The manner in which fuel ignites, flame develops, fire spreads and exhibits other related phenomena.

Fire Hazard – A material, substance or action that may cause a wildfire.

FireSmart – Actions taken to minimize the unwanted effects of wildfire.

Fire Resistant – Material that is designed to resist burning and withstand heat.

Fire Weather Index (FWI) – This is a numeric rating of fire intensity. It is suitable as a general index of fire danger throughout the forested areas of Canada.

Flammable – Materials that will burn or catch on fire easily at normal temperatures; below 37.8°C or 100°F



Flank Fire – A fire that is burning at an angle approximately 90° to the wind.

Fuels – Combustible materials. In this report fuels tends to describe trees, plant debris (such as dead branches, leaves, etc.) but may also include man made materials.

Head Fire Intensity (HFI) – The energy that a fire generates. HFI is separated into six classes, one being low fire behavior and six being extreme fire behavior.

	Head Fire Intensity Class Description & Firefighting Methods										
Head Fire Intensity	Fire Behavior	Firefighting Methods									
1	Very low vigour, smouldering ground or creeping surface fire, low intensity	Self-extinguishing unless high drought code and/or build-up index values prevail, in which case mop-up is generally extensive.									
2	Low vigour surface fire	Direct attack by firefighters with hand tools and water is possible. Constructed fireguard should hold.									
3	Moderately vigorous surface fire	Hand-constructed fireguards are likely to be challenged. Heavy equipment is generally successful in controlling such fires. Indirect attack suggested.									
4	Highly vigorous surface fire, may be torching trees or intermittent crown fire	Control efforts at the fire's head may fail. Indirect attack only by firefighting personnel.									
5	Very high vigorous surface fire or crown fire	Very difficult to control. Suppression action must be restricted to the fire's flanks. Indirect attack with aerial ignition may be effective.									
6	Extreme disastrous fire	Suppression actions should not be attempted until burning conditions improve.									

Heat Transfer – Exchange of thermal energy, between physical systems depending on the temperature and pressure by dissipating heat.

Incinerator Fires – Burning of house hold waste in an approved container with proper screening and venting.

Intensity – Measures of energy output. Amount of energy released during a fire.

Ladder Fuels – Fuels that provide a vertical continuity between surface fuels and crown fuels. (E.g. tall grasses, shrubs, branches)

Mixedwood – A mixture of both coniferous and deciduous trees. Typically spruce and aspen.

Mutual Aid Agreement – Allows municipalities to prepare for emergency events that exceed their local resource capabilities.

Ninetieth Percentile (90th) – A measure of statistical distribution. The 90th percentile is the value for which 90% of the data points are smaller and 10% are bigger.

Prevailing Winds – The predominant winds in that area.



Radiation: When heat (energy) is transferred from warmer surfaces to cooler surroundings. (E.g. The heat from the sun)

Rate of Spread (ROS) – The distance a fire will spread in a given period, measured in meters per minute.

Relative Humidity (RH) – It is the ratio of moisture in the air (water vapor) to the amount that the air can hold at the same temperature and pressure if it were saturated.

Riparian Zone – An area of land adjacent to a stream, lake, or wetland that contains vegetation that, due to the presence of water, is distinctly different from the vegetation of adjacent upland areas.

Risk – The probability of an undesirable event occurring.

Severity – A loss or change in organic matter both above and below ground.

Spotting – when a fire creates embers that travel through the air and can ignite fuels or structures.

Staging Area – An area that can be utilized to pre-position equipment and personnel during an incident.

Stand(s) - A group of trees that are similar in size, species, and understory.

Stakeholder – The range of groups and individuals who have a formal or informal stake in planning and management decisions.

Wildland Urban Interface – The area where buildings are adjacent to, or within, forests, grasslands, scrublands, or other wildland vegetation.

