FIRE IN THE PINES:
THE ECOLOGY OF FIRE IN THE OKANAGAN

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THE LOWER FOREST/GRASSLAND ECOTONE

• TYPICALLY DEFINED: < 15% TREE COVER ZONE

• “SAVANNA,” “WOODLAND” or “Parkland”

• Bg/Py, Bg/IDF, xeric/mesic zones in Py and IDF

• Ecotone trees Py, Fd, Pl
ECOTONES INHERENTLY BIODIVERSE

• 2 DIFFERENT BIOMES CONTRIBUTE FLORA, FAUNA.

• WIDE SPECTRUM OF MOISTURE, SHADE, HUMIDITY AND WIND CONDITIONS.

• FAUNA ABLE TO UTILIZE RESOURCES OF BOTH BIOMES.
TROUT CREEK ECO RESERVE
Designated 1971
75Ha, 600-850m a.s.l.
Mostly south aspect
PPxh1
TCER FIRE SCARS
18 live trees, 10 stumps
Py, Fd
TROUT CREEK ER FIRE HISTORY

FIRST RECORDED FIRE: 1730

LAST RECORDED FIRE: 1952

AVG. FIRE RETURN INTERVAL (1730-1952): 18 YEARS

TIME SINCE LAST FIRE (1952-2012): 60 YEARS
HISTORICAL (PRE-EUROPEAN CONTACT) MEAN FIRE RETURN INTERVAL

MFI = 21

MFI = 13, 17

MFI = 6, 14, 17

MFI = 17, 30

MFI = 14

MFI = 11, 18

MFI = 5

MFI = 13
PRE-CONTACT FIRE RETURN INTERVALS
(Wikeem and Wikeem 2004, citing other work. Numbers in brackets are averaged from the range provided.)

<table>
<thead>
<tr>
<th>Biogeoclimatic Zone/Location</th>
<th>Average Fire Interval</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bunchgrass</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Okanagan</td>
<td>[12.5]^{1}</td>
<td>5 – 20</td>
</tr>
<tr>
<td>Cariboo (Lower Grassland)</td>
<td>19.1</td>
<td>3 – 81</td>
</tr>
<tr>
<td>Ponderosa Pine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Okanagan</td>
<td>[12.5]</td>
<td>5 – 20</td>
</tr>
<tr>
<td>Kamloops - Battle Bluff</td>
<td>8.5</td>
<td>None Given.</td>
</tr>
<tr>
<td><strong>Interior Douglas-fir</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Kootenay Trench (Dry)</td>
<td>[10.0]</td>
<td>5 – 15</td>
</tr>
<tr>
<td>East Kootenay Trench (Wet)</td>
<td>[17.5]</td>
<td>15 – 20</td>
</tr>
<tr>
<td>Kamloops - Dewdrop</td>
<td>18.4</td>
<td>None Given.</td>
</tr>
<tr>
<td>Merritt</td>
<td>13.0</td>
<td>1 – 46</td>
</tr>
<tr>
<td>Cariboo</td>
<td>14.0</td>
<td>3 – 36</td>
</tr>
<tr>
<td>Riske Creek</td>
<td>9.8</td>
<td>None Given.</td>
</tr>
<tr>
<td>Williams Lake area</td>
<td>14.5</td>
<td>2 – 54</td>
</tr>
</tbody>
</table>
THE PARADOX OF FIRE:

THE MORE OFTEN IT BURNS, THE LESS DAMAGE IT DOES
"But the wind blew burning brush across the fireline..."

"And the fire crossed the line!"

"Birds and animals panicked as the flames roared along!"
## TCER TREE DEMOGRAPHICS

<table>
<thead>
<tr>
<th>Report</th>
<th>Sample size</th>
<th>Avg. Age</th>
<th>Live Stems/ Ha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larmour 1975</td>
<td>8 trees</td>
<td>72*</td>
<td>49</td>
</tr>
<tr>
<td>MFLNRO 2009</td>
<td>-</td>
<td>162</td>
<td>244</td>
</tr>
<tr>
<td>Valhalla 2010</td>
<td>8 trees</td>
<td>145</td>
<td>68</td>
</tr>
<tr>
<td>Gayton 2012</td>
<td>8 trees</td>
<td>57</td>
<td>-</td>
</tr>
</tbody>
</table>

*updated from 1975

Oldest tree cored: 270 years

2 main cohorts apparent:
* 50-80 years old
* 230-260 years old


Available online at [www.forrex.org/jem](http://www.forrex.org/jem)
“Suppression of fire results in gradual recolonization by woody species in every grassland known to me.”

--American geographer Carl Sauer (1889-1975)