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LANDSCAPE FIRE MANAGEMENT IN CANADA'S NATIONAL PARKS

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OR...

COWBOYS
WITH A
DRIP
TORCH



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PEOPLE BEHIND THE FIRELINE

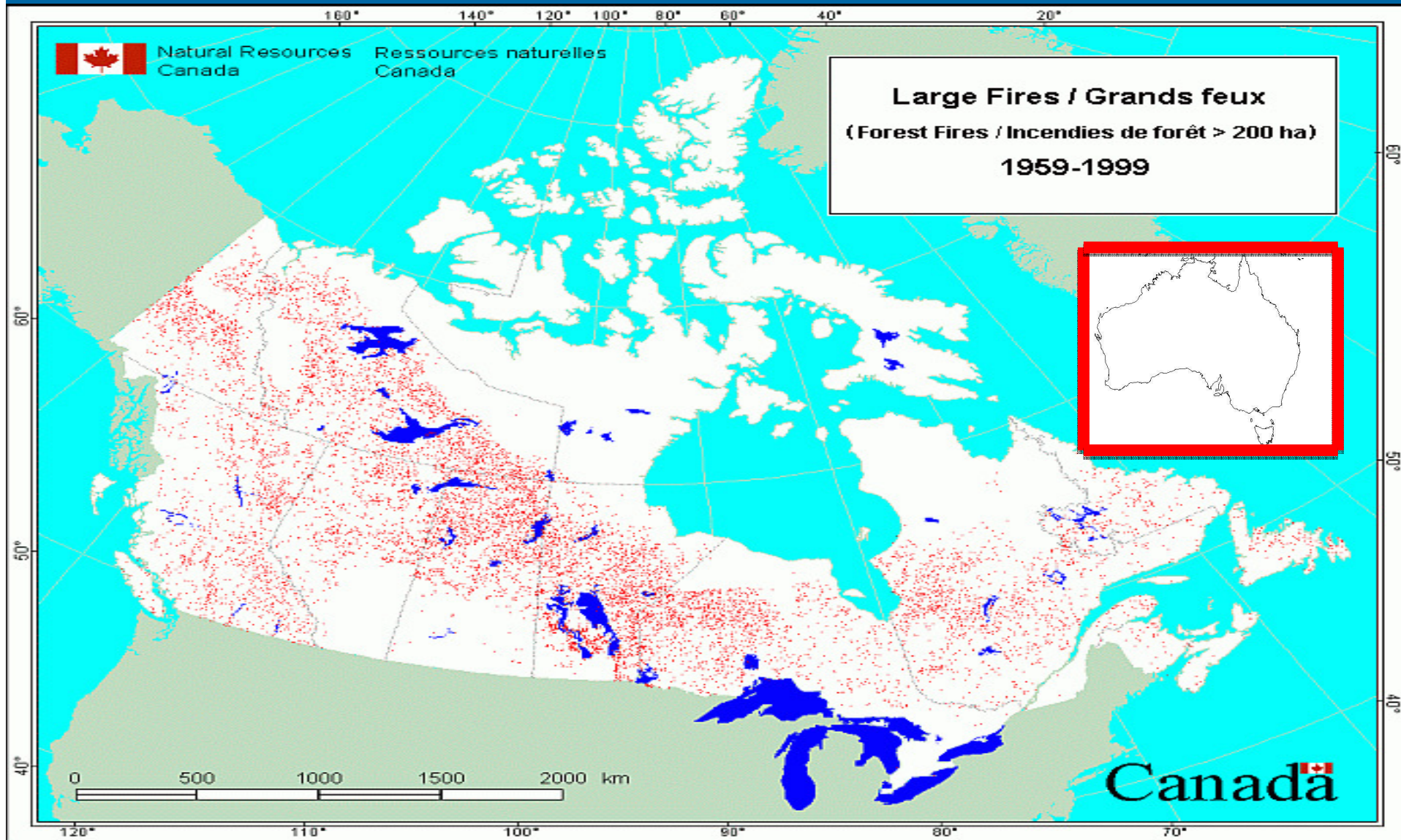


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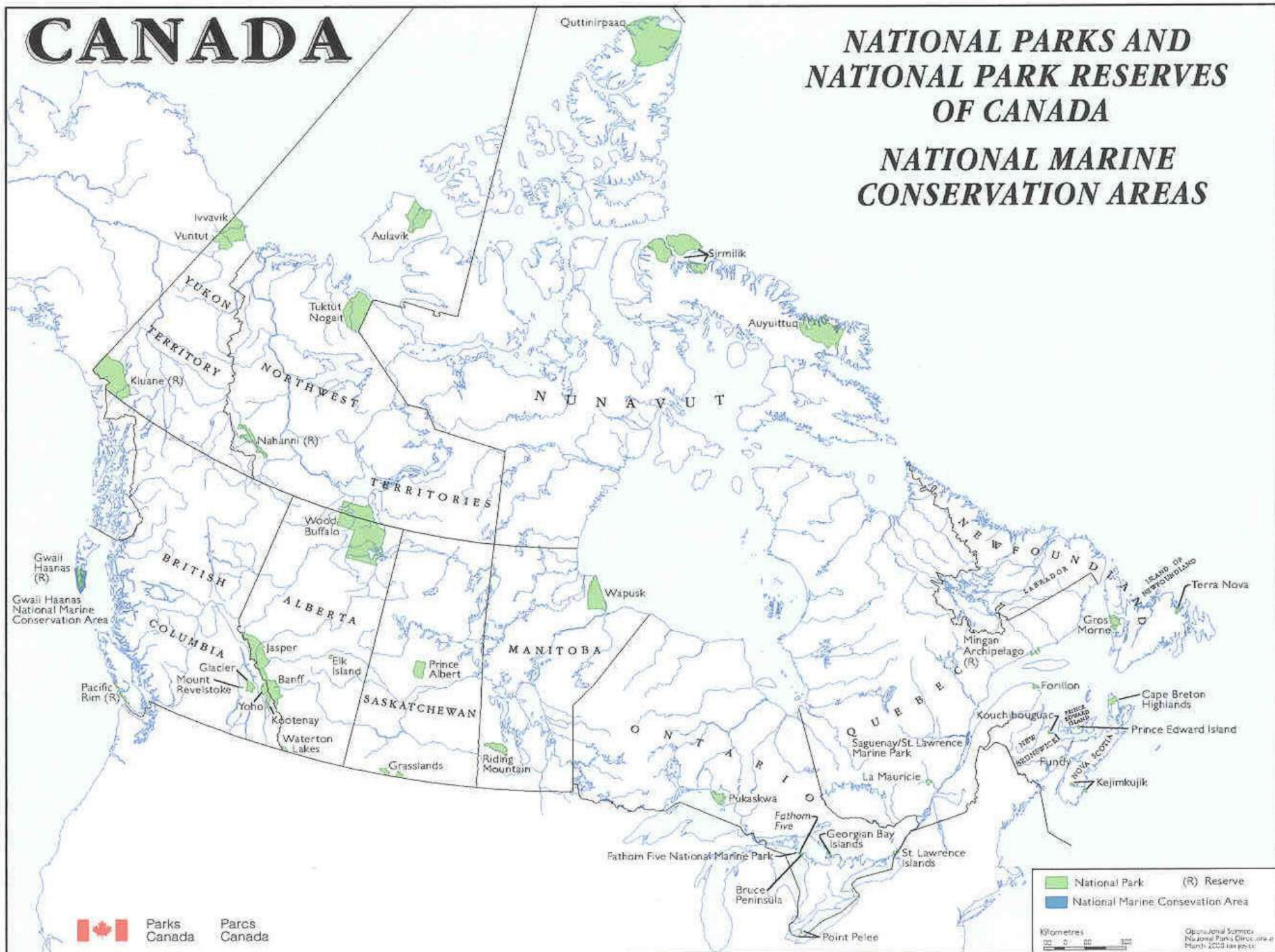
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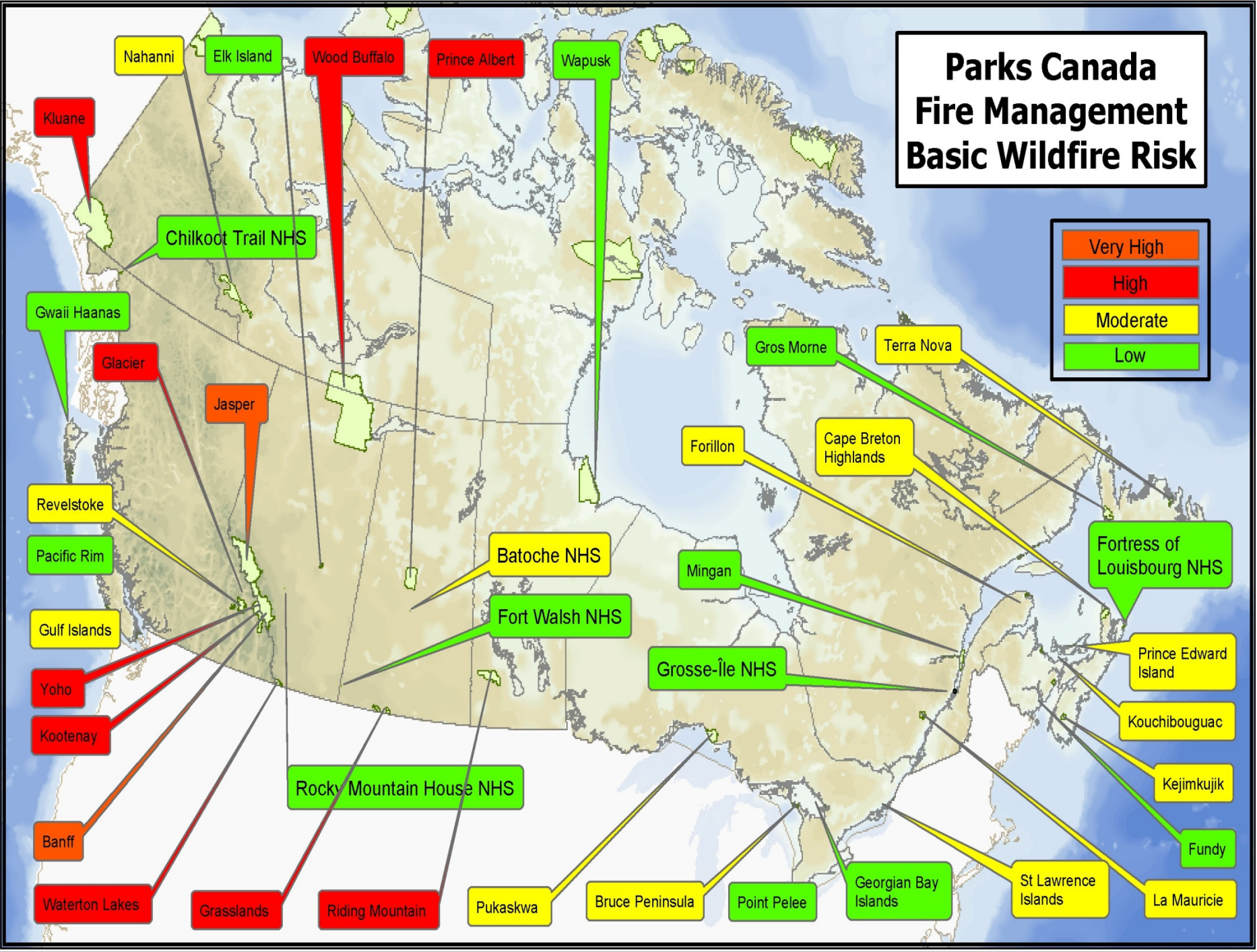
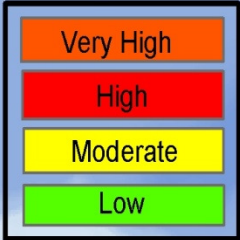
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NATIONAL PARKS AND NATIONAL PARK RESERVES OF CANADA

NATIONAL MARINE CONSERVATION AREAS



Parks Canada Fire Management Basic Wildfire Risk



Fire Management in Canada's National Parks - Starting Out



Same humble beginnings as other Canadian fire agencies.



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THE BEGINNING

First Canadian National Park: Banff - 1885

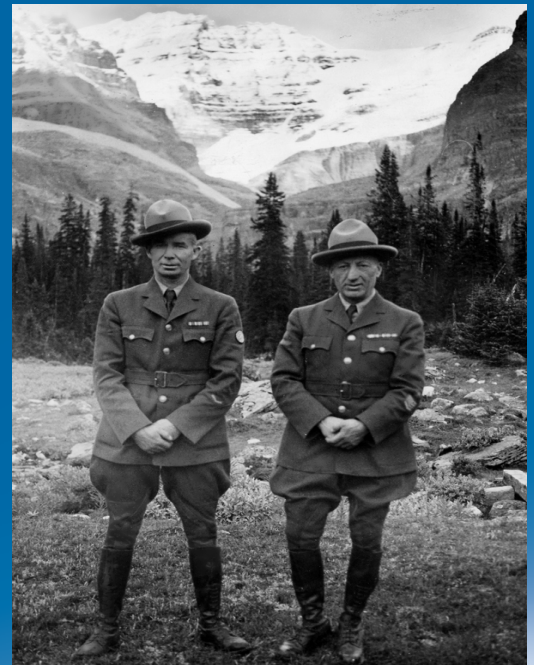
First Park Superintendent: 1887

First Park Wardens: 1889

- Protect forests from fire
- Prevent poaching
- Protect visitors from animals

First firebreak:

– West of Banff : 1916

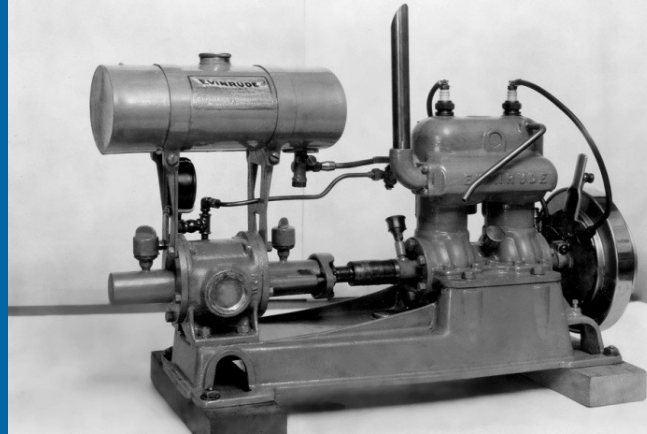


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HISTORIC WILDLAND FIRE MANAGEMENT POLICY

1885- 1970+ : SUPPRESS ALL WILDFIRES

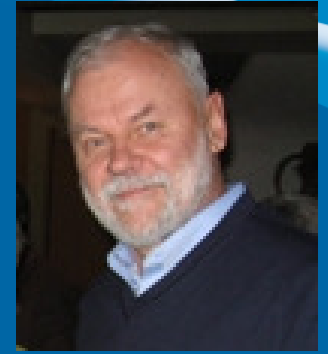


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FIRST STEPS IN THE 1970's + EARLY 1980's

- Early Fire Research (USA)
- Awakening to ecological roles of fire
- Fire Policy Pioneer: Nik Lopoukhine
- Partnership with Canadian Forest Service and other fire research organizations
- Initial fire effects studies (Vermilion Pass)
- First Prescribed Fire trials
(Elk Island, Jasper, Riding Mountain NPs)



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WHAT MAKES OUR FIRE ORGANIZATION DIFFERENT?

Canada National Parks Act (2000)

"national parks ... are hereby dedicated to the people of Canada for their benefit, education and enjoyment ... shall be made use of so as to leave them unimpaired for ... future generations"

Maintenance of ecological integrity shall be the first priority



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Ecological Integrity

"...a condition that is determined to be characteristic of its natural region and likely to persist, including abiotic components and the composition and abundance of native species and biological communities, rates of change and **supporting processes**"

More simply:

*Maintain representative
species, spaces, and
processes*



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1986-1989 WATERSHED* YEARS

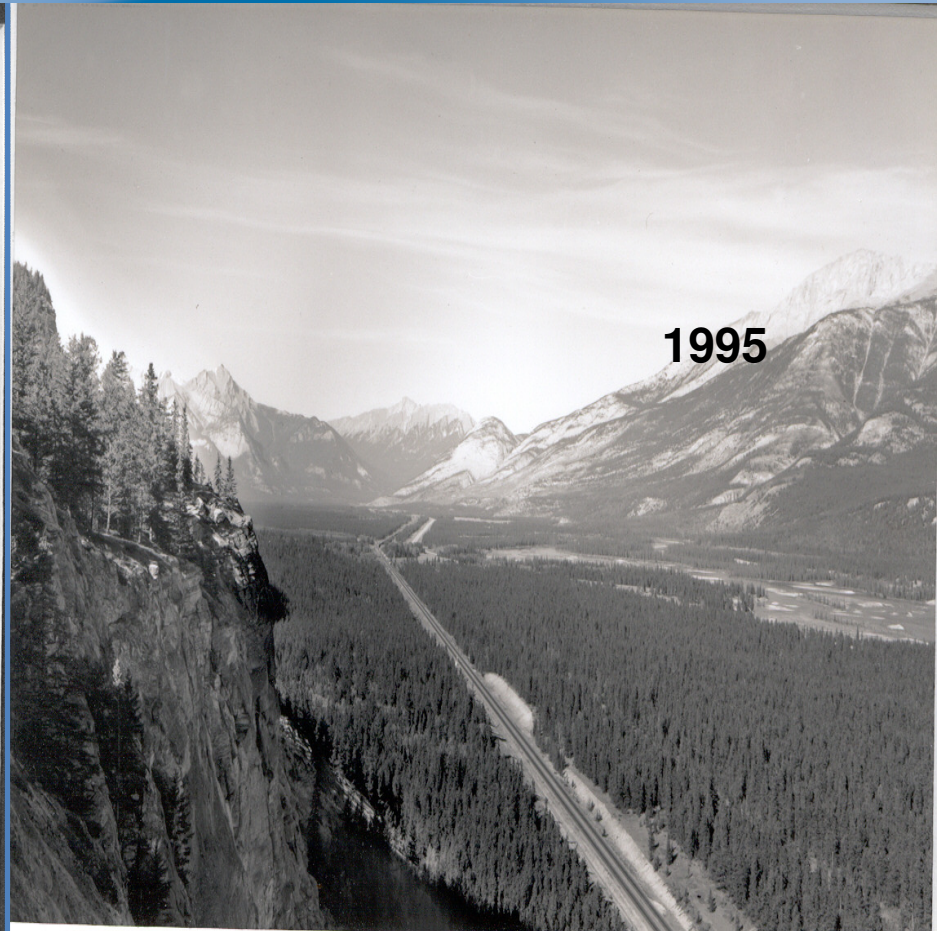
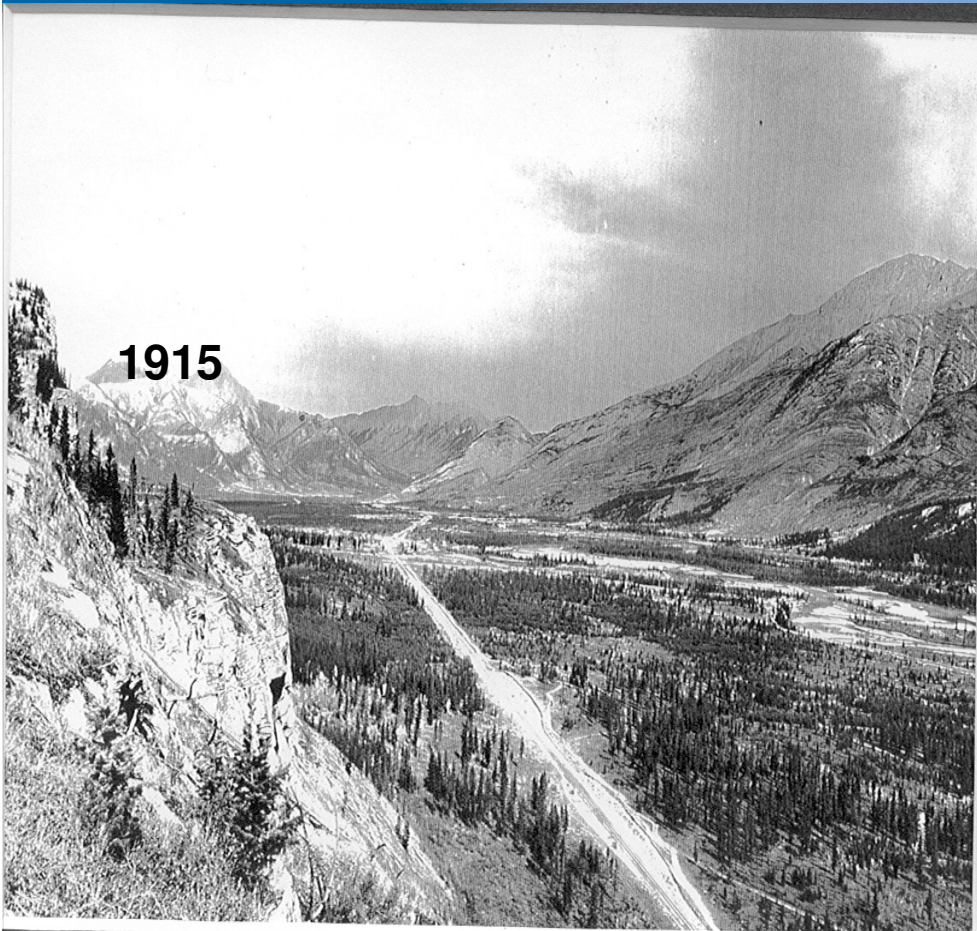
- Fire Management Directive: 1986
- Keepers of the Flame: 1988
- Enhanced Fire Preparedness + Finance Systems: 1989

KEY PRINCIPLES:

- Good Fire Control
- Phased Approach to Fire Use
- Resource Sharing + Mutual Aid Contributions
- Fire Mgmt Based on Overall Vegetation Objectives
- Nature does not care what starts the fire.



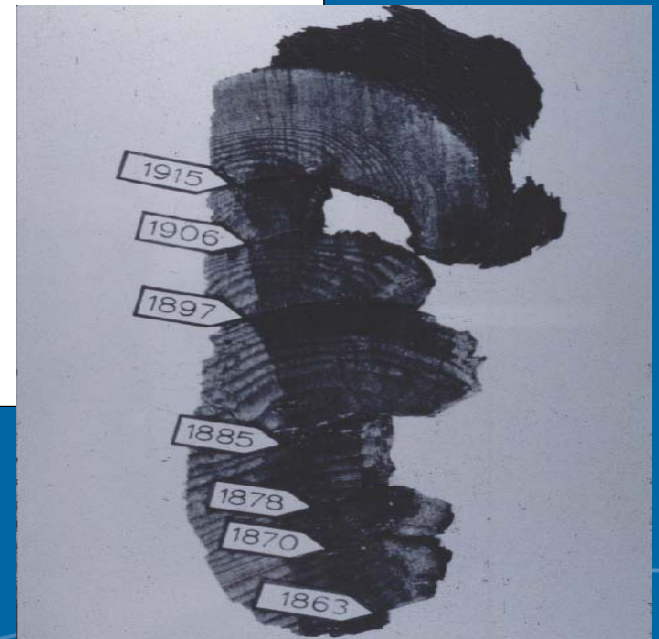
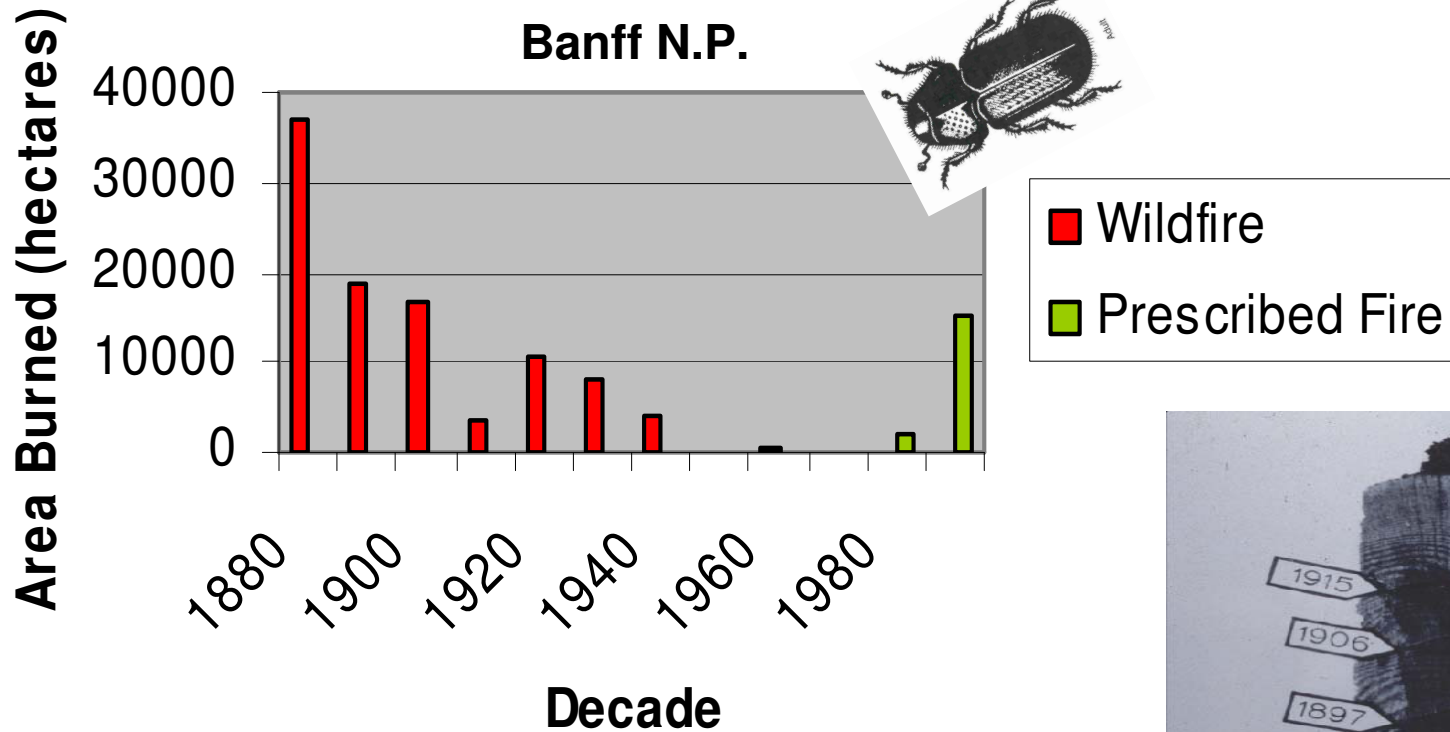
UNDERSTANDING OUR FIRE REGIMES

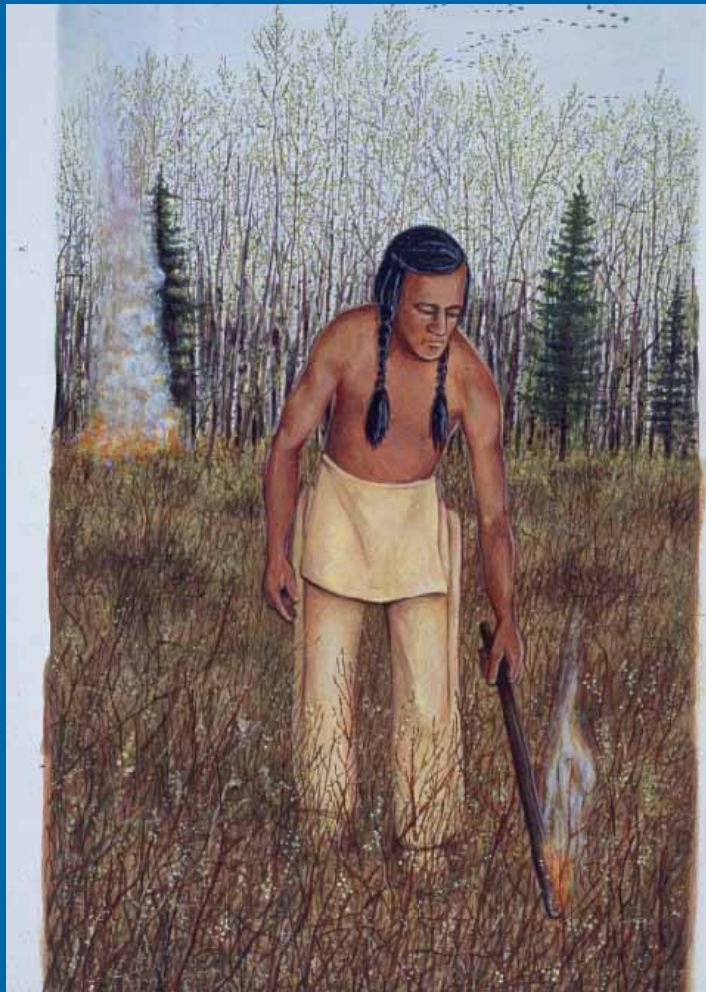


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Effects of Fire Suppression





We'd always wait until the late afternoon and the fire was set at the upper end (of the meadow). It would burn down to the low, damp places where the really wet grasses grow. That's the way we burned mountain meadows. See, you have to know the wind; you have to know how to use it."

Anthropological Research

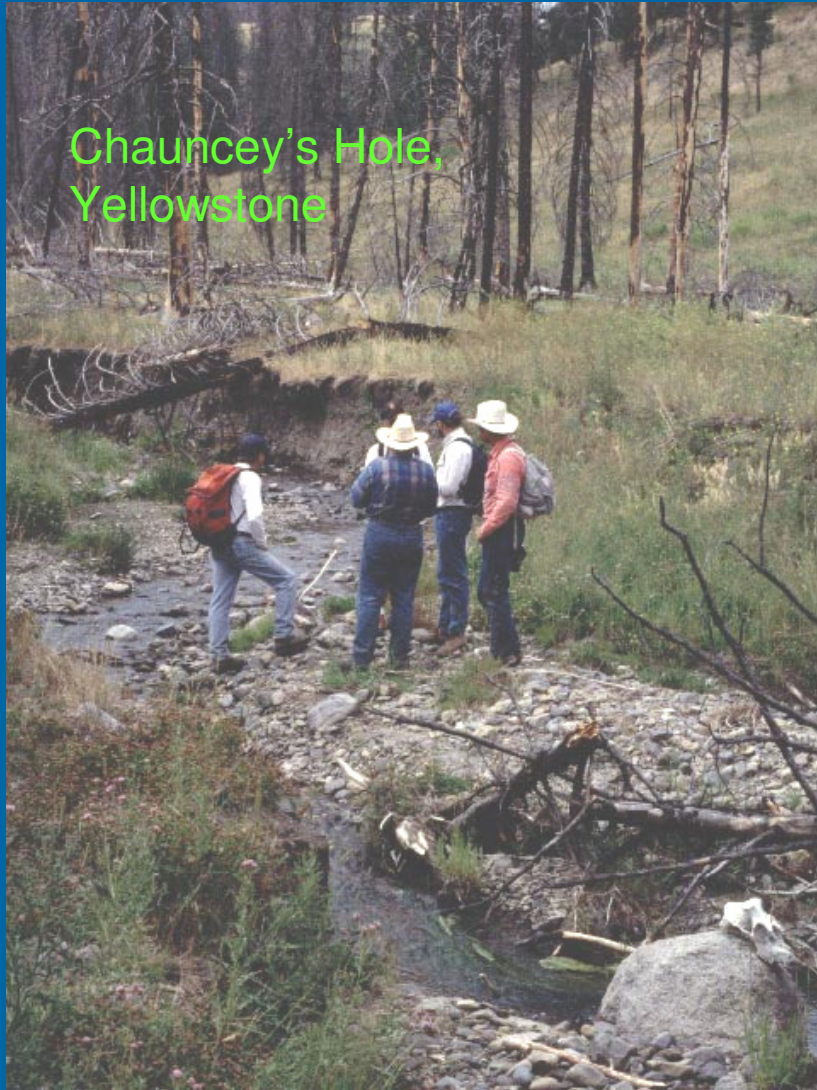
(Cree Elder interviewed by Lewis, 1982)



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YELLOWSTONE - 1988



- Triggered intense public and management interest in fire;
- Helped confirm our policies;



THE IMPORTANCE OF GOOD COMMUNICATIONS



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2003 Fire Season

- Largest prescribed fire and wildfire effort to date (152,000)
- Season-long prescribed fire in Banff (3500 ha. Fairholm Range unit)
- 12% of Kootenay National Park burned in high severity fire
- Nearly 30,000 ha. burned in Jasper
- No significant injuries or structure loss
- Massive mobilization and intra/inter-agency exchanges





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Current Framework and Direction for Fire Management Planning



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National Fire Management Strategy 2005

National parks and historic sites with fire dependent ecosystems will recognize the role of fire in restoring or maintaining ecological integrity and biodiversity.

Management decisions will support the role of fire in the ecosystem, while mitigating wildfire and ecological risks.

Fire is managed using the best available scientific knowledge and the principle of adaptive management.



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National Fire Management Strategy 2005

Utilize zoning and fire analysis process to develop appropriate response to wildfires

Use of fire based on: fire regime, objectives, values, cost, fire situation

Target is 20% of long-term average area burned



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APPROPRIATE RESPONSE TO WILDFIRES

Allow wildfires to burn depending on zoning:

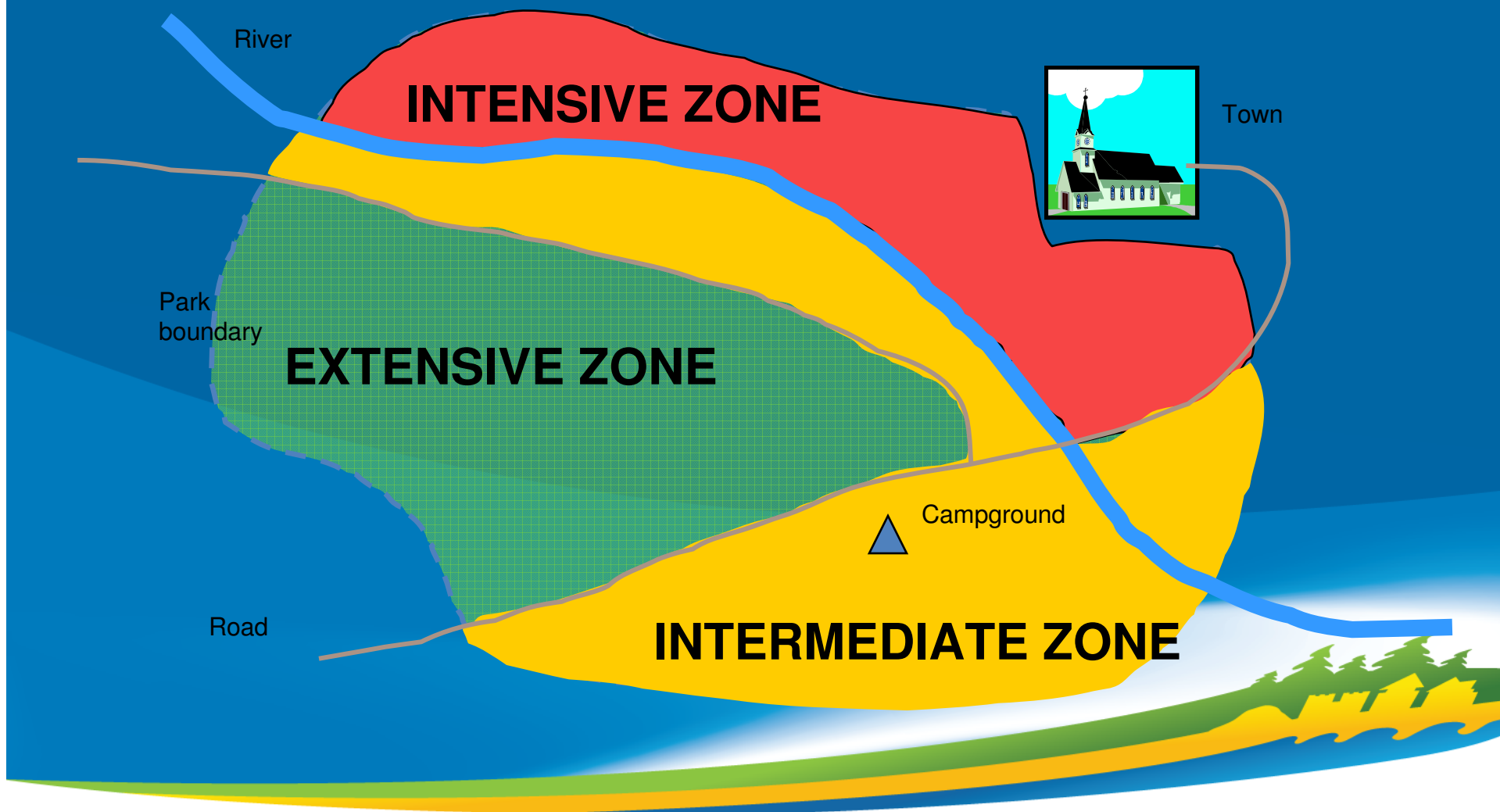
- Within pre-defined geographical limits
- When certain ecological goals can be achieved
- When public safety, facilities or neighbouring lands are not threatened





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FIRE MANAGEMENT ZONING



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USE OF PRESCRIBED FIRE

Fire use will only apply to fire-dependent ecosystems with an implied fire history

Use of fire will be based on:

- Historical fire regime
- Management objectives
- Values-at-risk
- Fire situation
- Cost



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FUEL MANAGEMENT

1. National Park towns and infrastructure are threatened by wildfire.
2. Unprotected population centres and major developments hinder fire management options.

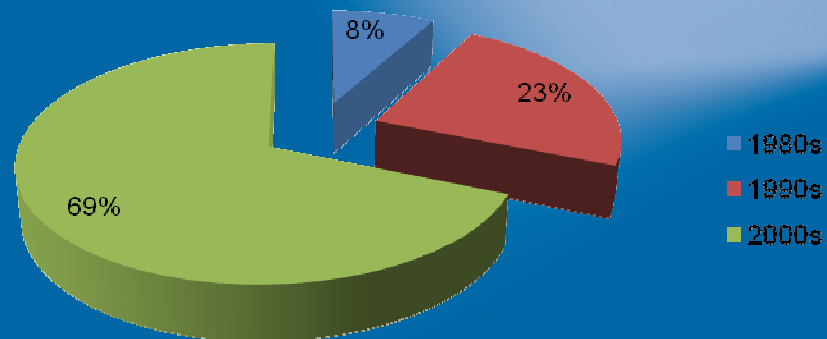


1. CANNOT remove the town or major developments.
2. CAN:
 1. Make areas safer for fire
 2. Reduce the risk
 3. Ease the minds of managers and residents

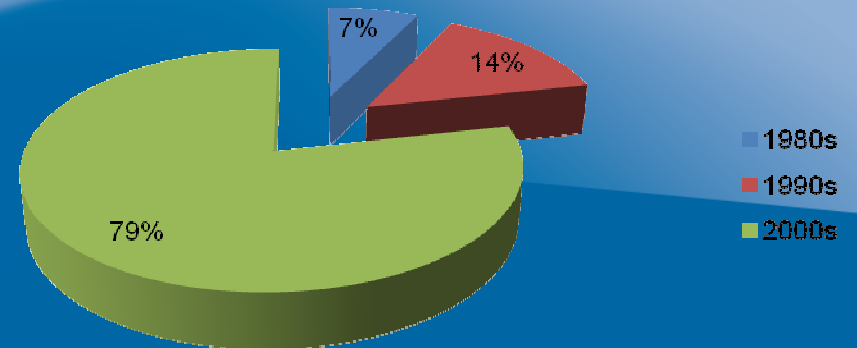


SITUATION REPORT

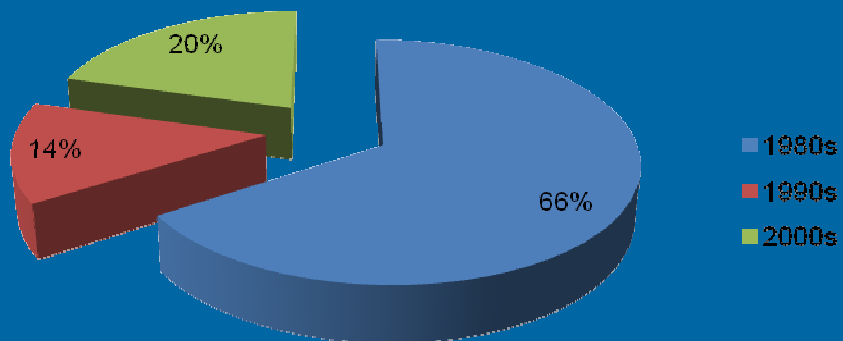
Number of PFs



PF Burn Area (ha)



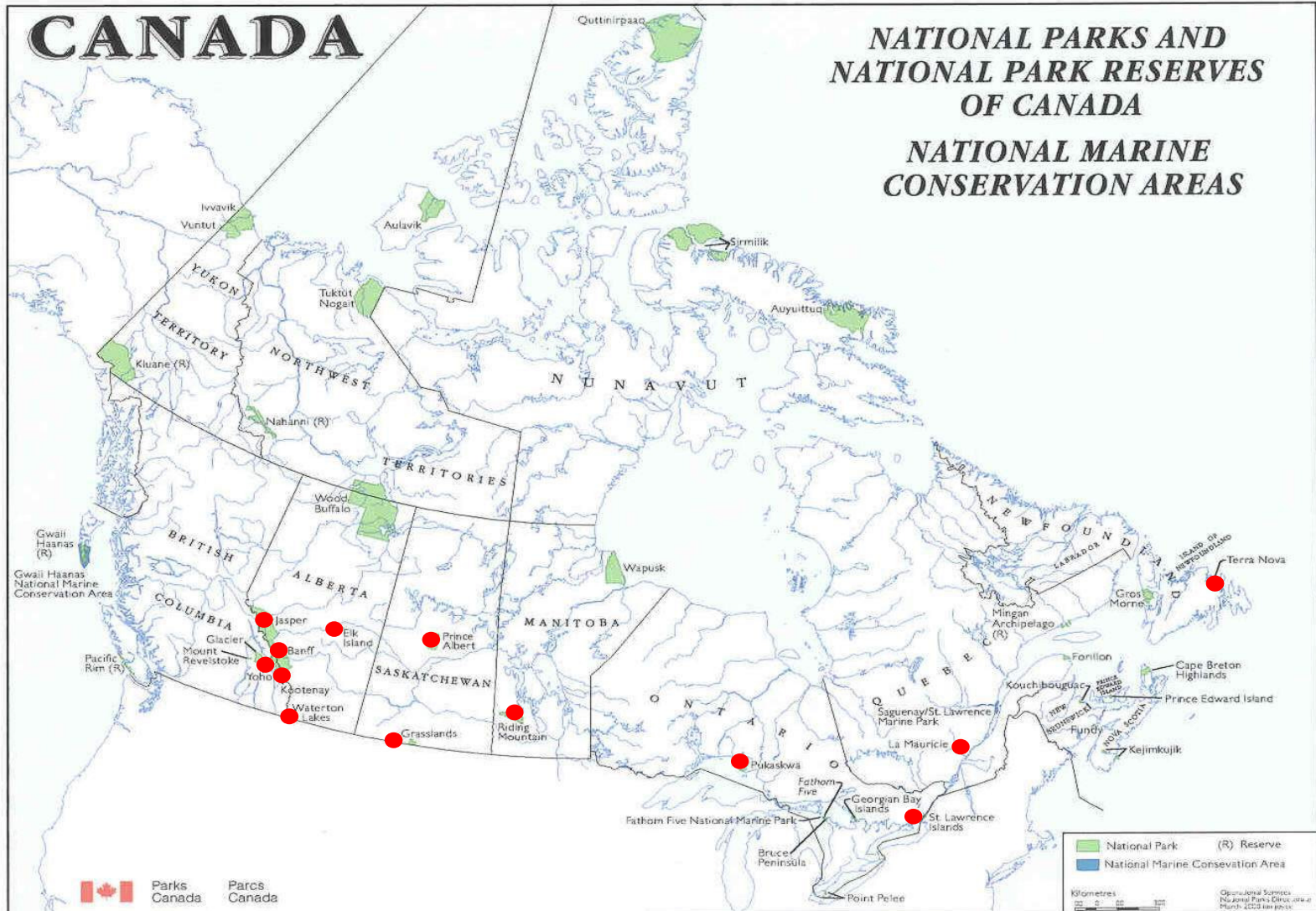
Full Response (ha)



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WILDLAND FIRE USE EXAMPLES



La Mauricie NP
Banff NP
Wood Buffalo NP

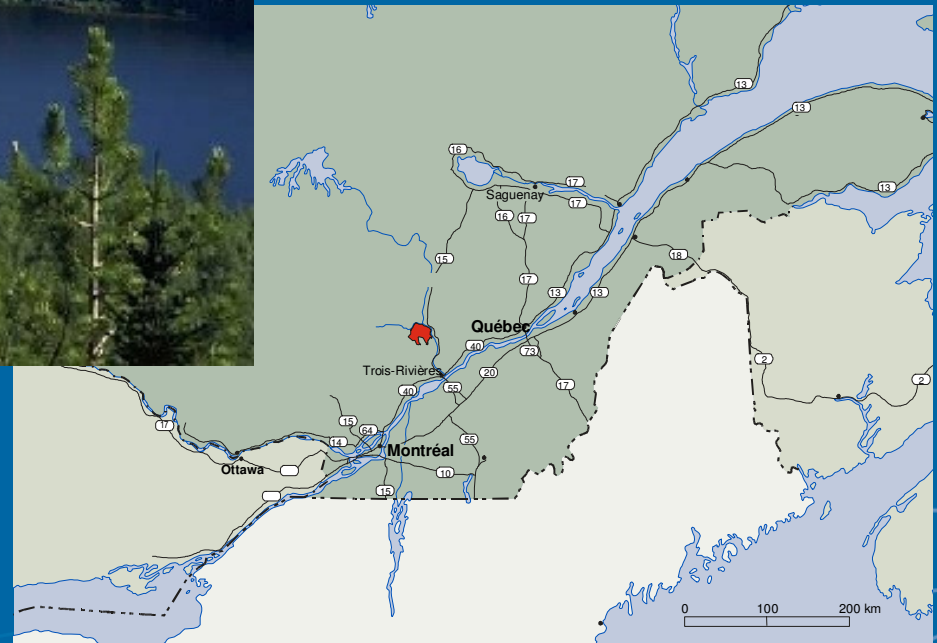


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LA MAURICE NATIONAL PARK



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PREScribed FIRE TO RESTORE WHITE PINE



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RESTORATION STRATEGY

Objectives:

- open the canopy to 25 - 40%
- prepare the seed bed
- recycle nutrients
- control balsam competition

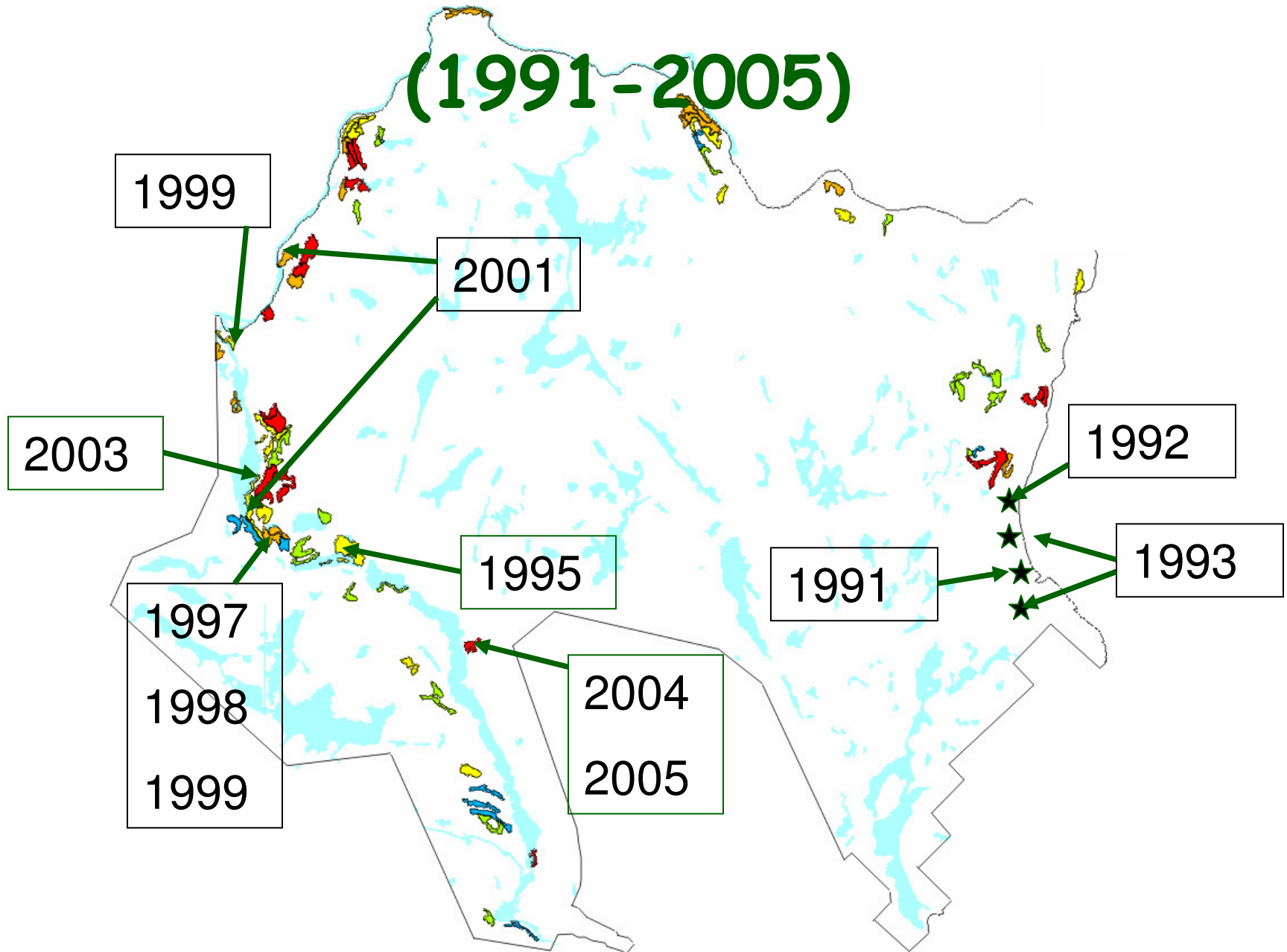


Prescription:

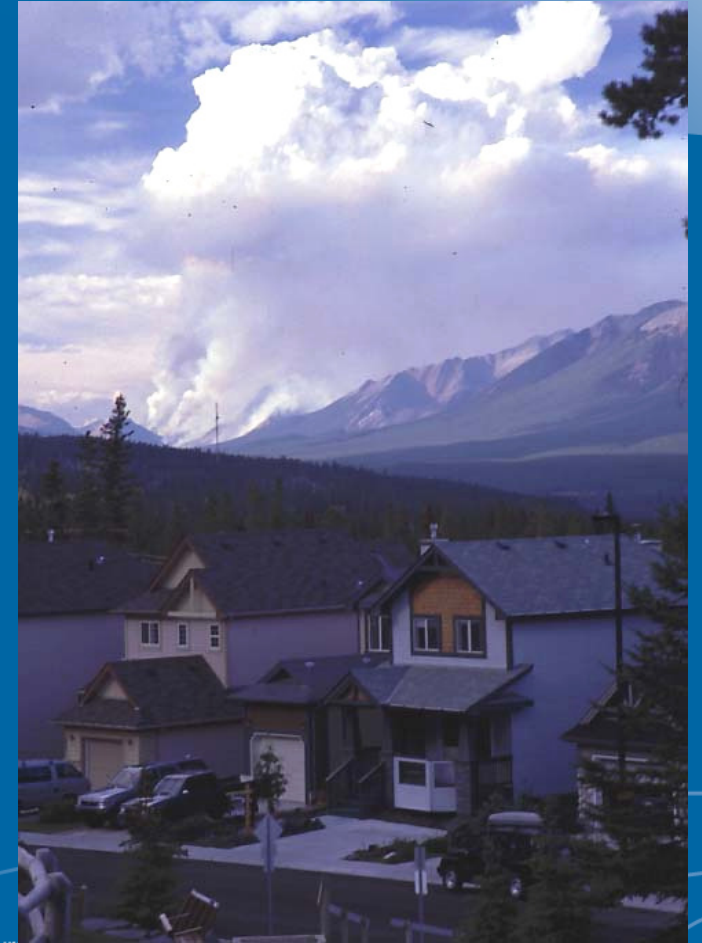
- low intensity fire $\sim 800\text{kW/M}$
- 100% fire coverage



L.M.N.P. Prescribed Burns (1991-2005)



MANAGING ECOSYSTEMS WITH **HIGH INTENSITY** FIRE: Banff National Park



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FAIRHOLME PRESCRIBED BURN COMPLEX - 2003



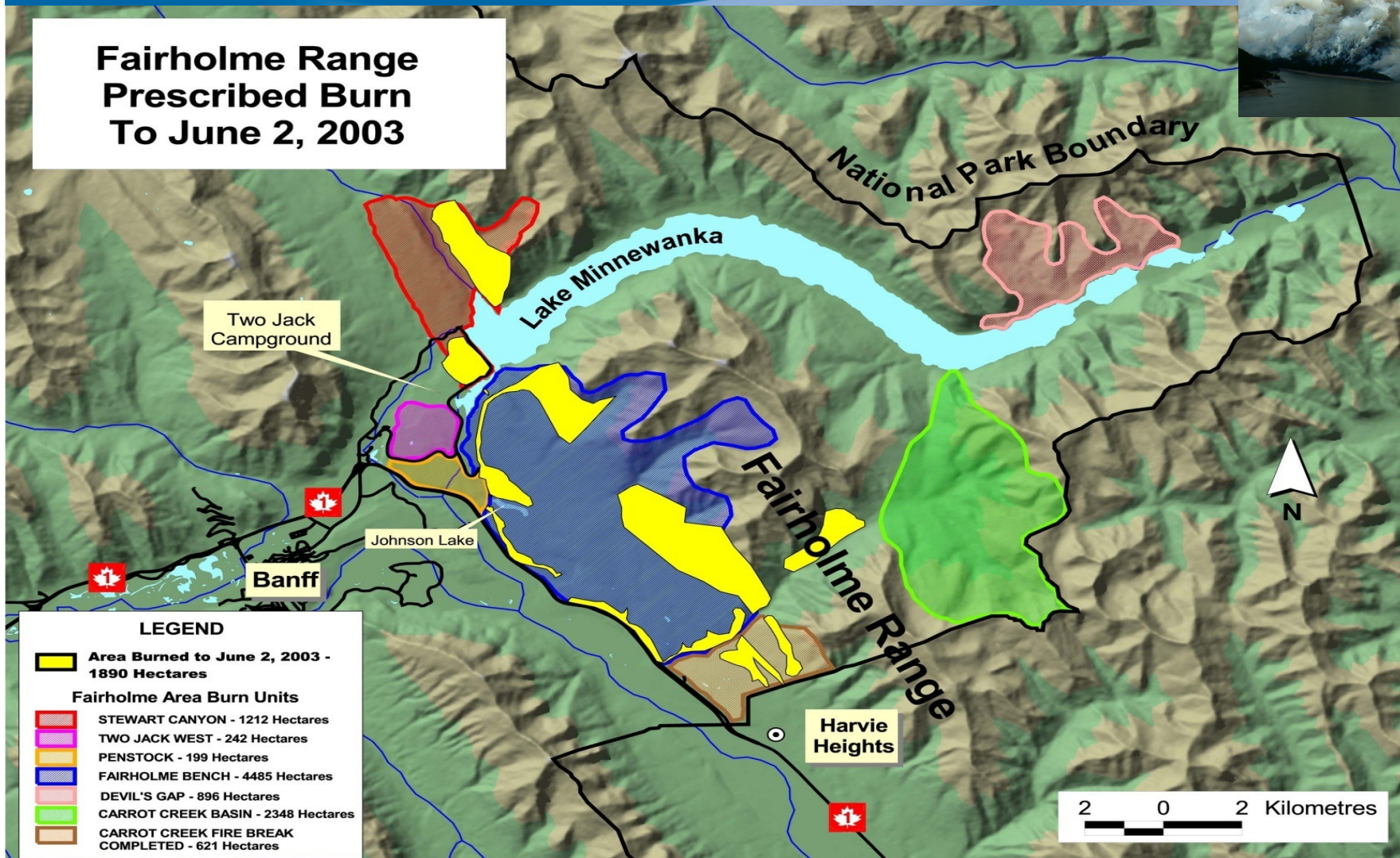
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FAIRHOLME PRESCRIBED BURN COMPLEX - 2003



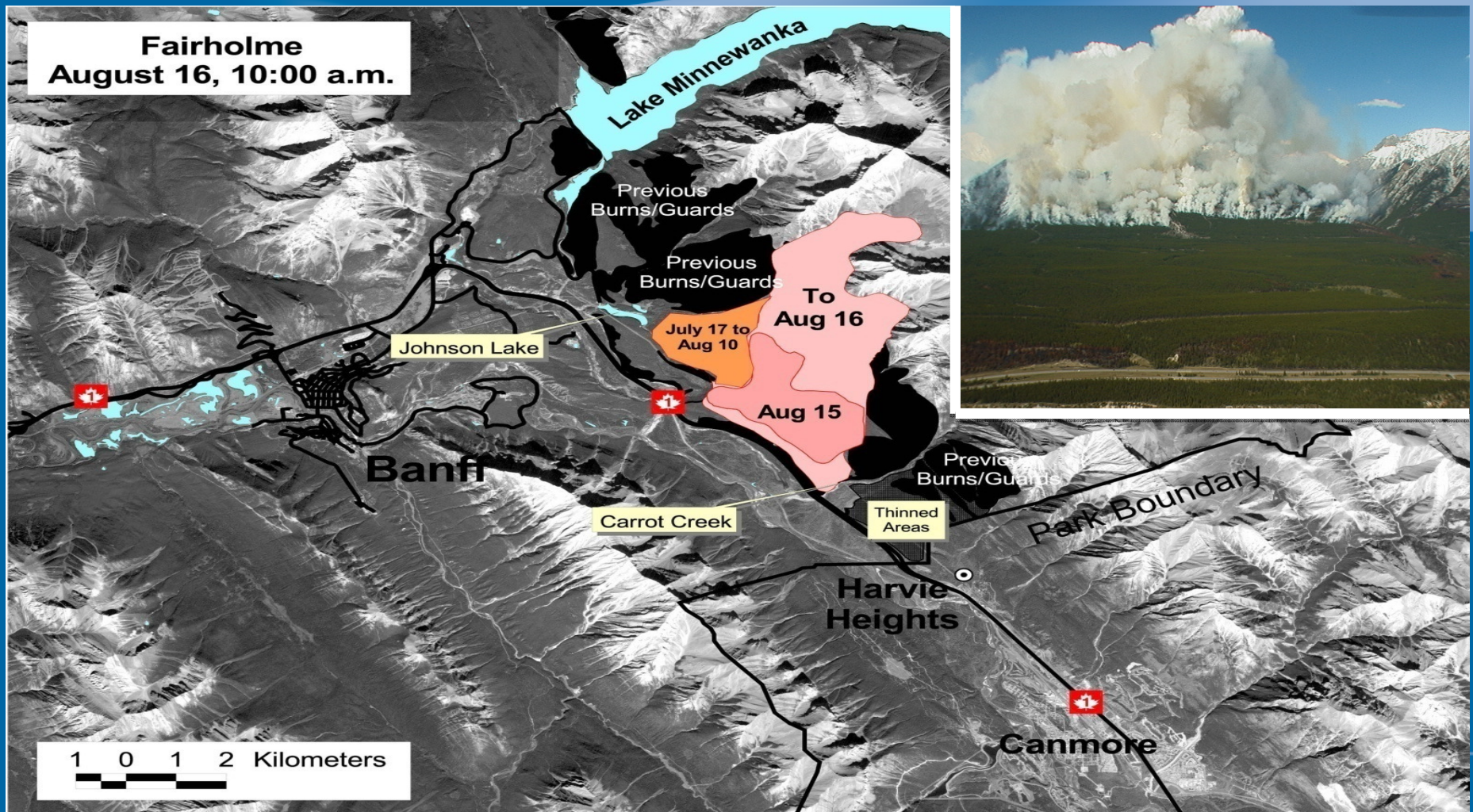
**Fairholme Range
Prescribed Burn
To June 2, 2003**



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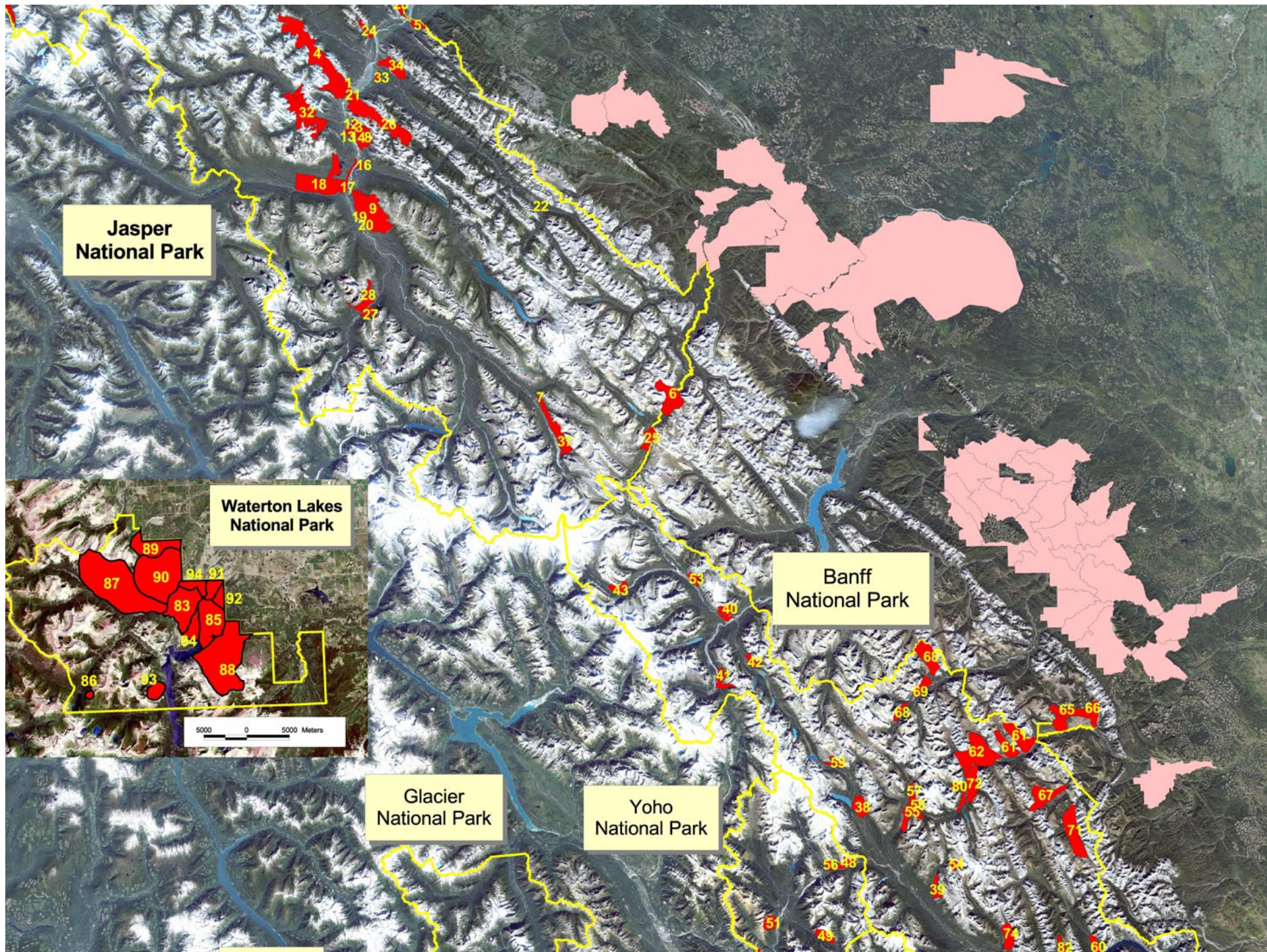
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FAIRHOLME PRESCRIBED BURN COMPLEX - 2003



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WOOD BUFFALO

- Success in managing wildfires in our largest park – 100,000+ ha burns
- Co-operation with NWT and Alberta
- Significant step forward for elsewhere



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CURRENT AND FUTURE CHALLENGES

LANDSCAPE FIRE MANAGEMENT IS NOT GETTING ANY EASIER:

- Integrating fire goals with increasing human disturbance and development
- Co-ordinating with larger scale (regional) planning initiatives
- Engaging First Nations at the policy, as well as operational levels
- Managing for single species (i.e. legislated Species at Risk)
- Watershed and water supply issues in a warming climate



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QUESTIONS ?



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