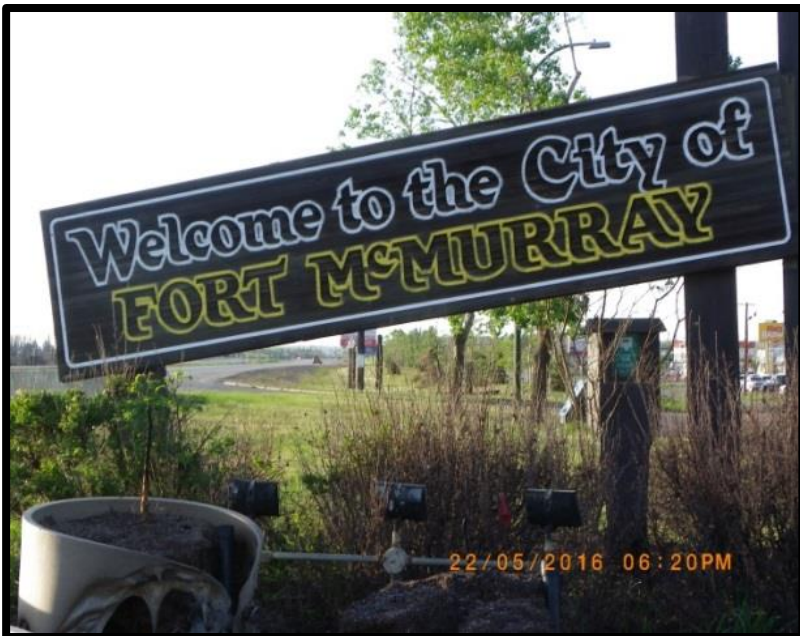


AKBLG Convention + AGM

Learning from Wildland/Urban Interface Fire Disasters: “The Case for Risk Mitigation”



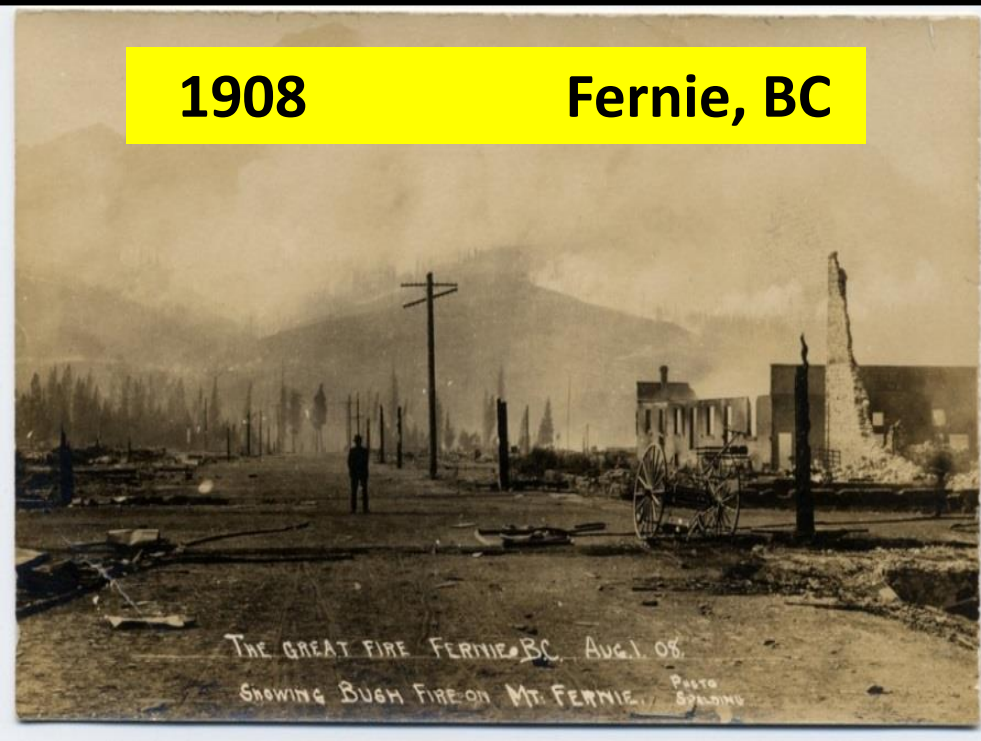
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April 18, 2018

A lot has changed in 108 years ...

1908

Fernie, BC



2016 Fort McMurray, AB



... but outcomes are strikingly similar!

- Technology - - - - - ➔ Fire fighting capability
- Equipment - - - - - ➔ Response times
- Construction - - - - - ➔ Building codes and materials
- Science - - - - - ➔ Knowledge of fire behavior

To achieve better outcomes... we must change our approach!

A lesson is not “learned”, until it is put into practice.



“To many other parts throughout the province, Fernie will contain a lesson in this respect.”

- Wm. Fernie

1908

4 Pillars of Emergency Management

- ✓ **Planning and Preparedness:**
Measures taken in advance to be ready
- ✓ **Loss Prevention + Risk Mitigation**
Pro-active work to reduce/eliminate risks & hazards
- ✓ **Response:**
Re-actions to address direct fire effects + limit loss
- ✓ **Recovery:**
Activities to restore, recover, rebuild following disaster and reduce socio-economic disruption



How do homes ignite ?

Embers ignite >50% of homes destroyed by wildfires - up to 80-90%

- Firebrand “blizzard”
- Embers travel 0.5+ km



*Burn Holes in Canopy of
Porch Glider – Ft. McMurray*



Most of the time...

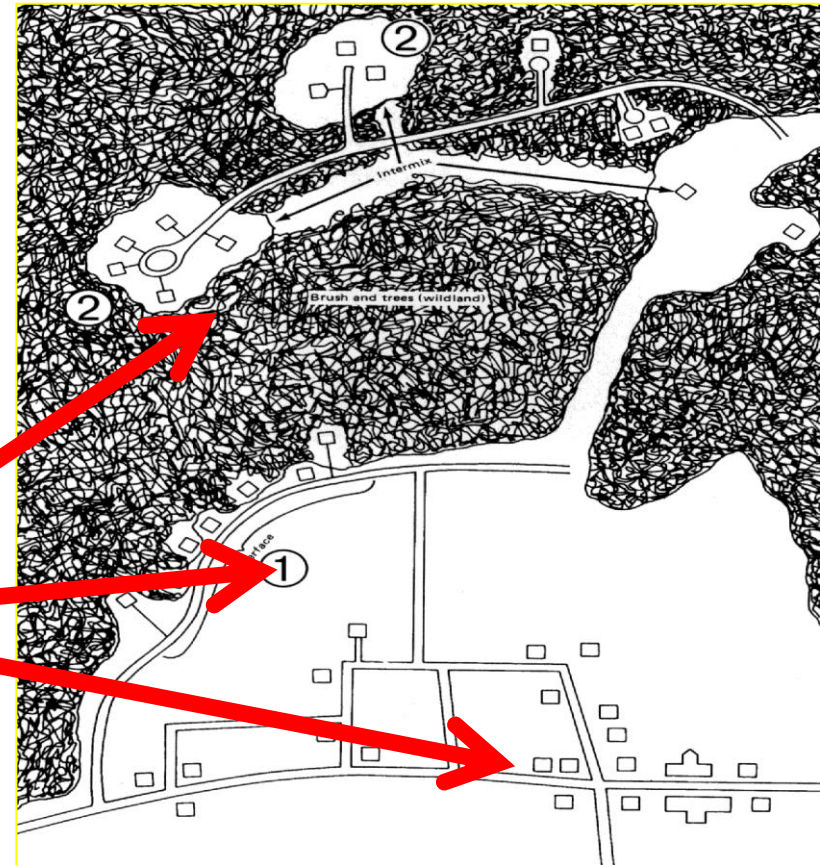
- It's not the BIG flames
- Or radiant heat
- 30m clearance (fire guard) is sufficient

What is the Wildland/Urban Interface ?

“The presence of structures in locations where conditions result in the potential for their ignition from flames, radiant heat or the firebrands* of a wildland fire.”

* **A.K.A. embers**

Where forest
meets homes



How do WUI Fire disasters develop?



**Slave Lake, AB
May 21, 2011**

Wildland/Urban Interface Disaster Sequence

*



* Calkin et al. (2014)

Wildland/Urban Interface Disaster Sequence

*



* Calkin et al. (2014)

We must address the root issue:

1. Homes that are highly susceptible to ignition during a wildfire event, mostly by embers.
2. Easily combustible materials within 30m of the home, that carry fire to the home.

“If homes do not ignite, they cannot burn..... If homes do not burn, then disaster is avoided”

- Jack Cohen

US Forest Service Scientist



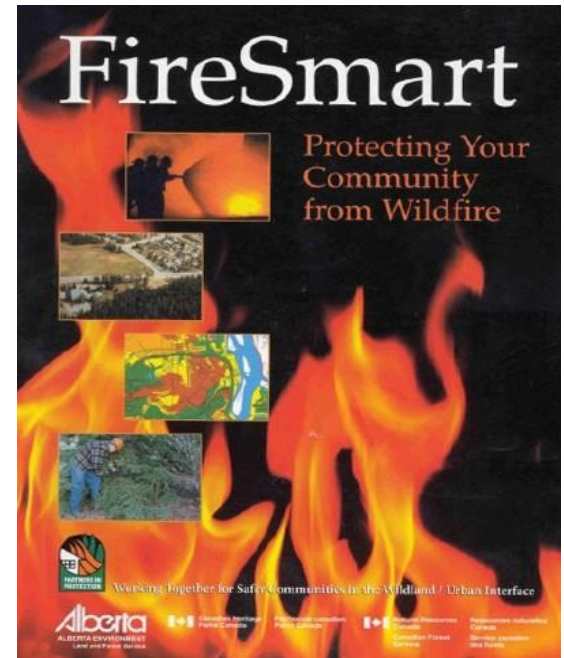
What are our best solutions for preventing home ignitions ?

FireSmart: “Principles, practices and programs for reducing interface fire loss”

20 Recommended FireSmart Guidelines*

1. Structural Hazard Factors
2. Vegetation Hazards within 30m
3. Ignition Site Hazards
 - Miscellaneous Combustibles
 - Ember Accumulators
4. Topographic Hazards (compensate)

* based on NFPA Standards



Where to apply FireSmart solutions?



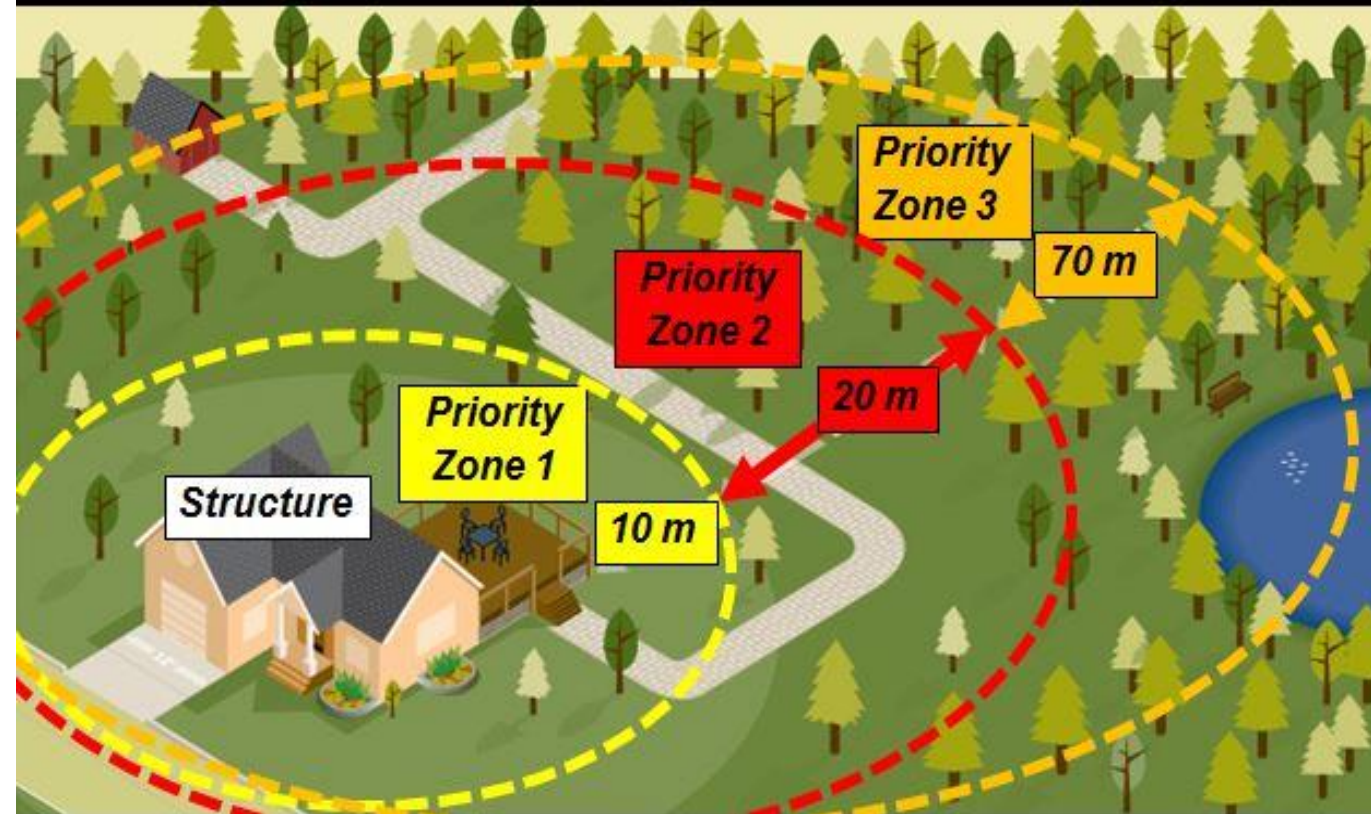
STRUCTURE IGNITION ZONE

Structure + Priority Zones 1 - 2 - 3

“Hunt Where the Ducks Are”



“Start at home, work outwards”





Small actions, make a BIG difference

- Most risk mitigations around homes are:
 - Inexpensive
 - Easily accomplished
 - Not very time consuming
 - More like, “organized puttering”
- WUI residents are not helpless victims!



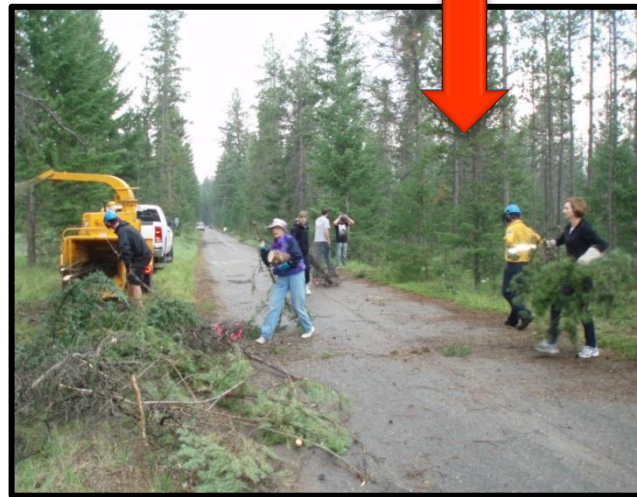
Find and eliminate Fire Pathways

Lessons learned



- No fire suppression system in the world can stop losses from large conflagrations.
- RESPONSE is not enough!
- The outcome depends on risk mitigations taken before the fire, on our property!
- More fire trucks are not the answer....

this is !



TEAM WORK

What is in the future ? (More WUI fires)



Climate Warming Increased: *fire danger/ # fires/ fire intensity/ area burned*

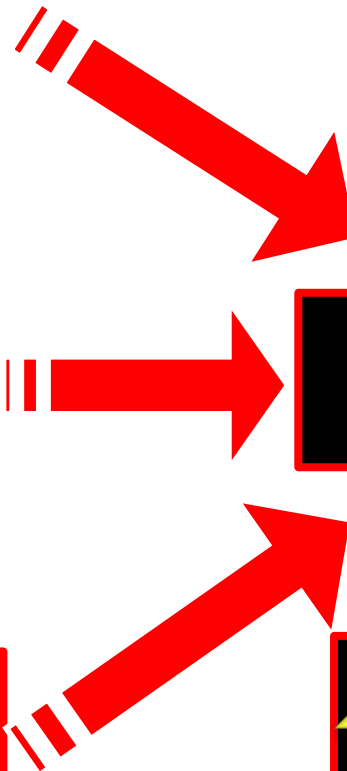
Development in wildland areas

Forest Health Issues
=
rising fuel loads

Lack of Wildfire Risk Mitigations

Response Frequently Overwhelmed

WUI Disasters



Challenge #1



Preventing future disasters requires shifting primary focus of WUI programs onto attacking the root cause of loss.

**MOVE
AWAY
FROM:**

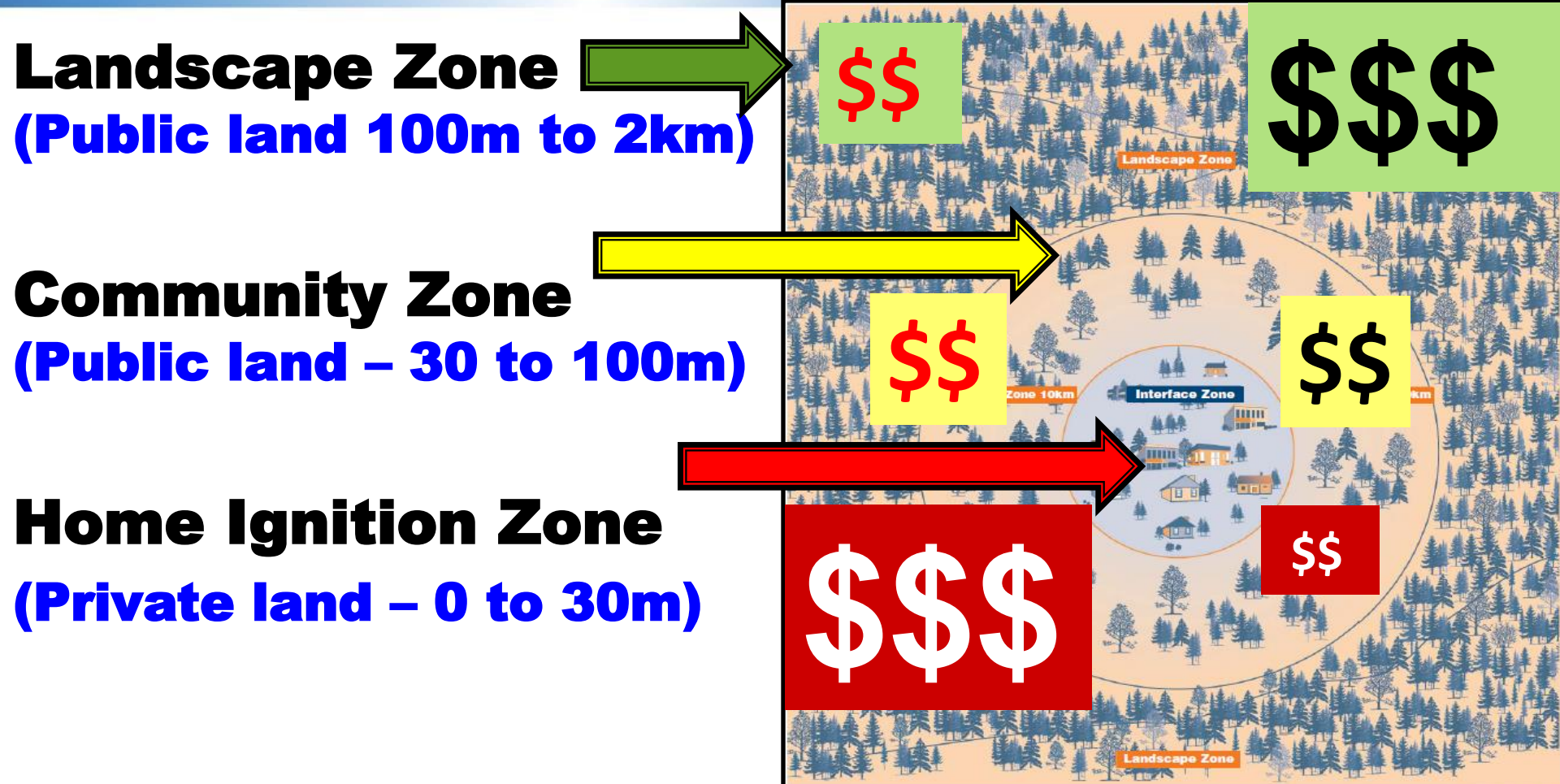
Fighting fire and fuel around our WUI communities, on remote public lands.

**MOVE
TOWARD:**

Facilitating more extensive risk mitigation activities by residents working together in neighbourhoods, on private land, to reduce vulnerability of homes to ignition – and provide fire fighters with key advantages.

How ?

Invest strategically... in risk mitigation



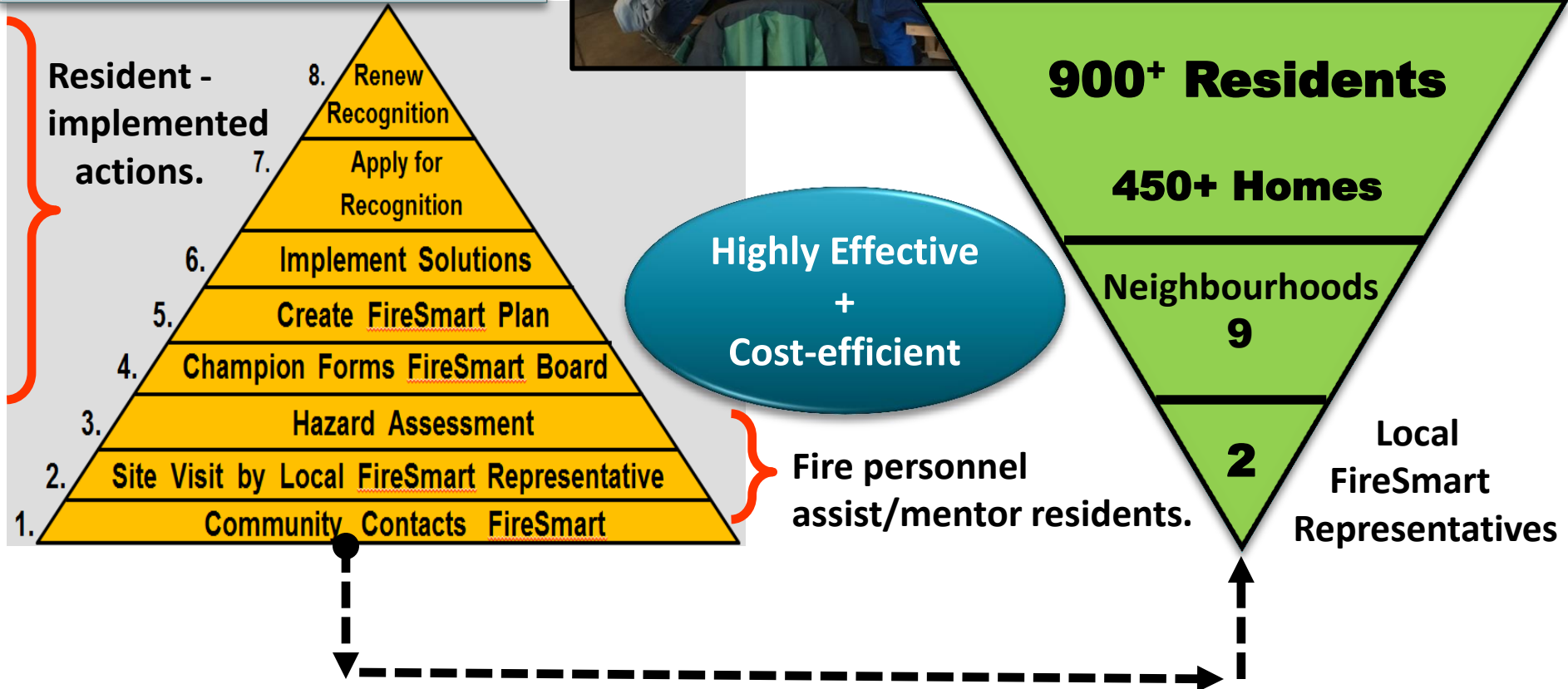
VALUE OF LOSSES / **CURRENT INVESTMENT**

How ? Fast-track the FS Community Recognition Program in BC

Recruit an army of residents to reduce wildfire risks !



**Fernie. B.C.
Example**



Promote the FireSmart Canada Community Recognition Program



- A citizen led, grassroots program to reduce risk of wildfire losses
- Operates at the neighbourhood level
- Facilitated by trained fire personnel
- Empowers WUI residents with understanding, motivates them with a framework to organize risk management actions
- Residents to develop their own FireSmart plan
- Overcomes barriers to FS progress
- Leads to national recognition





Thank You !

Good Reading: Calkin, D.E., J. D. Cohen, M.A. Finney, and M.P Thompson. (2014). How risk management can prevent future wildfire disasters in the wildland-urban interface. Proceedings of the National Academy of Sciences.

Discussion and questions



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