Towards a new collaborative model for fire research in Canada

Presentation to Wildland Fire Canada Conference 2014

October 7 – 9, 2014
Halifax, Nova Scotia

Presentation Talking Points

- *Historical context*
- *Success stories*
- *“Lean and mean” or “Lean and mindful”*
- *Partnerships and collaboration*
- *Building on our strengths and opportunities*
- *The future is aflame*

Lean and Mean (Mindful) Pan-Canadian Fire Research Program

The most difficult component of building a system is deciding what to build…no other part of the work so paralyzes the resulting system if done wrong…no other part is more difficult to fix later.

Adapted from Frederick Brooks (1987)

- Lack of user input (needs)
- Incomplete requirement specifications
- Changing requirement specifications

Principles of Lean

"More value for customers with fewer resources"
- Lean Enterprise Institute

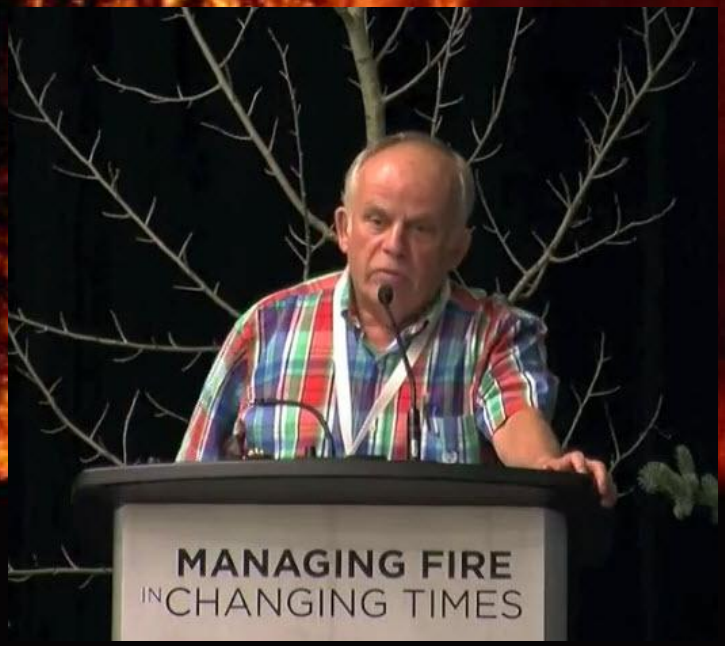
- *Leadership and standardization are critical to create and manage a lean culture within an organization*
- *Value focus (eliminate non-value)*
- *Optimize process flow*

"Pound for pound" Canadian fire researchers are highly productive

Wildland Fire Canada 2012

Managing Fire in Changing Times: Research and Application Challenges

Federal Forest Fire Research in Canada: An Impressive Past, a Troubled Present, and an Uncertain Future

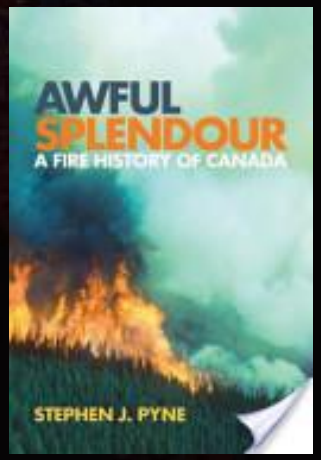


"We need a new [research] model here in Canada, and we need a model where we are able to have agencies to be a part of that model."

- Brian Stocks

AWFUL SPLENDOUR

A FIRE HISTORY OF CANADA



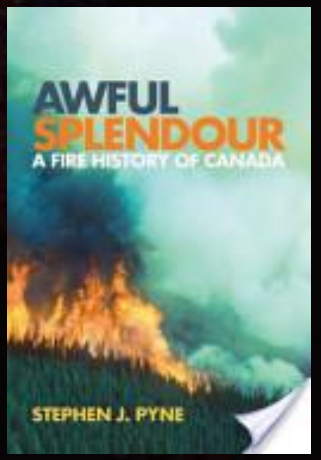
Canada's First Forest Fire Conference
January 7-11, 1924

"…[we are] in competition with other countries and, as between province and province, with ourselves, and the result is that it is impossible for us to do many of the things we would like to do."

- T.D. Pattullo, Forests Branch,
Department of Lands, British Columbia

AWFUL SPLENDOUR

FIRE HISTORY OF CANADA



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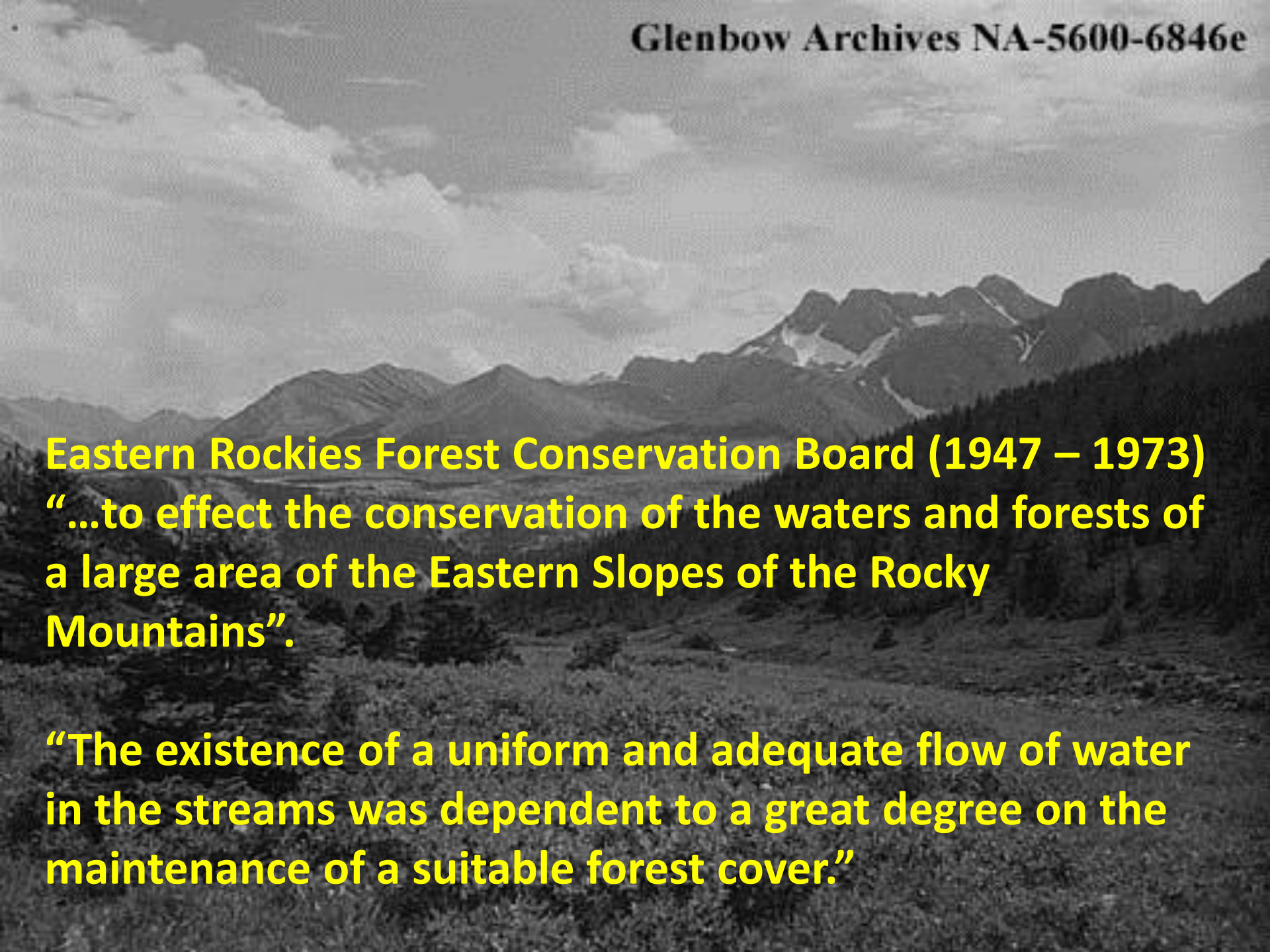
Canada's First Forest Fire Conference
January 7-11, 1924

"…they had found points on which to co-operate; but consensus broke down when the time came to put cash on the table. Ottawa wanted the provinces to practice conservation, for it was of national interest in two vital industries, logging and settlement. But it would not (or could not) itself pay for such practices. The provinces wanted the dominion to pay but would not (or could not) yield to Ottawa any substantial or even symbolic control over what they might do." - Stephen Pyne



Eastern Rockies Forest Conservation Board (1947 – 1973)
"…to effect the conservation of the waters and forests of a large area of the Eastern Slopes of the Rocky Mountains".

"The existence of a uniform and adequate flow of water in the streams was dependent to a great degree on the maintenance of a suitable forest cover."

“*No one agency can do it all*”

- Bruce Mayer, ADM Forestry and Emergency Response Division (AB)

Examples:

- **Terry Van Nest 6-month secondment to CFS (NoFC) to collaborate on the development of IFMIS**
- **Prometheus fire growth simulation model - agency “cost and design sharing”**
- **Western Partnershp for Wildland Fire Science (ESRD + CFS + University of Alberta)**
- **University of Toronto (Fire Management Systems Laboratory + Canadian Forest Service)**

Principles of Collaboration

"A new sustainable collaboration model should be the foundation for a Pan-Canadian fire research model."

- *Fully shared vision and purpose*
- *Build and maintain trust*
- *Transparency*
- *Bridge self interest to shared interest (collaboration will fail if competitive self interest dominates)*
- *Participation and quality interaction (independence and interdependence)*
- *Focus on attaining results*

But...collaboration requires…

- *Time and persistence*
- *Coordination and communication*
- *Investments*

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Title	Fiscal Year Funded	Principal Investigator
Programmatic Analysis of Fuel Treatments: from the landscape to the national level.	2014	Douglas B. Rideout Colorado State University
Duration and cost effectiveness of fuel treatments in the Alaska boreal region.	2014	Joseph M. Little University of Alaska-Fairbanks
How vegetation recovery and fuel conditions in past fires influences fuels and future fire management in five western U.S. ecosystems	2014	Andrew T. Hudak Forest Service
Effects of fuels treatments on reduction of fire risk and restoration of oak-pine forests in Central Hardwood Forest landscapes	2014	John M. Kabrick Forest Service
Risk Perception, Sense-making and Resilient Performance: the sounds of wildland firefighting in acti	2014	Anne E. Black

Advanced Search Results Detail

Project ID: 14-5-01-27

Year: 2014

Date Started: 09/01/2014

Ending Date: 09/01/2017

Title: Duration and cost effectiveness of fuel treatments in the Alaska boreal region.

Project Proposal Abstract: Wildland fire is the dominant disturbance agent of the boreal forest of Alaska, which covers about 114 million ac. of the southcentral and interior regions, representing about 15% of the forested area of the U.S. Currently, about 80% of the population of Alaska resides in communities potentially at risk from wildland fire. The wildland fire threat to these settlements is increasing, because more of the population is living in dispersed or suburban settlements in or near forested areas and because of warmer summers and longer fire seasons. Dispersed and isolated settlements are more difficult and costly to protect, so it is expected that in the future more infrastructure will be damaged by wildland fire and the public cost of fire protection will increase. Since the late 1990s, management agencies in Alaska have actively implemented fuels reduction programs, such as installation of firebreaks and shaded fuelbreaks. However, the effectiveness of these programs has not been evaluated over time anywhere in the state, so comparison of various fuels reduction techniques as well as their impact on local communities is currently not possible. The presence of an already existing set of treatment projects, which vary by age, fuel type, treatment method, occurrence of fire, and proximity to local communities, provides a distinct opportunity to prepare a comprehensive regional assessment to answer a number of the primary research questions of interest to the JFSP. The overarching objective of this research program is to assess the effectiveness of maturing treatment projects in terms of previously defined risk reduction and fire behavior objectives. Collected data will be used to evaluate fuel loading and then to model fire behavior to determine projected burn intensity and spread. Data from the behavior models will be compared against data collected from treatment sites which have recently experienced fire. Given variance in the age, location, treatment method, and fuel type it will be possible to identify differences in actual burn severity and scale for the purpose of grounding the behavior model. In addition, we will use suppression cost data to evaluate the relationship between

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Building Trust, Establishing Credibility, and Communicating Fire Issues with the Public

With more people than ever living in the vicinity of the wildland-urban interface, communicat wildland fire management activities and building trust with the public is paramount for safe Although the time and resources it takes to build and maintain the public's trust may seem dau it may be one of the most important factors determining the long-term viability of a fire manage program. Trust is built over time through personal relationships with citizens and communities also by demonstrating competence and establishing credibility. When trust and confidence have established, managers can enjoy strong support of fire and fuels management programs, even in of the most challenging communities. Several studies funded by the Joint Fire Science Program have shed light on what the public knows and thinks about fire and the agencies that manage i well as the public's views on their own fire risk, their responsibilities in reducing it, and their lev support for fuels reduction programs on public lands. In addition, land managers know more a how to effectively communicate with the public about fire, whether the goal is to build support fo treatments and fire management or to motivate property owners to mitigate their fire risk.

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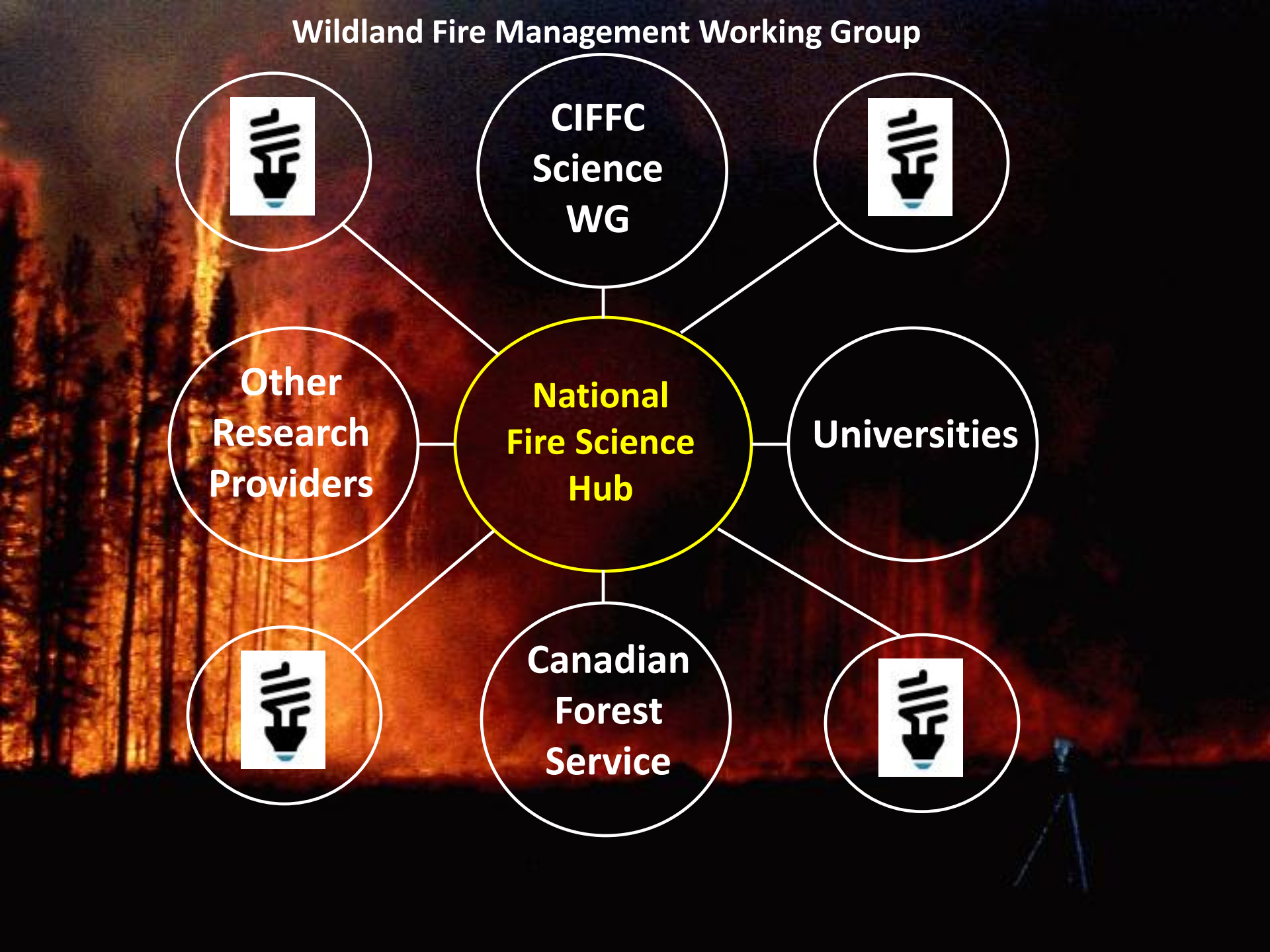
Capturing Fire:
RxCADRE Takes Fire Measurements to Whole New Level

Models of fire behavior and effects do not always make accurate predictions, and there is not enough systematically gathered data to validate them. To help advance fire behavior and fire effects model development, the Joint Fire Science Program is helping fund the RxCADRE, which is made up of scientists from the U.S. Forest Service and several universities who orchestrate and collect data on prescribed burns in the southeastern United States. The RxCADRE-prescribed burns are yielding a comprehensive dataset of fire behavior, fire effects, and smoke chemistry and dynamics, with measurements taken systematically at multiple, cascading scales. RxCADRE data will help scientists and modelers test their models and develop better ones, ultimately making models more reliable. The RxCADRE team is pioneering new data-gathering technologies and new approaches to collaborative science.

the good news…

- ***CIFFC Council of Directors (name to be changed to CIFFC Management Committee) has approved a new governance model, and agreed to invest in science.***


Wildland Fire Management Working Group
CIFFC Science WG
Other Research Providers
National Fire Science Hub
Universities
Canadian Forest Service

Canadian Interagency Forest Fire Centre (CIFFC)

2013 - 2018 Strategic Plan

September 11, 2013

Five Strategic Directions

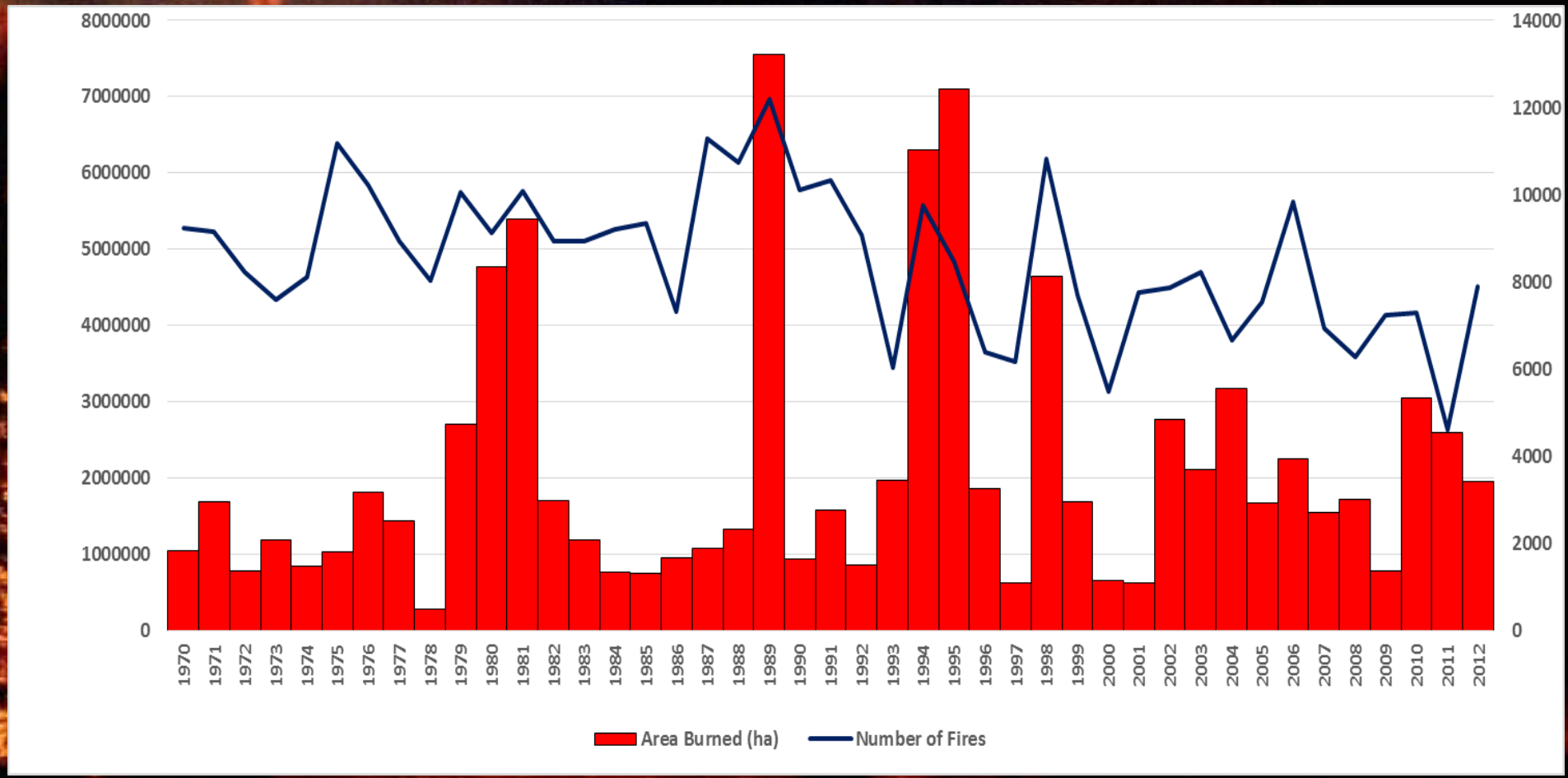
1. *Facilitate improved efficiency in delivery of mutual aid between member agencies.*
2. *Provide coordinated national standards, specifications and certification programs to support safe and effective national wildland fire management.*
3. *Develop, maintain and staff a state-of-the-art Canadian Forest Fire Centre in Winnipeg.*
4. *Provide national leadership on Canadian wildland fire issues (internal).*
5. *Share wildland fire operational knowledge and resources internationally (external).*

Five Strategies…things CIFFC can achieve

Strategy #4

Invest in science to support resource sharing – for immediate action.

Fire Statistics for Canada
1970 - 2012



Average 8,500 fires and 2.1 million ha burned

Government of Alberta


Questions