
FIRESMART LEGISLATION

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MUNICIPAL AFFAIRS, STRATEGIC POLICY AND PLANNING UNIT



OUTLINE

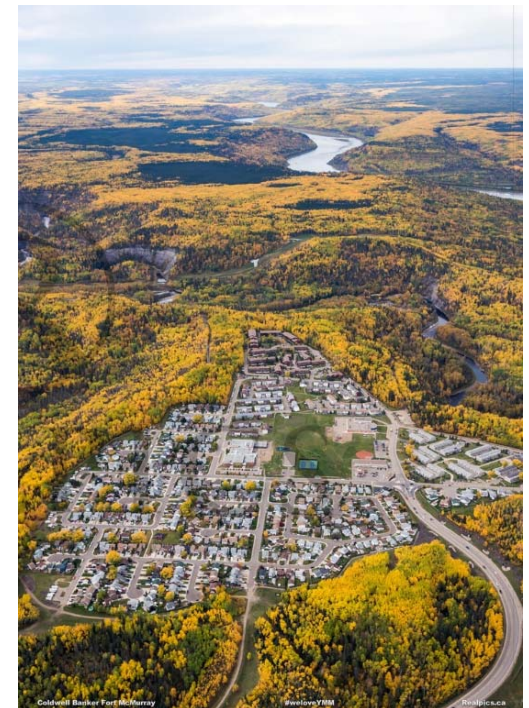
- **Issue framing**
 - Urgency and value of Land use planning in wildfire mitigation
 - Understanding the extent of the wildland-urban interface (WUI)
- **Alberta's legislative framework on private land**
 - The *Municipal Government Act* and associated regulations
 - Land use bylaw and wildfire mitigation measures
- **Identification of potential policy gaps regarding wildfire mitigation**



Slave Lake Wildfires 2011. Source: The Globe and Mail.

WHAT IS THE URGENCY ON MITIGATING WILDFIRE RISK?

- **More development is expanding** into the **wildland-urban interface (WUI)** areas are in moderate to extremely high risk areas (Gude, Rasker, & van den Noort, 2008).
- **Wildland evacuations are projected to increase** with extreme weather exacerbated by climate change (Natural Resources Canada).
- **Municipalities are underutilizing** land use planning to address wildfire risk on private land (Harris et al., 2011; L. M. M. Labossière & McGee, 2017; Plevel, 1997).



Abasands neighbourhood in the Regional Municipality of Wood Buffalo (Source: <https://realpics.ca/store/abasand>).

WHAT IS THE URGENCY ON MITIGATING WILDFIRE RISK?

- Existing developments in the wildland-urban interface are at risk (high to extremely high)
- Need for regular wildfire mitigation measures for individual home/land-owners and municipalities.
- Access to mapping information on the WUI extent and granularity (neighbourhood or parcel specific)



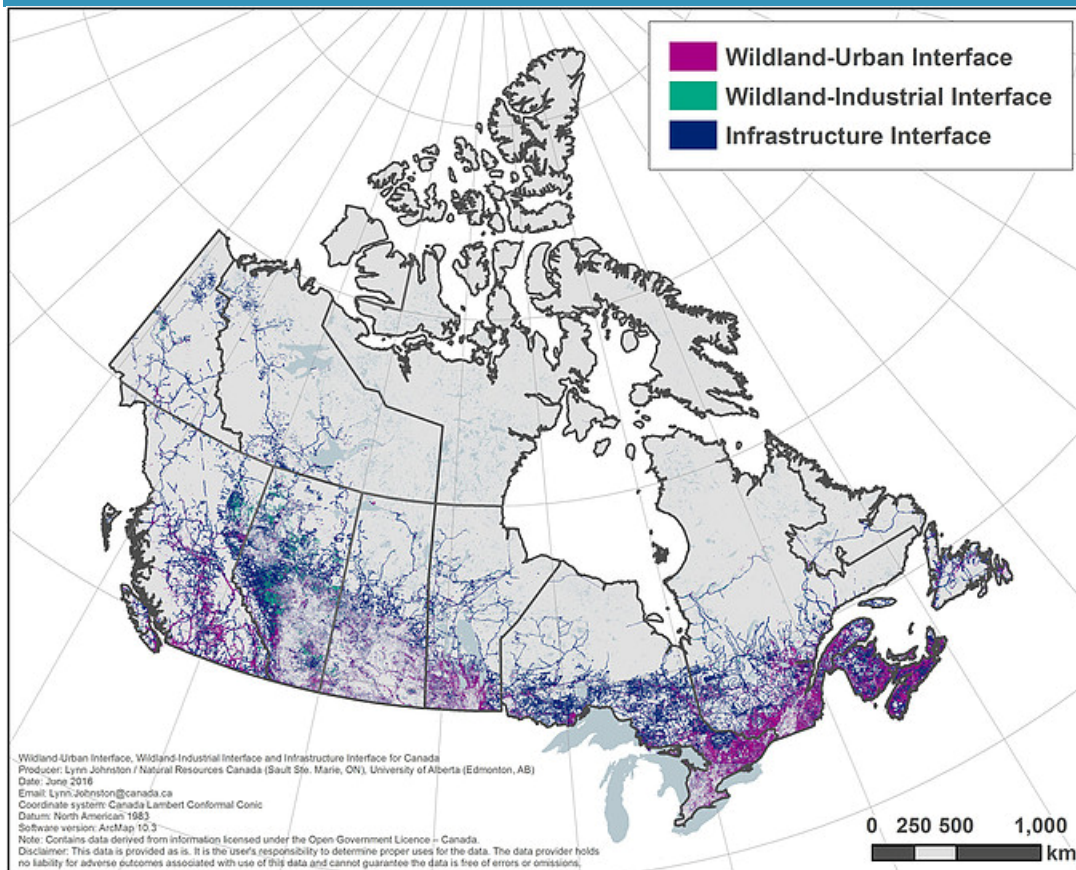
Abasands Before (May 1, 2016) and After (May 5, 2016). Source: Google maps
<https://www.google.org/crisismap/2016-fort-mcmurray-fire>.

LAND USE PLANNING ROLE IN HAZARD MITIGATION

- **“Communities can often achieve significant reductions in losses from natural disasters by adopting land-use plans.”** - National Research Council’s Board on Natural Disasters, 1999.
- **“No single approach to bringing sustainable hazard mitigation into existence shows more promise at this time than increased use of sound and equitable land-use management”**
- Second National Assessment on Natural and Related Technological Hazards (Mileti, 1999).
- **“It is recommended that strategic changes in urban land use planning, regulations, and building codes be considered to promote conditions on adjacent parcels of land that reinforce the mitigation efforts of homeowners, create synergy, and contribute to lowered potential for wildland/urban interface disasters.”**
- Alan Westhaver/Institute for Catastrophic Loss Reduction 2017.



CANADA'S WILDLAND URBAN INTERFACE



Provinces with the highest WUI area

1. Quebec
2. Ontario
3. British Columbia
4. Alberta

Highest densities of the WUI provinces are:

1. Nova Scotia
2. Prince Edward Island
3. New Brunswick

Source: Johnston Lynn M., Flannigan Mike D. (2017). Mapping Canadian wildland fire interface areas. *International Journal of Wildland Fire* 27, 1-14. <https://doi.org/10.1071/WFI6221>



ALBERTA'S WILDLAND URBAN INTERFACE


- Total Wildland-urban Interface Area* (Alberta): 3,165,144 hectares (31,651.44 sq. km)
- Area of WUI-Industrial (highest in Canada): 3,409,839 hectares (34,098.39 sq. km)
- Area of WUI-Infrastructure (roads, rail, industry): 18,027,267 hectares (180,272.67 sq. km)

*WUI areas overlap

Source: Johnston Lynn M., Flannigan Mike D. (2017). Mapping Canadian wildland fire interface areas. *International Journal of Wildland Fire* 27, 1-14. <https://doi.org/10.1071/WFI6221>

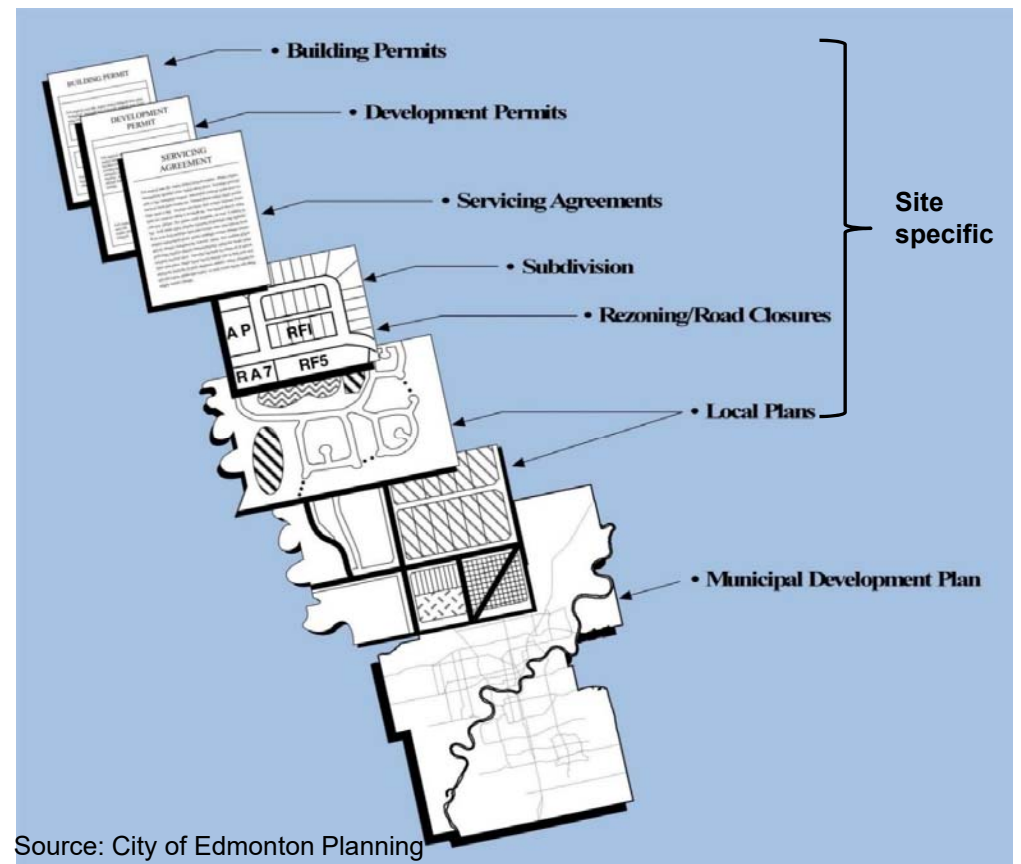
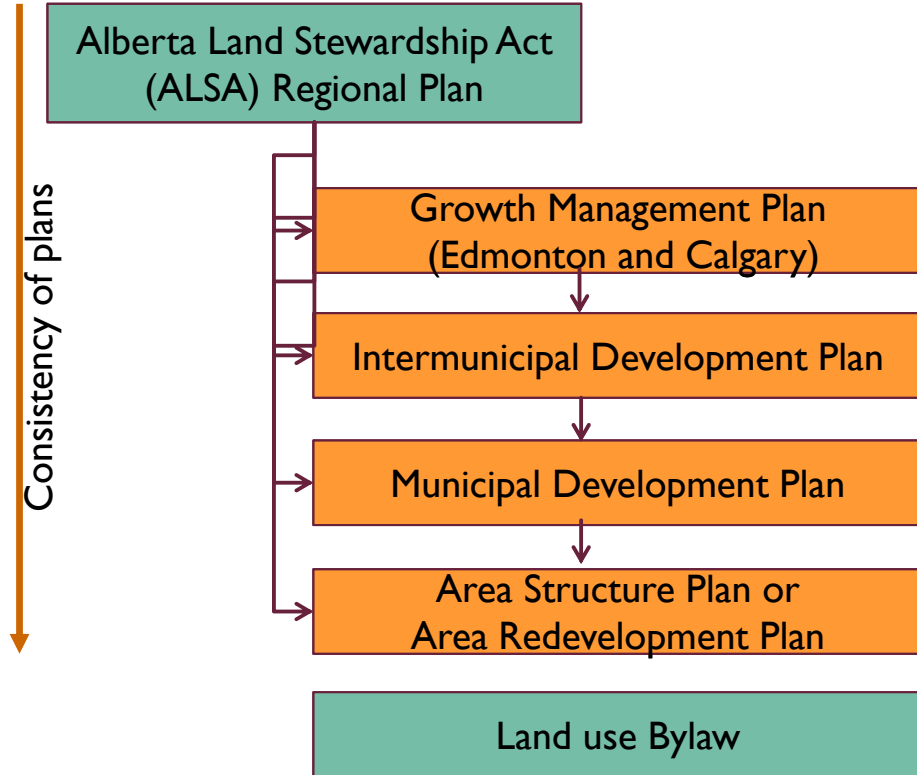


LEGISLATIVE FRAMEWORK

	Legislation	Regulations/Statutory Plans
PRIVATE LAND- Municipal (344) 	Alberta Land Stewardship Act	Land use Framework Regional Plans
	Municipal Government Act & Provincial Land Use Policies	Subdivision & Development Regulation, Municipal statutory plans and land use bylaws
	City Charters	Climate and Adaptation Plans (new)
FOREST PROTECTION AREA- Provincial Alberta Agriculture and Forestry	Alberta Land Stewardship Act	Land use Framework Regional Plans
	Forest and Prairie Protection Act	Fire Control Zone Forest and Prairie Protection Regulation and Ministerial Order Forest Protection Area Non-permit Areas
Other statutes	Emergency Management Act	Disaster Recovery Regulation
	Safety Codes Act	Building Code



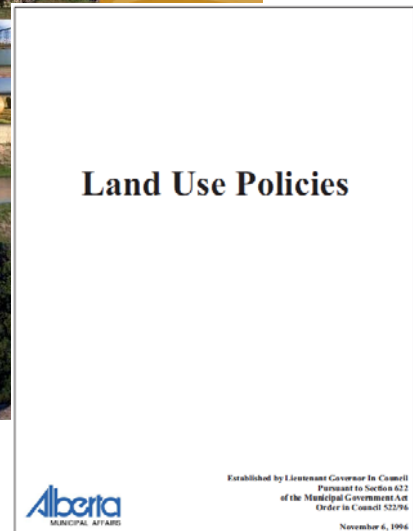
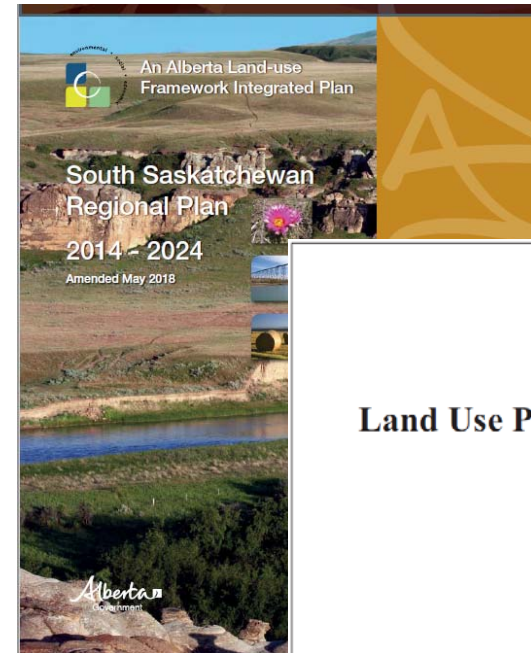
PLANNING HIERARCHY



Source: City of Edmonton Planning

ALBERTA LAND STEWARDSHIP ACT (ALSA) & PROVINCIAL LAND USE POLICIES

- The South Saskatchewan Region Plan (SSRP) **expects** municipalities to “8.16 **Minimize potential conflict of land uses within and adjacent to areas prone to flooding, erosion, subsidence, or wildfire.**”
- For all other areas of the province, the **Provincial Land Use Policies 1996 continue to apply**. The PLUPS provide provincial direction on human settlement patterns
- Municipalities are **encouraged to identify areas prone to wildfire, establish appropriate land use patterns and utilize mitigative measure** to minimize risk to health, safety and loss due to property damage (Provincial Land Use Policies, section 5.0, policy 3 and 4).



MUNICIPAL GOVERNMENT ACT

- The *Municipal Government Act* is the legislative framework for all planning and development decisions of Alberta municipalities; the legislation is enabling and **provides municipalities local autonomy over land use planning**.
 - It addresses **flood hazard risk** by enabling the Province to create regulations to restrict development in the floodway (s.693.1).
 - It requires municipalities **to pass Land use Bylaws** which have authority to control, regulate or prohibit development.
 - It **enables** municipal councils to **create statutory plans** which can address natural hazard mitigation.
- The Subdivision and Development Regulation AR43/2002 provides municipalities further guidance for subdivision and development applications.
- There is **broad** authority to adopt wildfire mitigation measures promoted in the FireSmart Program in the MGA.

MUNICIPAL GOVERNMENT ACT

The **purposes** of a municipality are

- (a) to provide **good** government,
- (a.1) to **foster** the **well-being** of the **environment**,
- (b) to **provide services, facilities** or other **things** that, **in the opinion of council**, are necessary or desirable for all or a part of the municipality,
- (c) to **develop** and **maintain safe** and **viable communities**, and
- (d) to **work collaboratively** with **neighbouring municipalities** to plan, deliver and fund intermunicipal services.

Section 3, *Municipal Government Act*



Province of Alberta

MUNICIPAL GOVERNMENT ACT

Revised Statutes of Alberta 2000
Chapter M-26

Current as of July 1, 2018

Office Consolidation

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PURPOSE OF PLANNING AND DEVELOPMENT IN THE MGA

The **purpose** of Part 17 Planning and Development of the MGA, “is to provide means whereby plans and related matters may be prepared and adopted

(a) **to achieve** the **orderly, economical and beneficial development, use of land and patterns of human settlement**, and

(b) **to maintain and improve** the **quality of the physical environment** within which patterns of human settlement are situated in Alberta,

without infringing on the rights of individuals for any **public interest** except to the **extent** that is **necessary** for the overall **greater public interest.**”

Section 617, *Municipal Government Act*

THE LAND USE BYLAW

- **All municipalities must adopt a land use bylaw.**
- The land use bylaw may **prohibit, regulate or control** the use and development of parcels of **land and buildings** in a **municipality**.
 - It provides for a **system** for **issuing** development permits.
 - The bylaw **divides the municipality** into districts, and prescribes permitted and/or discretionary uses for each district.
 - It establishes **development standards** within each district.

3.9 Fire Prevention and Emergency Access

- 3.9.1 To protect a development from significant **wildfire** hazard or where a development may be located in an area that is removed from existing Municipal emergency services, the following fire protection measures may be required by the Development Authority:
- a minimum 10.0 m (32.8 ft) perimeter of defensible space around all buildings in which all fire prone materials and vegetation are removed;
 - roofs constructed of non-combustible or ~~fire-retardant~~**fire-retardant** materials;
 - the installation of spark arresters on chimneys and stovepipes;
 - exterior siding constructed of fire retardant materials;
 - the provision of a secondary vehicular emergency access to the site, pursuant to Section 3.9.3;



Top: MD of Bighorn No. 8, draft Land use bylaw No 04/10;
Below: Thorhild County, WUI-Intermix (Farms.ca)

THE LAND USE BYLAW

Wildfire mitigation measures broadly enabled in Land use Bylaws (s. 640(4)(a) to (d) of the MGA):

- Subdivision design standards;
- The ground area, floor area, height, size and location of buildings;
- Amount of land to be provided around buildings (Spatial separation through setbacks);
- The landscaping of land and buildings (Landscaping with fire/drought resistant species).

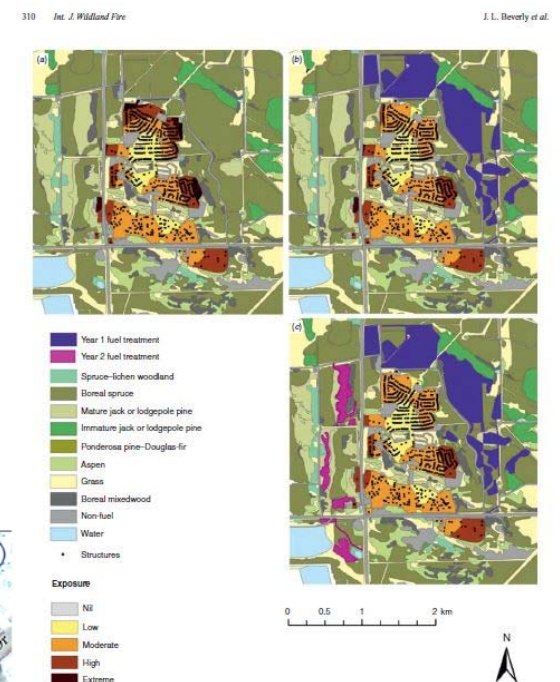
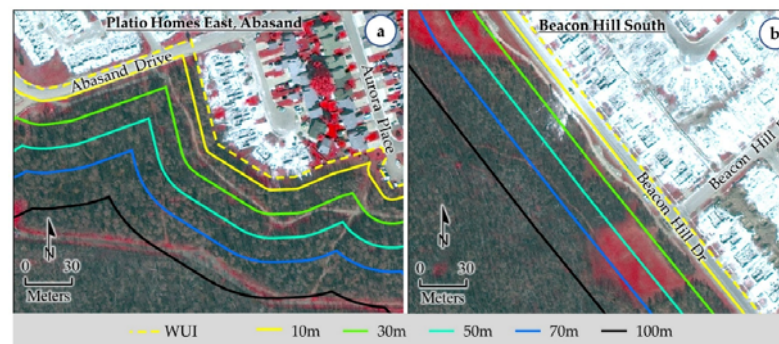


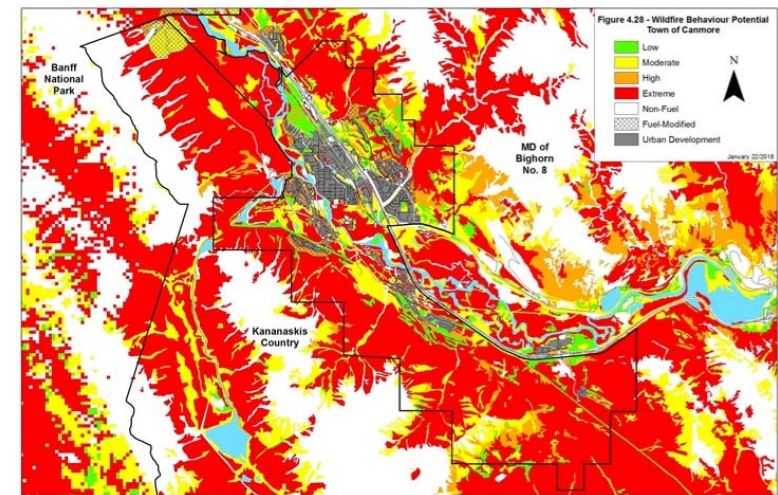
Fig. 8. Spatial variation in exposure to longer-range spotting within the built environment of Swan Hills for (a) baseline conditions; (b) conditions after Year 1 fuel treatments; and (c) conditions after Year 1 and Year 2 fuel treatments.

Examples of mapping tools for LUB's:
 Top: Beverly et al. (2010, p 310);
 Left: Ahmed, Rahaman, & Hassan (2018).

AN EXAMPLE: TOWN OF CANMORE

Wildfire mitigation is regulated in all the Town's planning documents and land use bylaw.

- The Municipal Development Plan has policies related to Wildfire mitigation and recognizes FireSmart.
- The Land use Bylaw has “FireSmart Regulations” for the WUI; implements FireSmart Zonal approach to fuel vegetation management in designated high or extreme Wildfire Behavior Potential zones (50m, 100m, 500m).
- Follows recommendations of the Wildfire Mitigation Strategy 2018 e.g.
 - Requiring an applicant to provide a Wildfire Risk Assessment in the subdivision application process and
 - Roofs shall be constructed to minimum Class B rating.



Wildfire behavior potential, Town of Canmore.
Source: Section 5.17 FireSmart Requirements in the Town of Canmore Land Use Bylaw 22-2010: Adopted 3 January 2012.

CROSS-JURISDICTIONAL SCAN*

Province	Statute	Provincial Policy	Regional Planning	Guidance documents
Quebec	<i>An Act Respecting Land use Planning and Development</i> e.g. s5(4); s113(16); s.115(4)	-	Regional county municipalities e.g. land use schemes	-
	<i>Civil Protection Act</i> e.g. Ch. IV-Division 1: Civil Protection Plans	-	Regional county municipalities e.g. civil protection plans of	
Ontario	<i>Planning Act</i> e.g. s2 and s3	Provincial Policy Statement 2014, 3.1.8	-	Wildland Fire Risk Assessment and Mitigation Reference Manual
British Columbia	<i>Local Government Act</i> e.g. s488(1)(b) and s491(2)(a)(c)(d)	-	-	BC Wildland Fire Management Strategy
Alberta	<i>Municipal Government Act</i> e.g. s631(2)(a)(v)&(vi); s632(3)(b)(iii)&(iv); s640	Provincial Land use Policy 5.0 (3) and (4)	E.g. South Saskatchewan Regional Plan Policy 8.16	None



*Current as of September 2018. This is not an exhaustive review but does indicate how provinces address wildfire risks in land use planning statutes.

IDENTIFICATION OF POLICY GAPS

- What future policy gaps need to be resolved by government to strengthen wildfire mitigation for Alberta communities?



CONCLUSION

- Municipal Affairs is committed to building resilient Alberta communities.
- The department continues to respect and promote the local autonomy of municipalities for land use decisions including wildfire mitigation measures outlined in the FireSmart Program.
- The Strategic Policy and Planning Branch is open to receiving input, and feedback on how to further strengthen wildfire mitigation specific to the *MGA* and its associated regulations subject to government direction.
- Thank you!

