SIFCo


WILDFIRE AND CLIMATE CHANGE CONFERENCE
LEARN - SHARE - ACT
JUNE 26TH-28TH
NELSON, BC
AT THE PRESTIGE LAKESIDE RESORT
Ecosystem Resiliency, Community Protection & Landscape Level Management.
SIFCo
Register today at www.kootenaywildfire.ca

Flow

- Our story – 5 minutes
- FlamMap5 – 5 minutes
- Landscape Level Planning - 5 minutes
- 5 treatment types– 10 minutes (one short movie)
- Some questions – 5 minutes

- Total time: 30 minutes

Thank You to:

FESBC

Forest Enhancement Society of British Columbia

British Columbia · Forests, Lands and Natural Resource Operations ·

UBCM Union of BC Municipalities

COLUMBIA BASIN TRUST
a legacy for the people

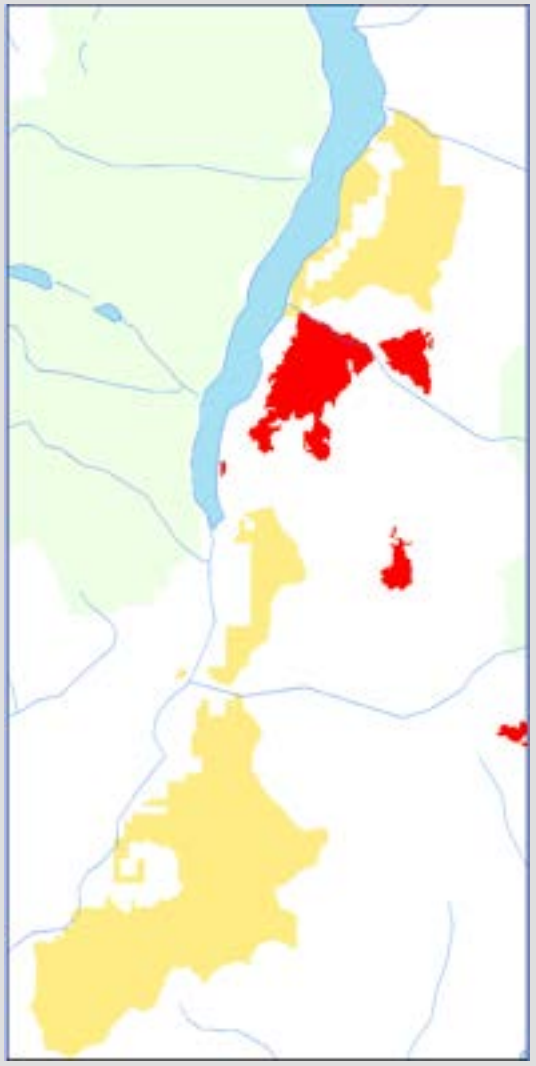
Our three municipalities:
Slocan
Silverton
New Denver

History

- SIFCo formed in 2005
- Goal: a Community Forest Agreement over a group of domestic use watersheds in Slocan Valley.
- Perspective: Water and Ecosystem Protection.
- CFA awarded in 2007

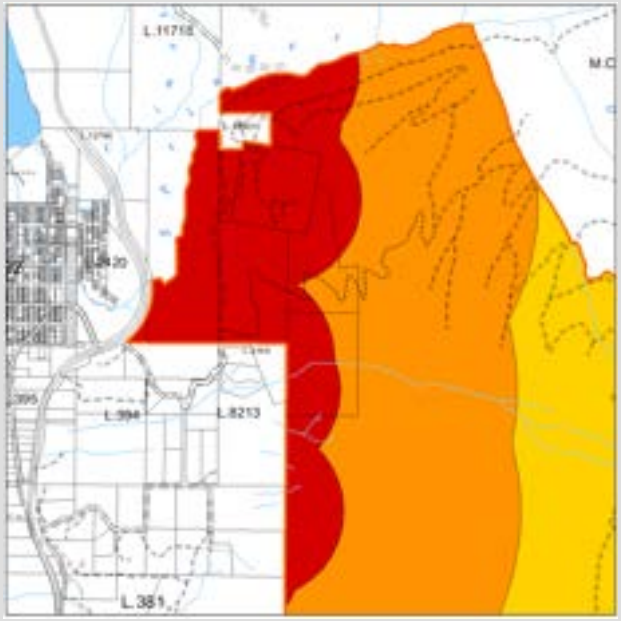
History

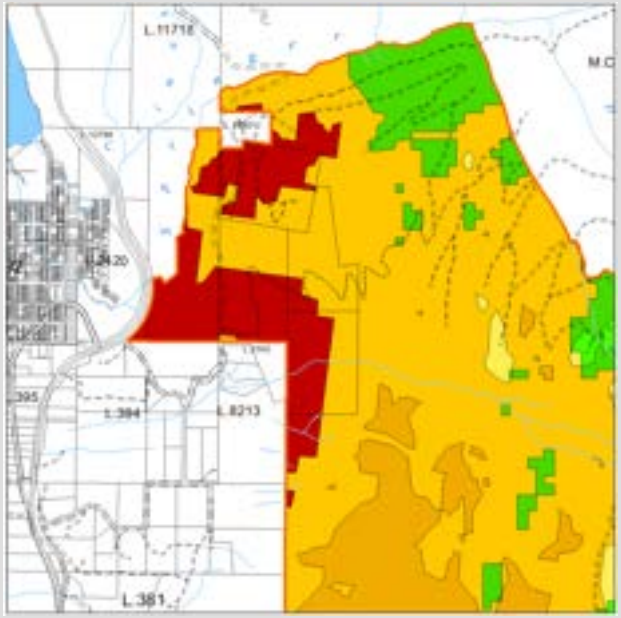
- 2007: Springer Fire – a landscape scale fire next door....
- Fuel management became a CFA priority

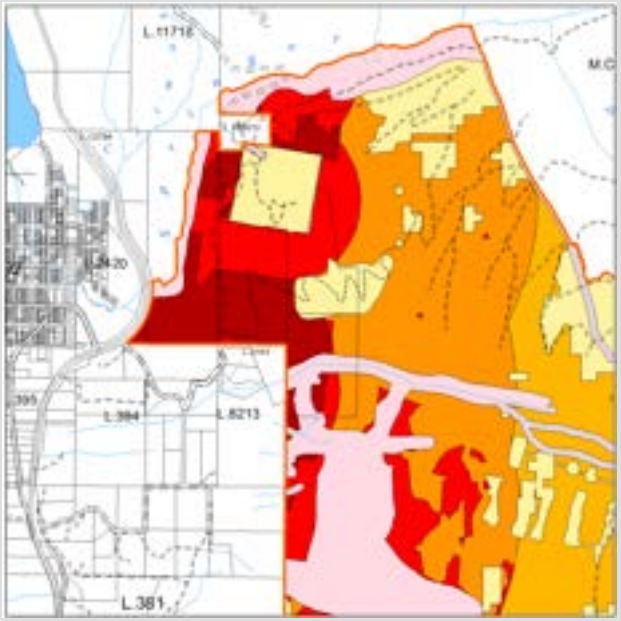


History

2008: ~~Initial~~ Crude Approach to identifying priority treatment areas







Proximity to Infrastructure + Fire Risk and Consequence = Treatment Priority (Inop netted out)

2008: wrote new WUI stocking standards in our FSP

2008-13 : We started working

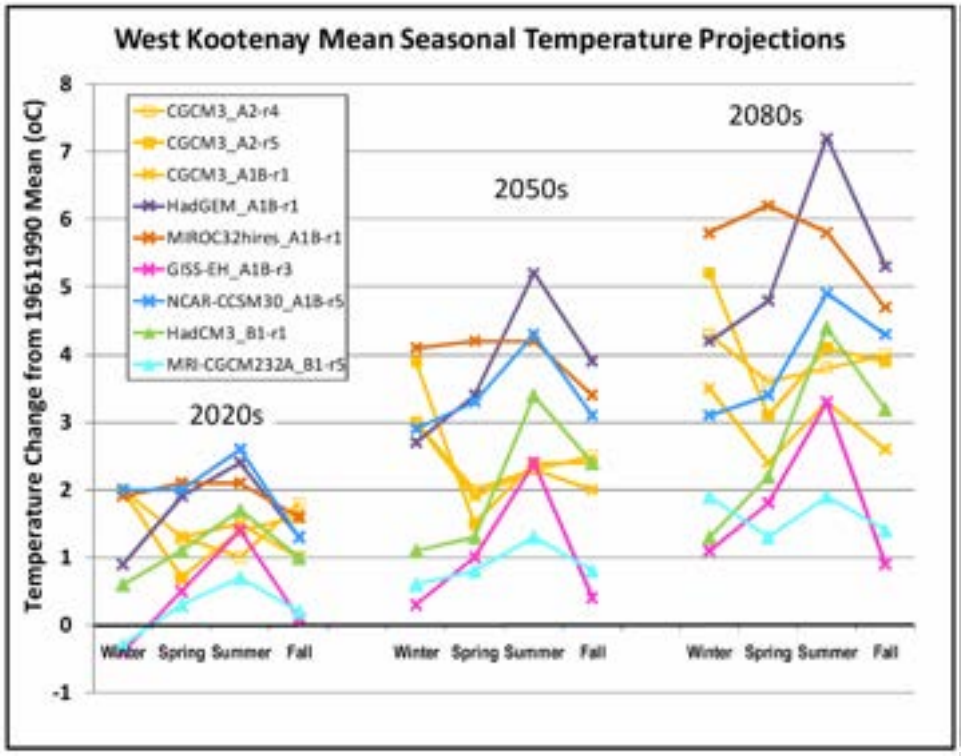
- **treated 250 + ha, approximate investment and grants = $2,000,000**

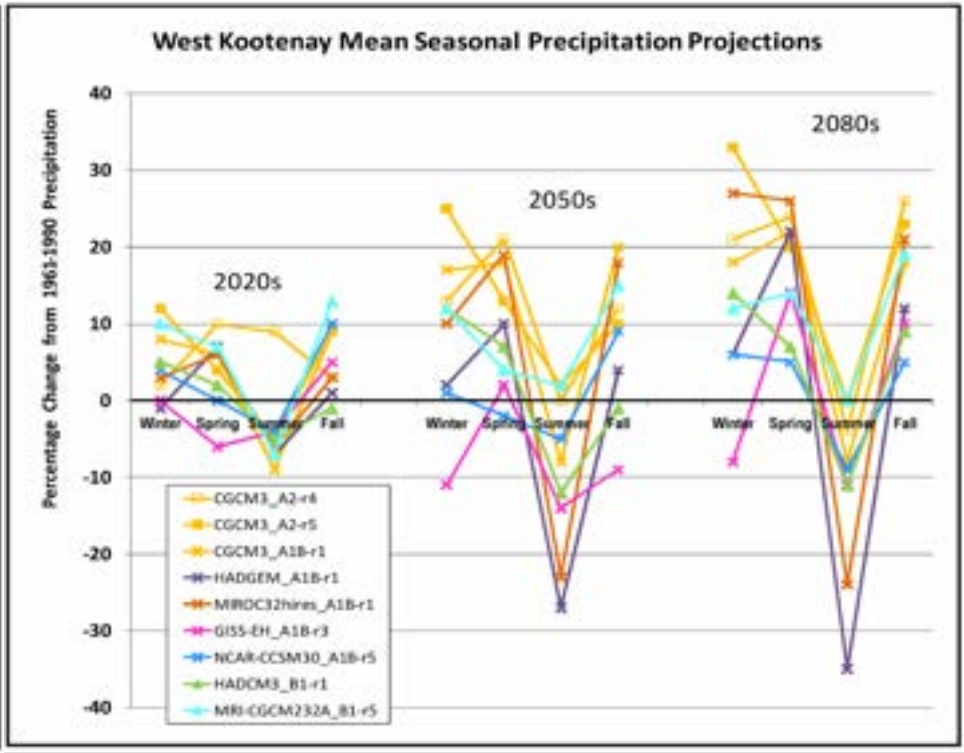
THE BIG PICTURE was getting clearer:

2011 Kootenay resilience projects

Impacts of Climate change on the Kootenays

How to adapt? Huge implications!





Hotter Summers

Dryer Summers

Add to this picture ingrowth …

and you have a volatile situation!

Fire Suppression and Ingrowth - 1

Fire Suppression and Ingrowth - 2

Fire Suppression and Ingrowth - 3

Fire Suppression and Ingrowth - 4

Things are not likely to get "better" – We have to scale our efforts, and become more efficient… so where and how should we work?

Some questions arose:

Were there some areas that burned more frequently?

Were there fire movement paths in the landscape?

So we turned to fire behaviour modelling.

2013-14: Fire Behavior Modeling

Using FlamMap5 – from US Joint Fire Sciences Program, Rocky Mountain Research Station.

- **Model considers:**
  - **Terrain: slope, aspect, elevation**
  - **Veg Cover: species, density, height, crown base height, crown volume.**
  - **Weather: temperature, wind speed, wind direction, effect of terrain and daytime heating on wind.**
  - **Fuel Conditions: effect of previous weather patterns on flammability.**

Fire Behavior Modeling

Some key model assumptions:

Hot Dry Weather:

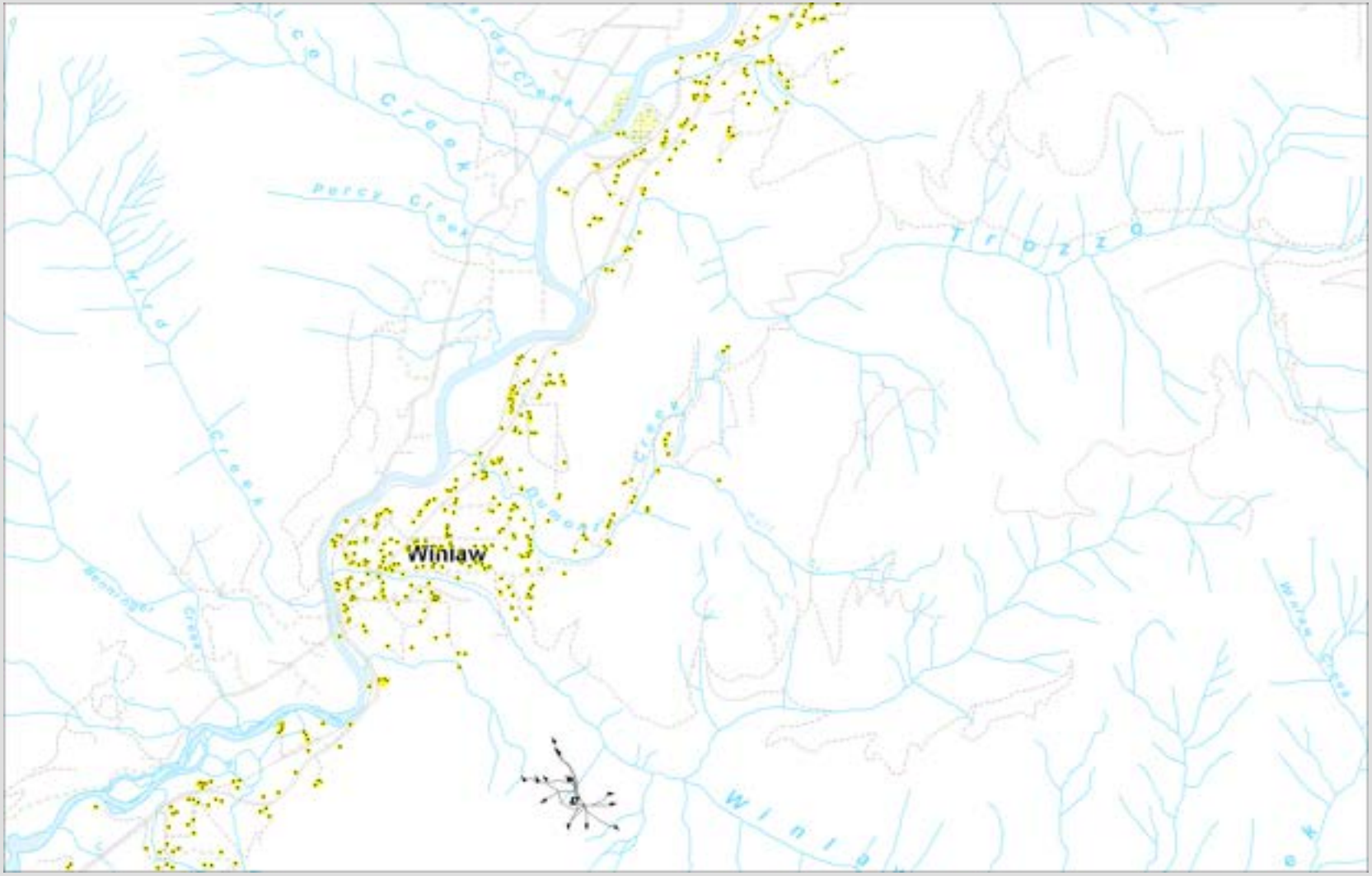
- **30° to 35° daytime temperatures, August.**
- **Has been a long hot summer – dry fuels.**
- **16 km/hr winds.**

Fire Suppression:

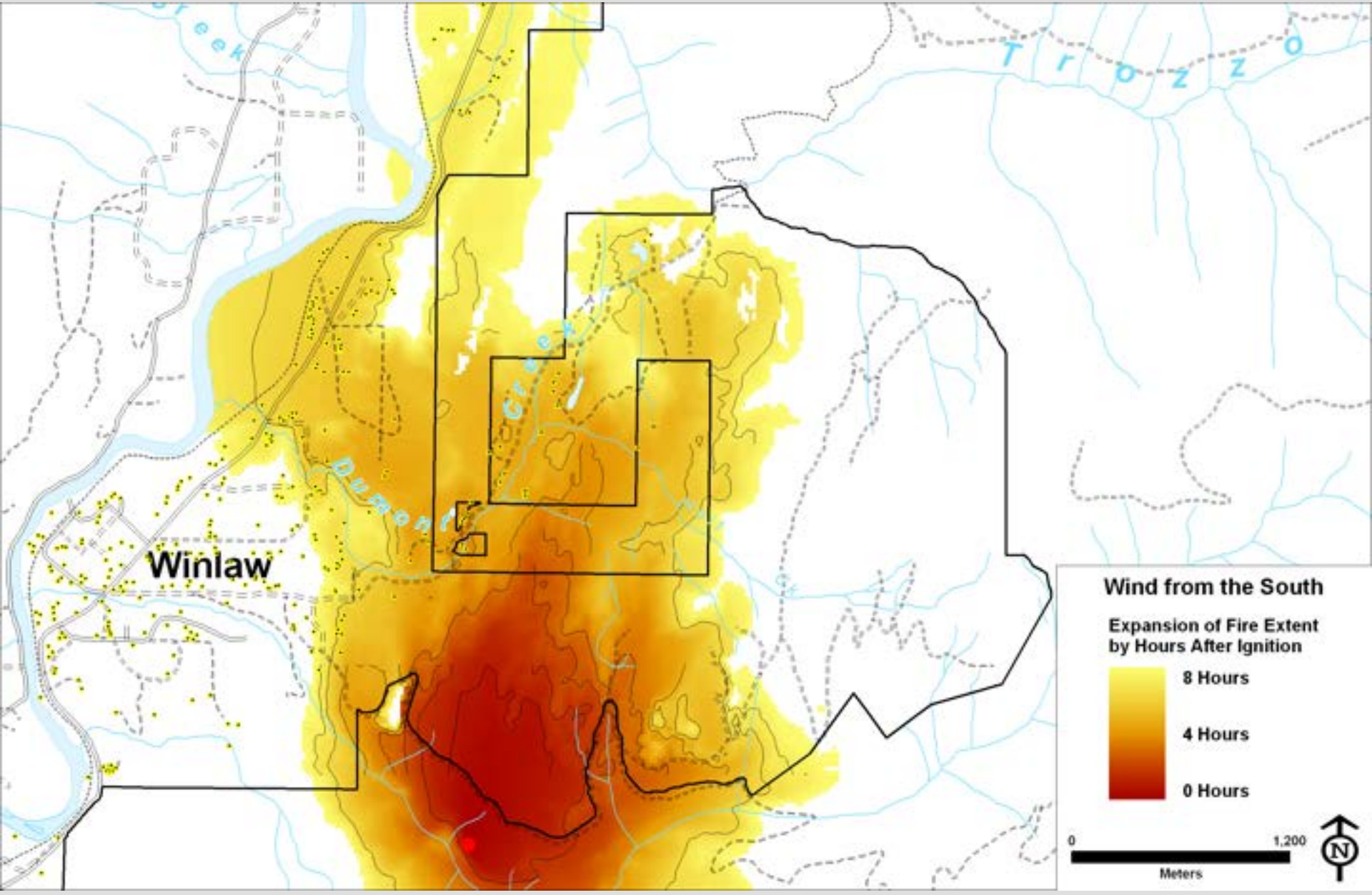
- **Not successful.**

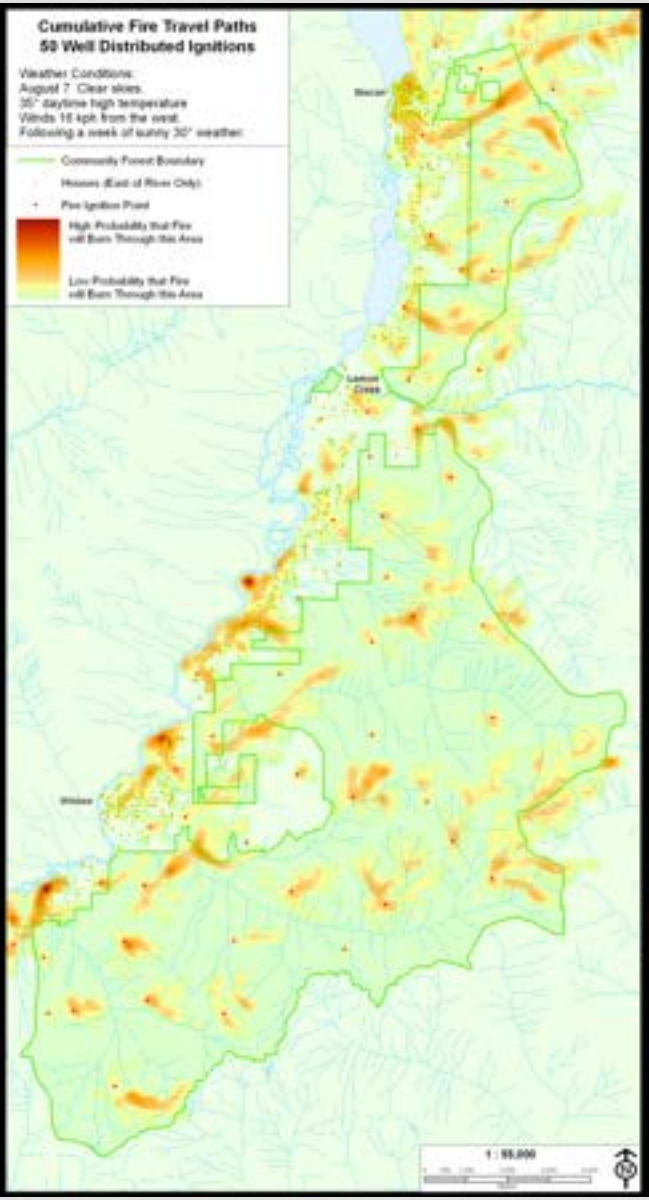
We decided to model the bad days. "You want to know what could happen when things go badly."

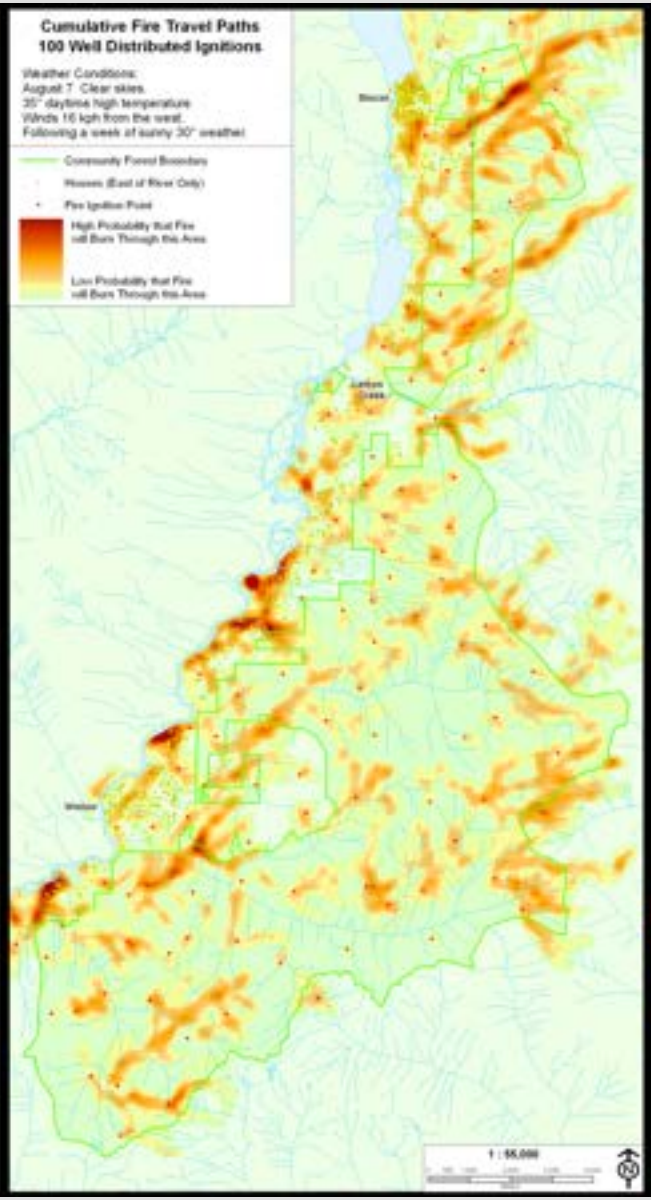
Then you begin to light fires… and some are not very exciting



And some…


Winlaw
Wind from the South
Expansion of Fire Extent
by Hours After Ignition
8 Hours
4 Hours
0 Hours
0
1,200
Meters
N


Cumulative Fire Travel Paths
50 Well Distributed Ignitions
Weather Conditions:
August 7 Clear skies.
35° daytime high temperature
Winds 16 kph from the west.
Following a week of sunny 30° weather.
Community Forest Boundary
Houses (East of River Only)
Fire Ignition Point
High Probability that Fire will Burn Through this Area
Low Probability that Fire will Burn Through this Area
Blecker
Lemon Creek
Whitlow
1 : 55,000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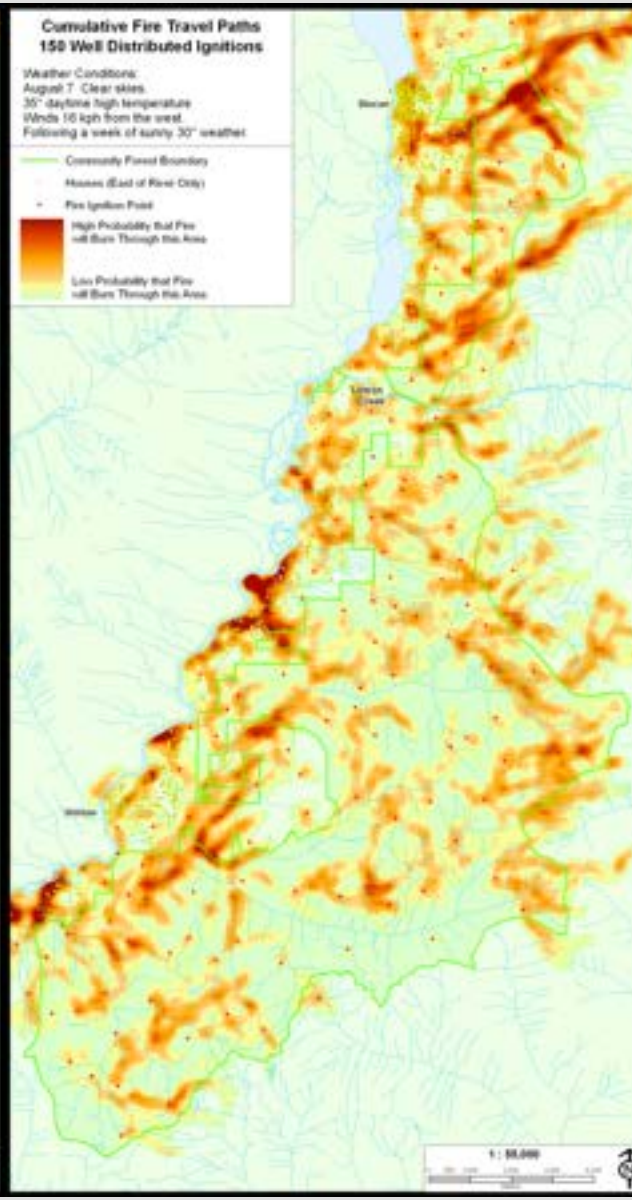
Cumulative Fire Travel Paths
150 Well Distributed Ignitions
Weather Conditions:
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Community Forest Boundary
Houses (East of River Only)
Fire Ignition Point
High Probability that Fire will Burn Through this Area
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Blecker
Lemon Creek
Whitlow
1 : 55,000


Cumulative Fire Travel Paths
50 Well Distributed Ignitions
Weather Conditions:
August 7: Clear skies.
35° daytime high temperature
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Following a week of sunny 30° weather.
Community Forest Boundary
Houses (East of River Only)
Fire Ignition Point
Fire Path
Revelstoke
Golden
1 : 50,000
N


Cumulative Fire Travel Paths
100 Well Distributed Ignitions
Weather Conditions:
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Following a week of sunny 30° weather.
Community Forest Boundary
Houses (East of River Only)
Fire Ignition Point
Fire Path
1 : 50,000
N


Cumulative Fire Travel Paths
150 Well Distributed Ignitions
Weather Conditions:
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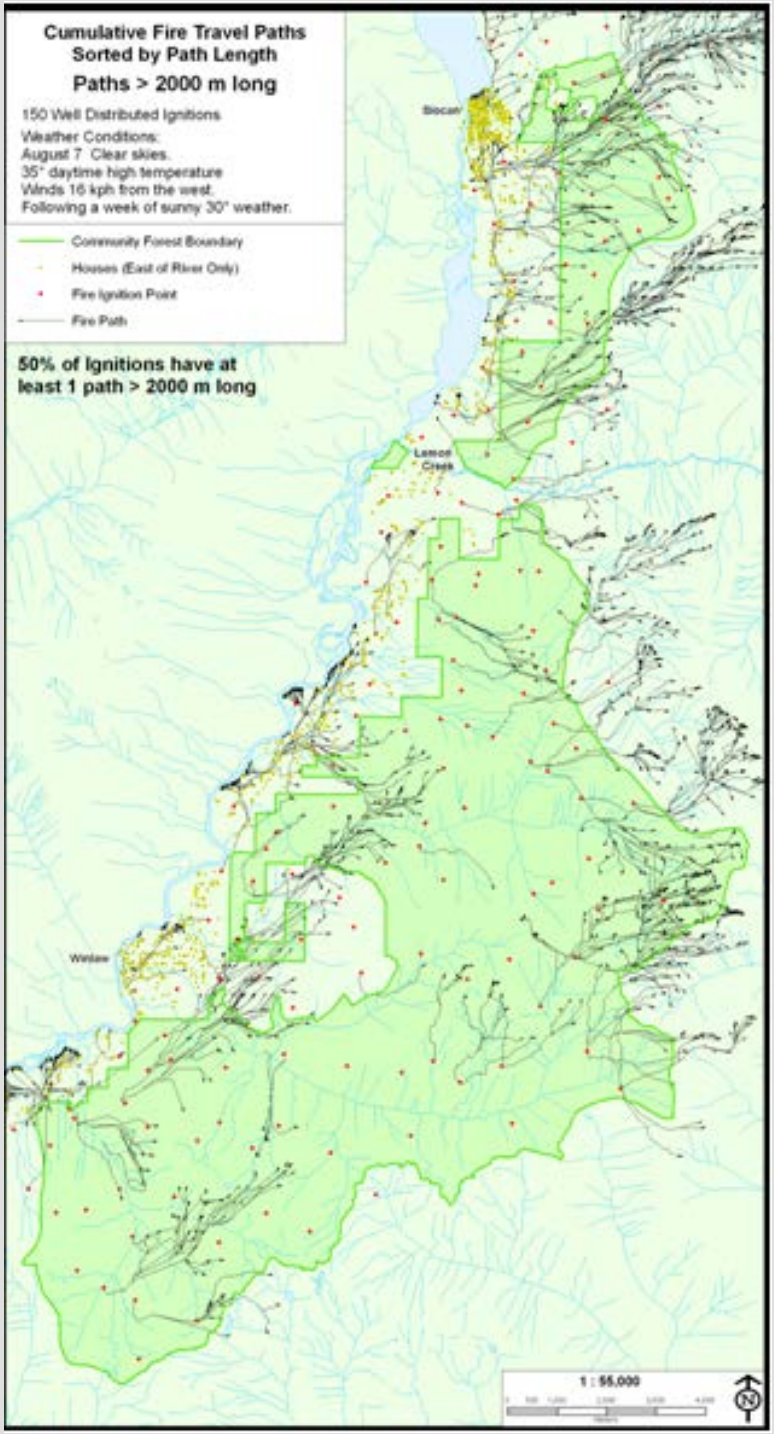
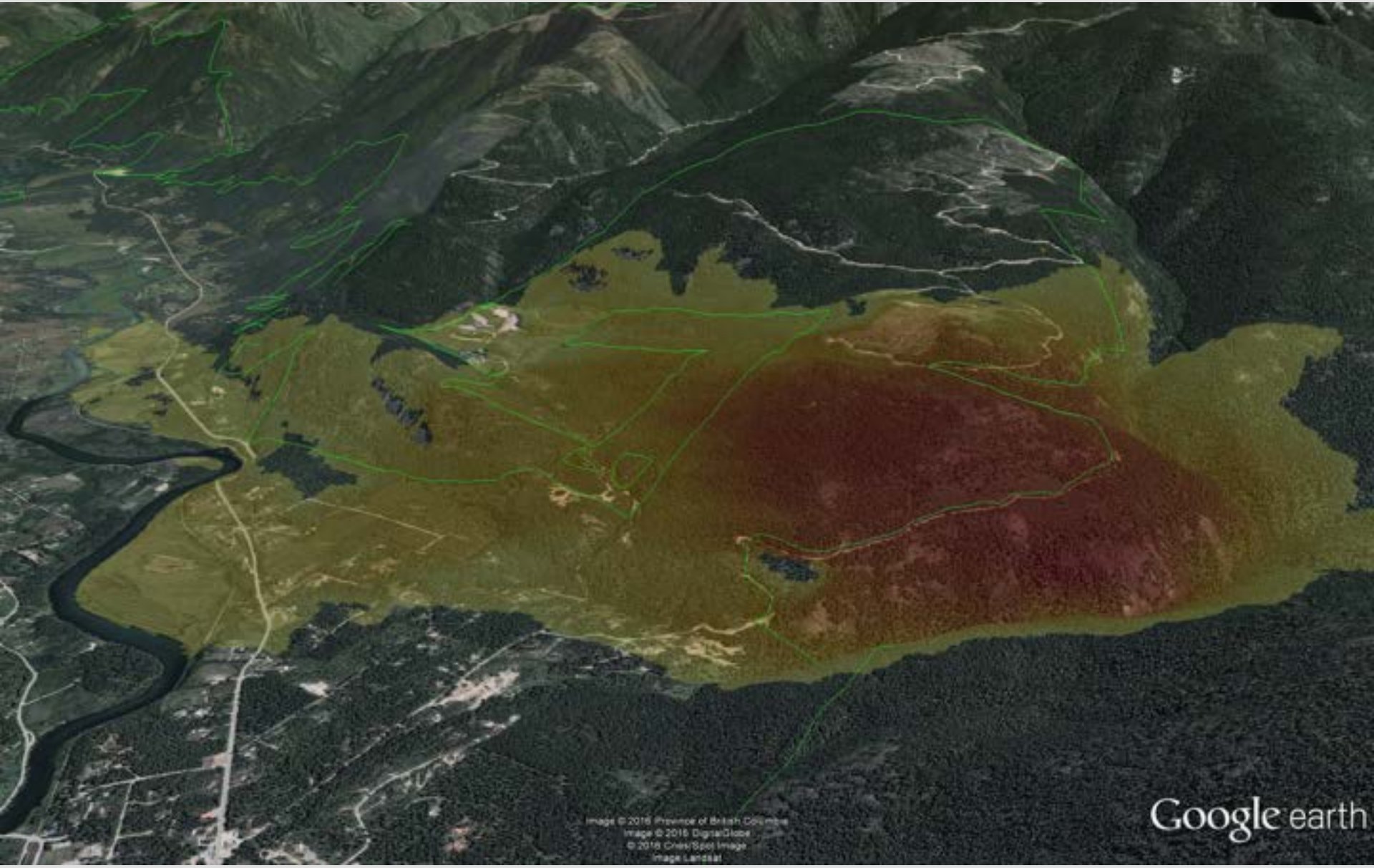
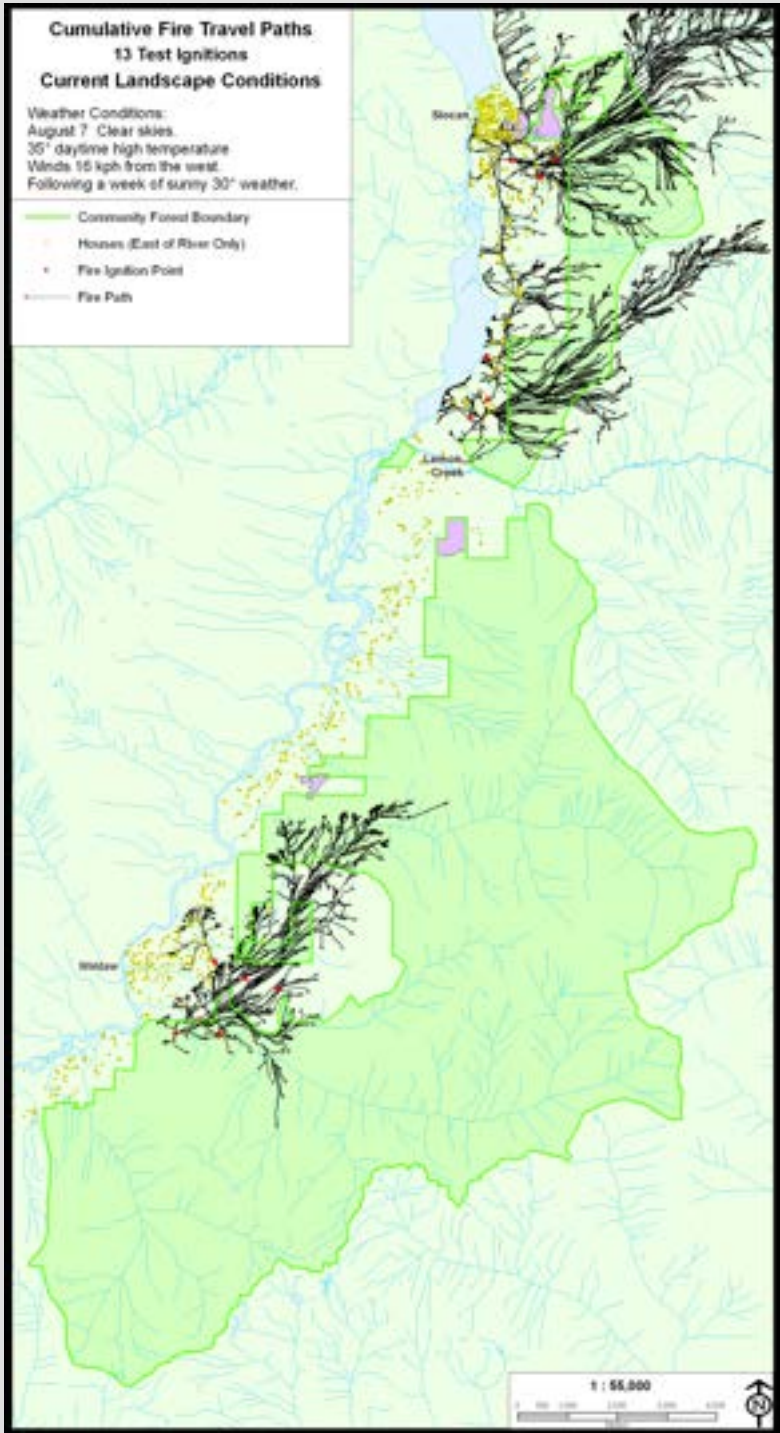
Following a week of sunny 30° weather.
Community Forest Boundary
Houses (East of River Only)
Fire Ignition Point
Fire Path
1 : 50,000
N

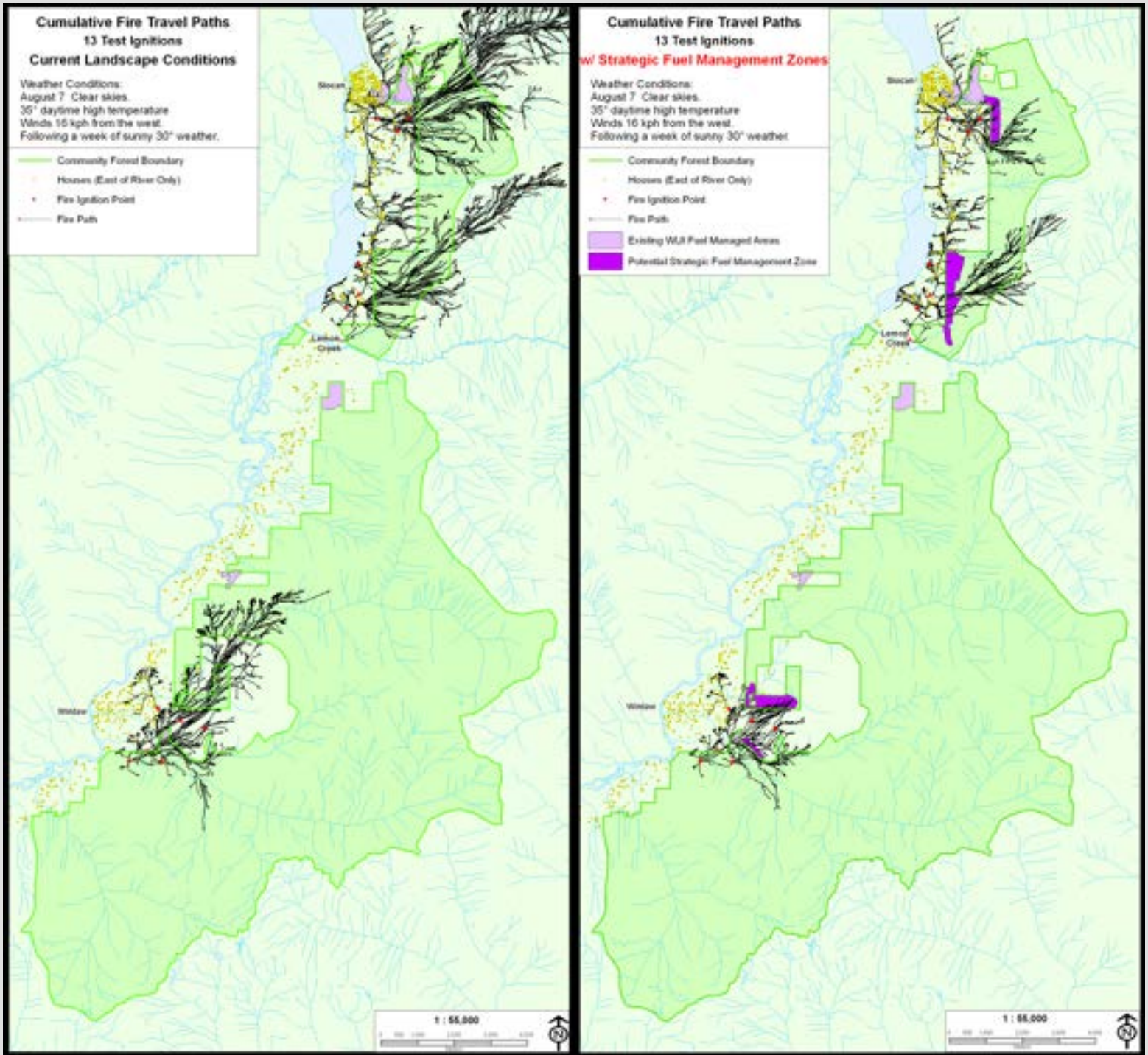

Cumulative Fire Travel Paths
Sorted by Path Length
Paths > 2000 m long
150 Well Distributed Ignitions
Weather Conditions:
August 7 Clear skies.
35° daytime high temperature
Winds 16 kph from the west.
Following a week of sunny 30° weather.
Community Forest Boundary
Houses (East of River Only)
Fire Ignition Point
Fire Path
50% of Ignitions have at least 1 path > 2000 m long
Biocan
Lemon Creek
Winlaw
1 : 55,000
N

Fire Behavior Modeling

Interesting communications tool...




Cumulative Fire Travel Paths
13 Test Ignitions
Current Landscape Conditions
Weather Conditions:
August 7 Clear skies.
35° daytime high temperature
Winds 16 kph from the west.
Following a week of sunny 30° weather.
Community Forest Boundary
Houses (East of River Only)
Fire Ignition Point
Fire Path
Slocan
Lemon Creek
Winlaw
1 : 55,000
N


Cumulative Fire Travel Paths
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Current Landscape Conditions
Weather Conditions:
August 7 Clear skies.
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Community Forest Boundary
Houses (East of River Only)
Fire Ignition Point
Fire Path
Slocan
Lemon Creek
Winlaw
1 : 55,000
Cumulative Fire Travel Paths
13 Test Ignitions
w/ Strategic Fuel Management Zones
Weather Conditions:
August 7 Clear skies.
35° daytime high temperature
Winds 16 kph from the west.
Following a week of sunny 30° weather.
Community Forest Boundary
Houses (East of River Only)
Fire Ignition Point
Fire Path
Existing WUI Fuel Managed Areas
Potential Strategic Fuel Management Zone
Slocan
Lemon Creek
Winlaw
1 : 55,000

Next: Landscape Level Plan – 2015-16

Combined:

i. **Our knowledge/ data of CFA landbase with**

ii. **fire movement paths from fire behaviour modelling.**

- **Where is it a priority to reduce fuels?**
- **Where is it feasible to operate?**
- **Where are there reasonably sized treatment units?**

Next: Landscape Level Plan – 2015-16

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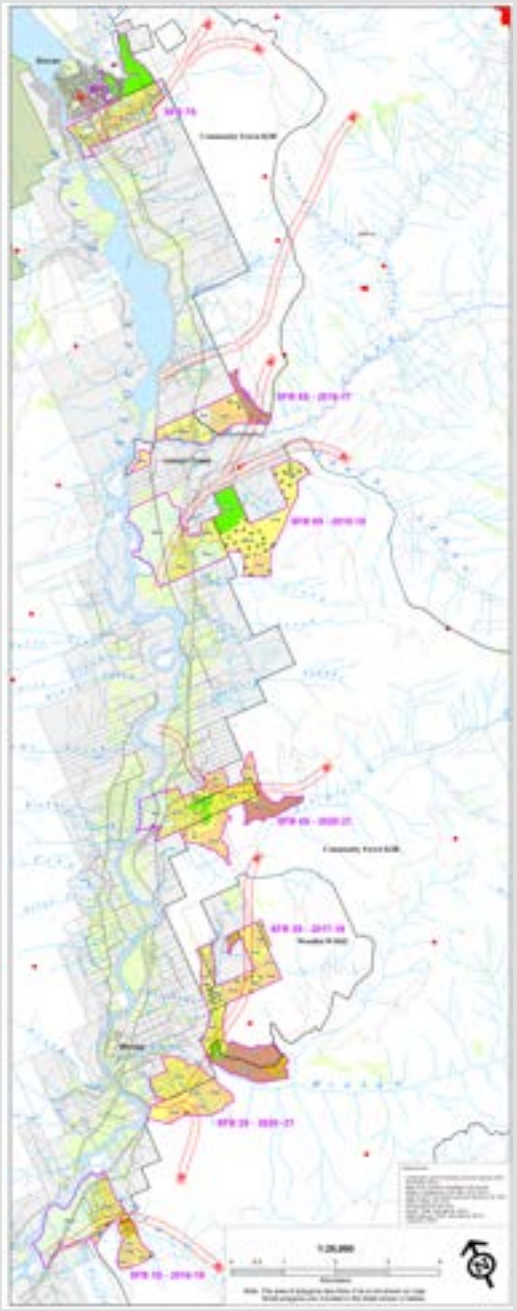
June 2016 we released our Slocan Valley Strategic Landscape Level Wildfire Protection Plan

The Plan = 12 SFB



Slocan Valley Strategic Landscape Level Wildfire Protection Plan