

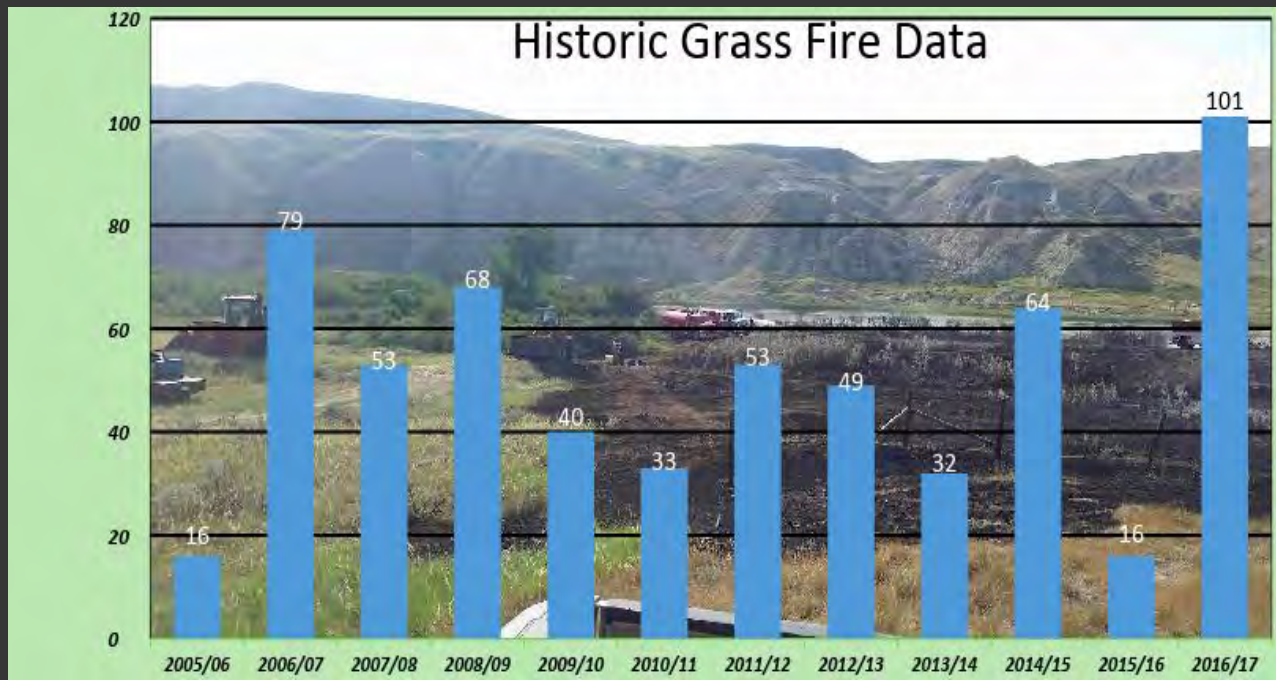
# Preparing for a grassfire

Communities in the Special Areas



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# A Changing Environment



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## Slave Lake – 2011

- 510 buildings destroyed
- 15,000 residents evacuated
- \$700 million in damages

## Fort McMurray - 2016

- 2274 square miles burned
- 2457 buildings destroyed
- \$3.7 billion in insurance claims

## British Columbia- 2017

- 2.96 million acres burned
- 65,000 people evacuated
- \$568 million in fire suppression costs



Mrsramsey (May 15, 2011). Fire over the Town of Slave Lake at 5:40 on May 15, 2011. [jpg]. Retrieved from [https://en.wikipedia.org/wiki/2011\\_Slave\\_Lake\\_wildfire#/media/File:Slave\\_Lake\\_May\\_15\\_2011.jpg](https://en.wikipedia.org/wiki/2011_Slave_Lake_wildfire#/media/File:Slave_Lake_May_15_2011.jpg)



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# Hilda Fire 2017

- Started at 12:52 on October 17, 2017
- 135,000 Acres
- Spread Rate 751 ft/min
- Winds 63 km/hr
- Temperature 21 degrees
- Relative Humidity 18%
- Last snow/rain was Oct 2-3, 2017



Wiebe, A (October 17, 2017) Aerial Photo of Hilda Fire. Retrieved from <https://chatnewstoday.ca/article/531249/video-birds-eye-view-hilda-fire-aftermath>



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# Bindloss Fire – 2017

- Began around 3 pm on September 11, 2017
- 90,000 acres burned
- In 9 hours it:
  - Covered 19.3 square miles
  - Moved at 453 feet per minute
- Large losses
  - Farms & Ranches
  - Cattle & Wildlife
  - Pasture & Crop land



Special Areas Board (September 11, 2017). Bindloss Fire [jpeg]. Supplied by Special Areas Board



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# Grassfires & Fuel

## Fuel Types & Degrees of Curing



0% Cured



50% Cured



100% Cured



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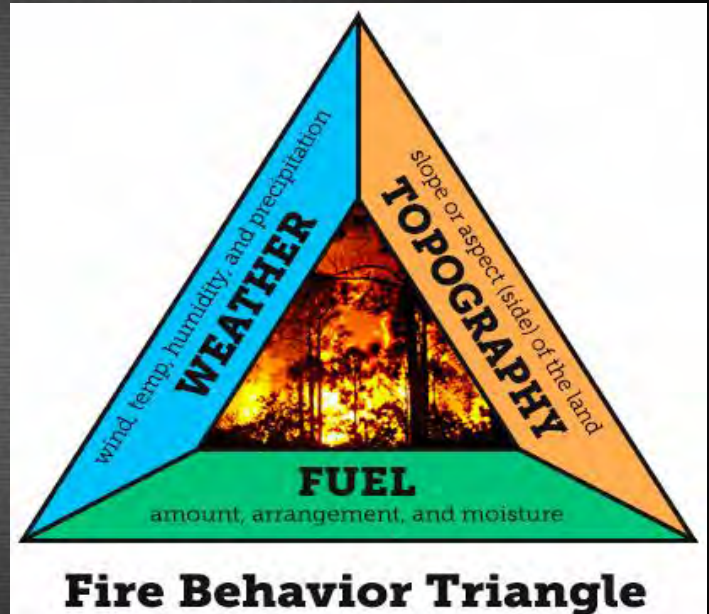
Photo credit: N. Viste, SAB

# Grassfire Characteristics

**Fuel**- type, arrangement, amount, moisture, continuity

**Weather**- wind, temperature, RH, precipitation, atmospheric instability

**Topography**- slope, aspect, land features



WeatherSTEM Lesson (2017). Fire Behaviour Triangle. Retrieved from <https://learn.weatherstem.com/modules/learn/lessons/121/12.html>



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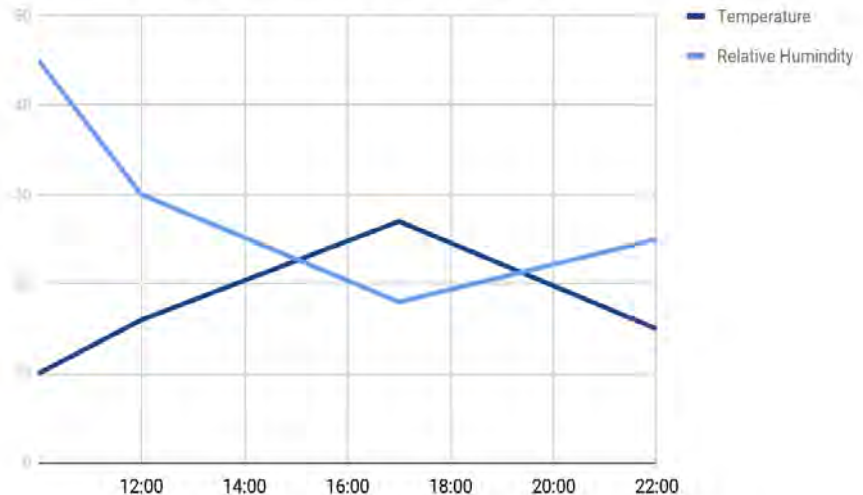
# Crossover Factor

Indicator of extreme fire behavior.

Crossover exists when ambient temperature and relative humidity are equal.

This means higher risk and potential severity of light fuel (grass) fires.

Temperature, Relative Humidity, and Daily Fluctuations



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# Fire Challenges

- Defendable Space
- Property Access
- Water Sources
- New Construction
- Land Use Planning
- High Fuel Loads



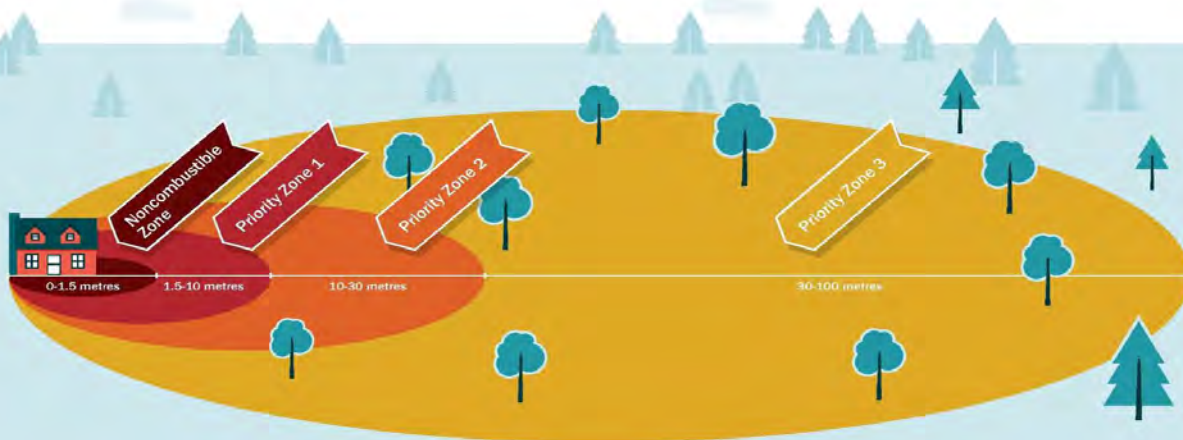
SAB (2018). Farmyard [png]. Supplied by SAB



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## Home Ignition Zone



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# FireSmart

## Zone 1a (0-1.5m)

- This is a non-combustible area
- Avoid planting trees and shrubs in this area
- Avoid stacking firewood against the house
- Avoid storing fuels or propane near the house
- Consider rocks or concrete in this zone
- Remove all flammable materials such as leaves



SAB (2018). Farmyard Zone 1a [png]. Supplied by SAB



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# FireSmart

## Zone 1 (1.5-10m)

- This is a fire resistant area
- Plant low density fire resistant plants

## Zone 2 (10-30m)

- Fire pits and burn barrels need to follow FireSmart principles
- Remove all dead and down debris

## Zone 3 (30-100m)

- Consider Fire Break Techniques:
  - Grazing
  - Plowing



SAB (2018). Farmyard Zone 1[png]. Supplied by SAB



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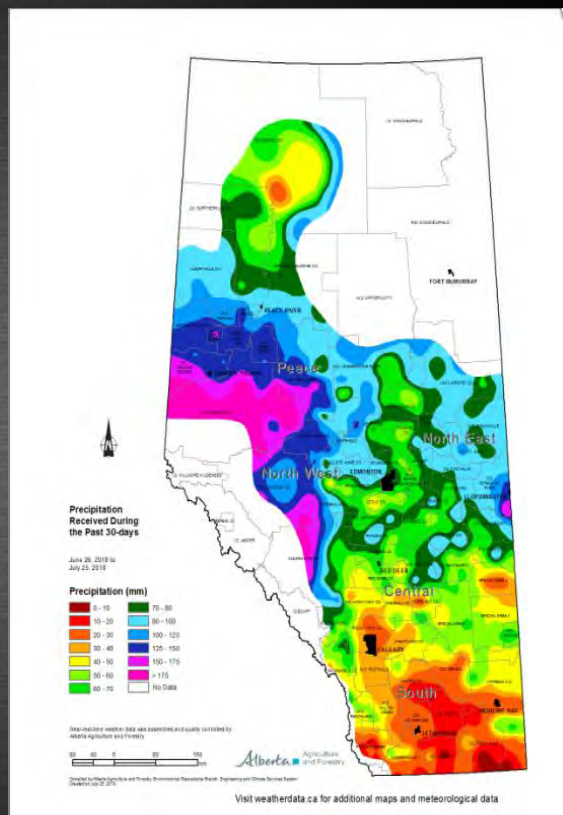


# What Can you do?

- Get Informed...Prevention
  - <http://www.agric.gov.ab.ca/acis/climate-maps.jsp>
  - [www.albertafirebans.ca](http://www.albertafirebans.ca)
  - See FireSmart Checklists
  - Follow Controlled Burn Notifications



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July 30, 2018 by Alberta Agriculture and Forestry, Alberta Climate Information Service (ACIS)  
<http://www.agric.gov.ab.ca/acis/climate-maps.jsp> (July, 2018)

# Prepare Your Property

- Keep property tidy by reducing garbage/clutter
- Place fuel tanks and wood piles at least 10 m from structures
- Maintain grass height in and around electric fences
- Consider turning off electric fences in high hazard
- Cut grass in ditches to 10 cm or down to soil
- Make sure there's a fuel break between ditches and structures
- Maintain vegetation under and beside overhead power lines



SAB (April 26, 2013). Unattended Garbage Barrel [peg]. Supplied by SAB



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# Firebreaks

The purpose of a firebreak is to slow down the approaching fire.

Suggestions for creating a firebreak:

- Clear debris to bare soil
- Create a firebreak by disking or plowing
- Use the road as a firebreak, but ensure the middle of the road is free of grass
- Burnt firebreaks can be effective but come at a higher risk of out of control fires.
- Burnt firebreaks are only a temporary firebreak as grass grows back



SAB (May 5, 2018). Big Stone Chinook Fire [jpeg]. Supplied by SAB



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# Know Your Location

- Have a clearly marked/ visible address on a non-combustible sign at the entrance to your farm
- Know the legal land description of the farm and farmland you are working on
- Make sure vehicles/equipment are clear of emergency access route
- Know and direct emergency services to good water sources that could be used to help fight a fire



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SAB. (May 1, 2018). Fire Incident South of Chinook.[png]. Supplied by SAB



# Farm Animal Safety

- When considering what to do with your animals you really only have three options:
  1. Keep them on the Property
  2. Remove them from the Property
  3. Cut them Loose
- This plan should be well thought out.
- Time is crucial to the ability to carry out any of these options



VanderMeer, S (August 22 2018), Cattle Grazing [jpeg]. Supplied by VDM Fire Inc.



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# Reducing Equipment Fire Risks

- Minimize activity during dry days when high fire hazard exists
- Ensure equipment is in proper working order
- Ensure equipment is clean
- Park vehicles in an area surrounded by non-combustible material
- Carry an extinguisher, a firefighting tool, and/or water on every piece of equipment
- If equipment must be used, consider working outside peak burning time
- Let machinery cool off outside before bringing it into a structure
- Never leave equipment unattended when it is being used or is still cooling down



SAB (August 8, 2018). Baler Fire [jpeg]. Supplied by SAB



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# Burning Safety

- ☐ There is no fire ban or restriction in place
- ☐ I have a water source and tool for extinguishing the fire
- ☐ I have obtained the control burn notification and will adhere to the conditions stated on it
- ☐ The pit is in a non-combustible area, surrounded by non-combustibles
- ☐ Winds are less than 10 km/hr
- ☐ I will not leave the fire unattended and will continue checking it until the fire is cold



Special Areas Board (May 8, 2013). Poor Pit Preparation [jpeg]. Supplied by Special Areas Board



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# Conclusion

- Grassfires are underestimated and dangerous
- Understand the risks
- Strive for resilience
- Be prepared
- Educate others



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