



# **MANAGING RISK AND UNCERTAINTY IN LODGEPOLE PINE – A SHIFTING PARADIGM**

**Bob Udell, Dick Dempster - Foothills Growth and Yield  
Association**

**Don Podlubny – Mountain Pine Beetle Ecology Program**

**Foothills Research Institute  
Annual General Meeting  
June 2, 2010**

# Overview

- FGYA - Bob Udell
  - Background and Membership
  - Priorities
  - 10 Year Update
  - Going Forward in the new Paradigm
- MPBEP - Don Podlubny
  - Background and Membership
  - Current Priorities
  - Going Forward



# Foothills G&Y Association (April 1, 2000) Organizational Status April 1, 2010

- Chair – Greg Branton – Alberta Newsprint
- Research and Development Associate – Dick Dempster, Ph.D.
- Operations Director - Bob Udell
- Field Coordinator – Rand McPherson



# FGYA Steering Committee

- Greg Branton – Alberta Newsprint (Chair)
- Dwight Weeks – Canfor
- Bob Held – Sundre Forest Products
- Robert Stokes – ASRD
- Ed Kulscar – Spray Lakes
- Greg Behuniak – Weyerhaeuser
- John Huey – Sundance Forest Industries
- Tim Burns – Blue Ridge Lumber
- Richard Briand – Hinton Forest Products
- Tim McCready – Millar Western
- Tom Archibald - FRI



# FGYA Mission/Mandate

To Improve Knowledge of lodgepole pine growth and yield in managed stands by:

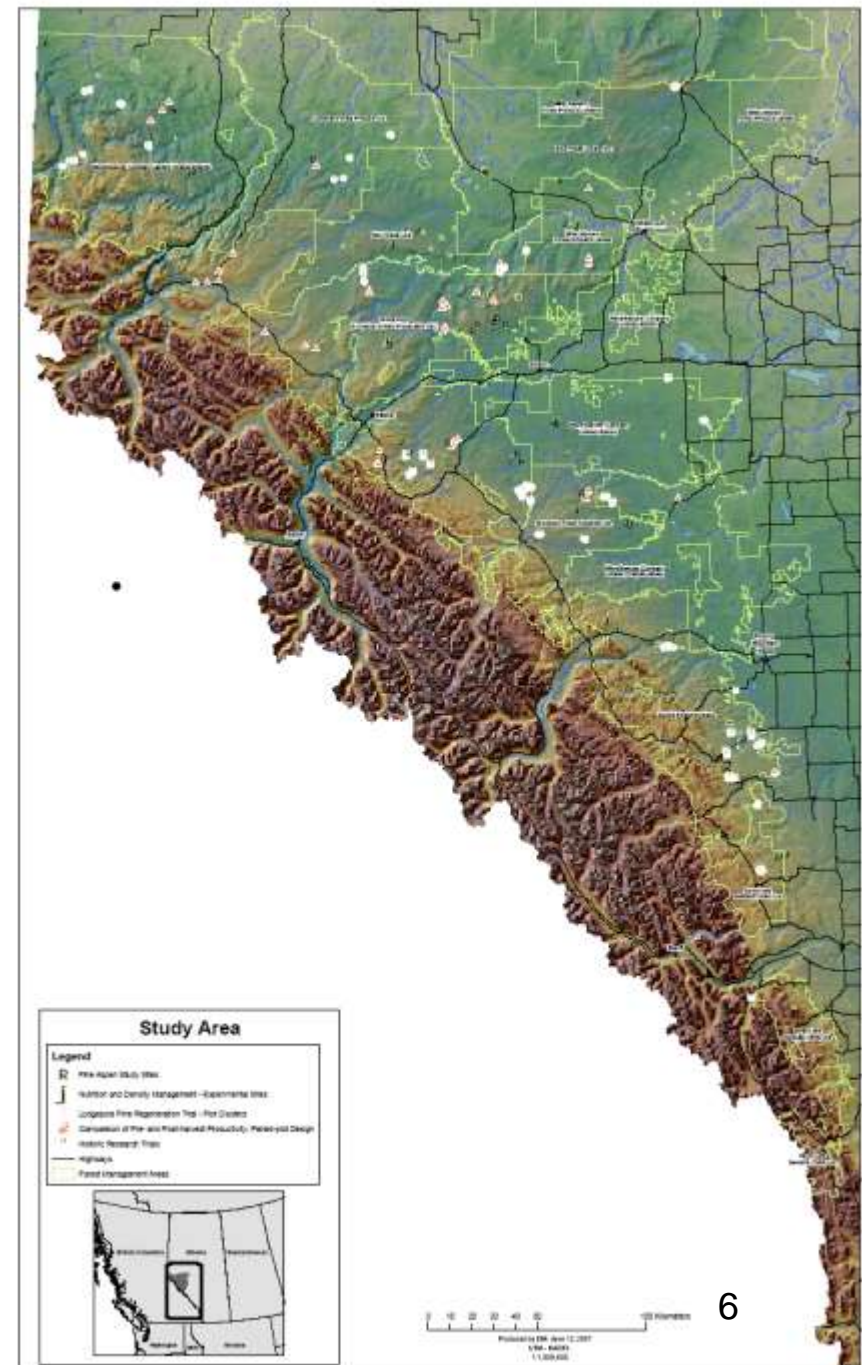
1. Forecasting/monitoring responses to silvicultural treatments;
2. Scientific development and validation of yield forecasts;
3. Promoting knowledge, shared responsibility and cost-effective co-operation.



# *Regenerated Lodgepole Pine Trial*

408 Plots span the range  
of Lodgepole Pine  
in Alberta

7 Year Results



# Going Forward 2010-15

- Stand Dynamics are Changing
  - Probabilities and nature of risk changing
- A new paradigm – managing risk and uncertainty
  - FGYA and MPBEP Collaboration
  - Silviculture Risk Management Discussion Group



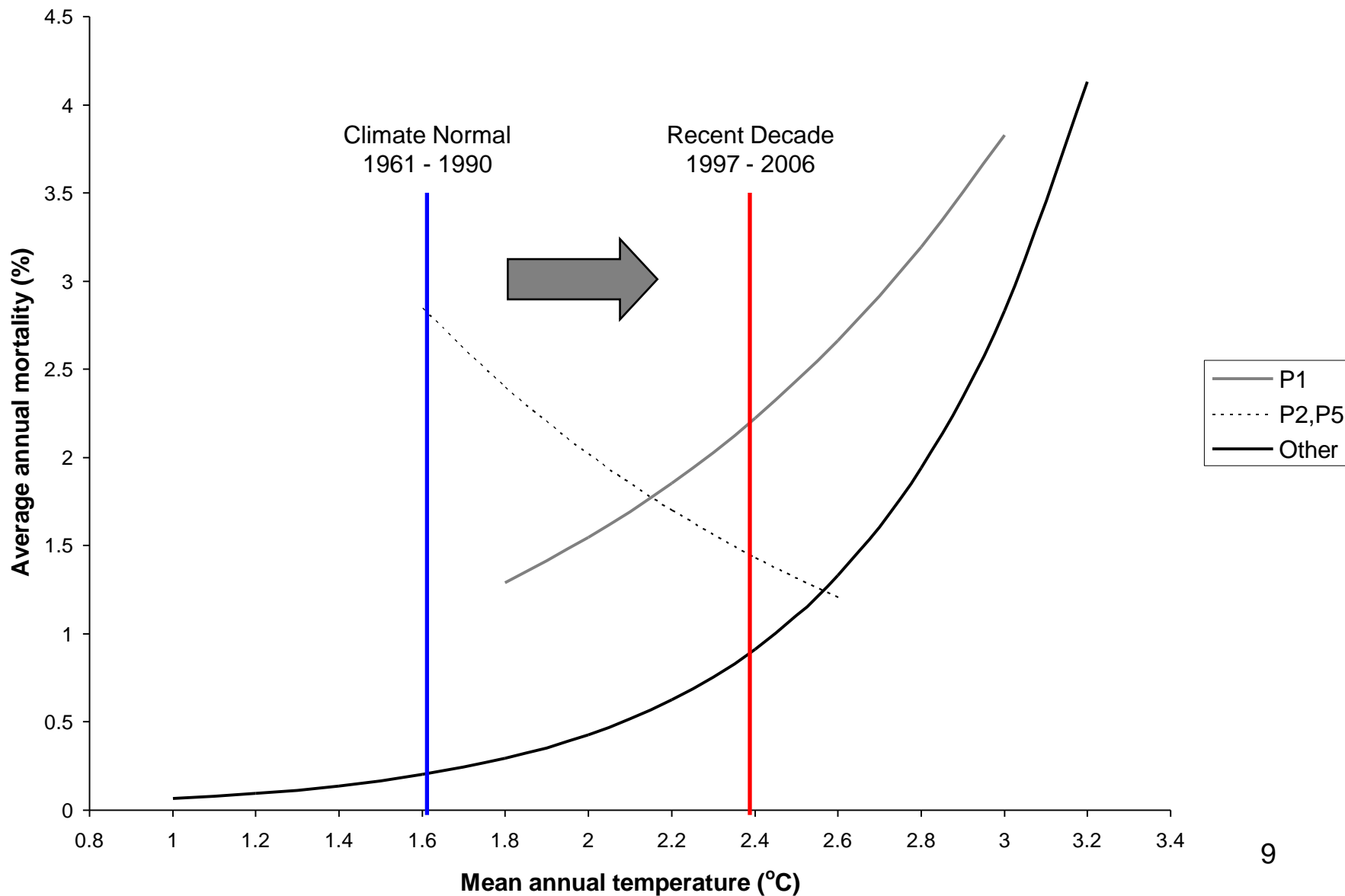
# Regenerated Lodgepole Pine Trial

- High mortality of planted stock in first 5 – 7 yrs
- Annual rate in years 6 – 8 higher than in 1-5 yrs
- Mortality rate in natural regeneration also appears to be increasing
- Implications for Regen Standards/ Silviculture Practices
- Investigating Link to Climate
  - Strong link between mortality and Mean Annual Temperature

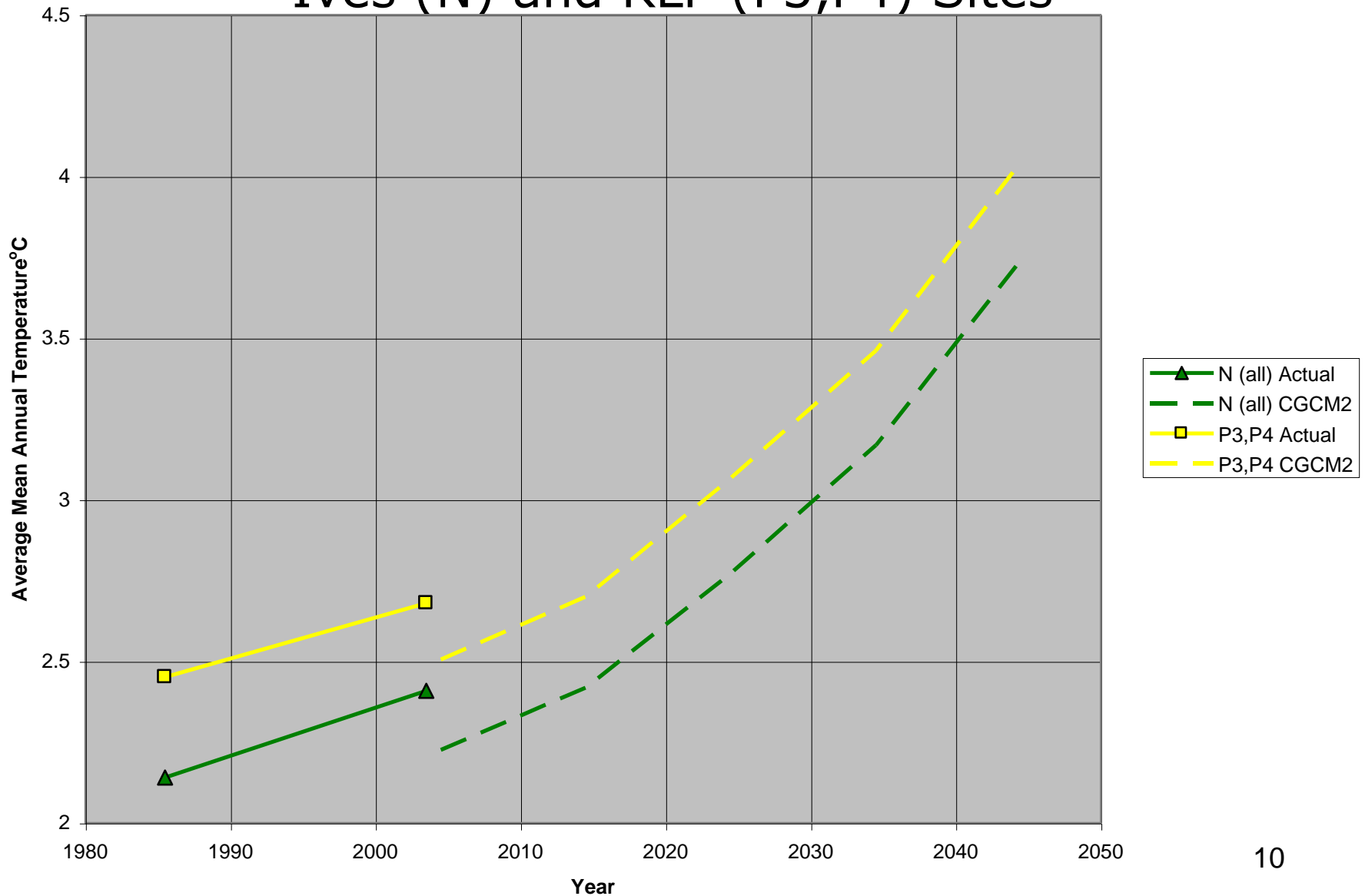




# Mortality Trends and Temperature Shifts



# Actual and Projected Average Temperatures for Ives (N) and RLP (P3,P4) Sites



# **Mountain Pine BeRegeneration Management in a Metle Environment – Decision Support Tool Development**

- **Regeneration and stand development will be more complex**
- **Seeking to maintain forest values and a viable forest enterprise**
- **Developing expert system / decision-support tools incorporating disparate information and knowledge;**

# **Silviculture Risk Management Discussion Group**

## **Web-based Forum for Information Sharing**

- **Password protected**
- **Flexible Content**
- **Links to DSS Tools and documentation**
- **Bulletin Board – events, papers, updates etc.**
- **Geo - connected**
- **Question/ Answer facilitation**



# Mountain Pine Beetle Ecology Program FRI

June 2, 2010



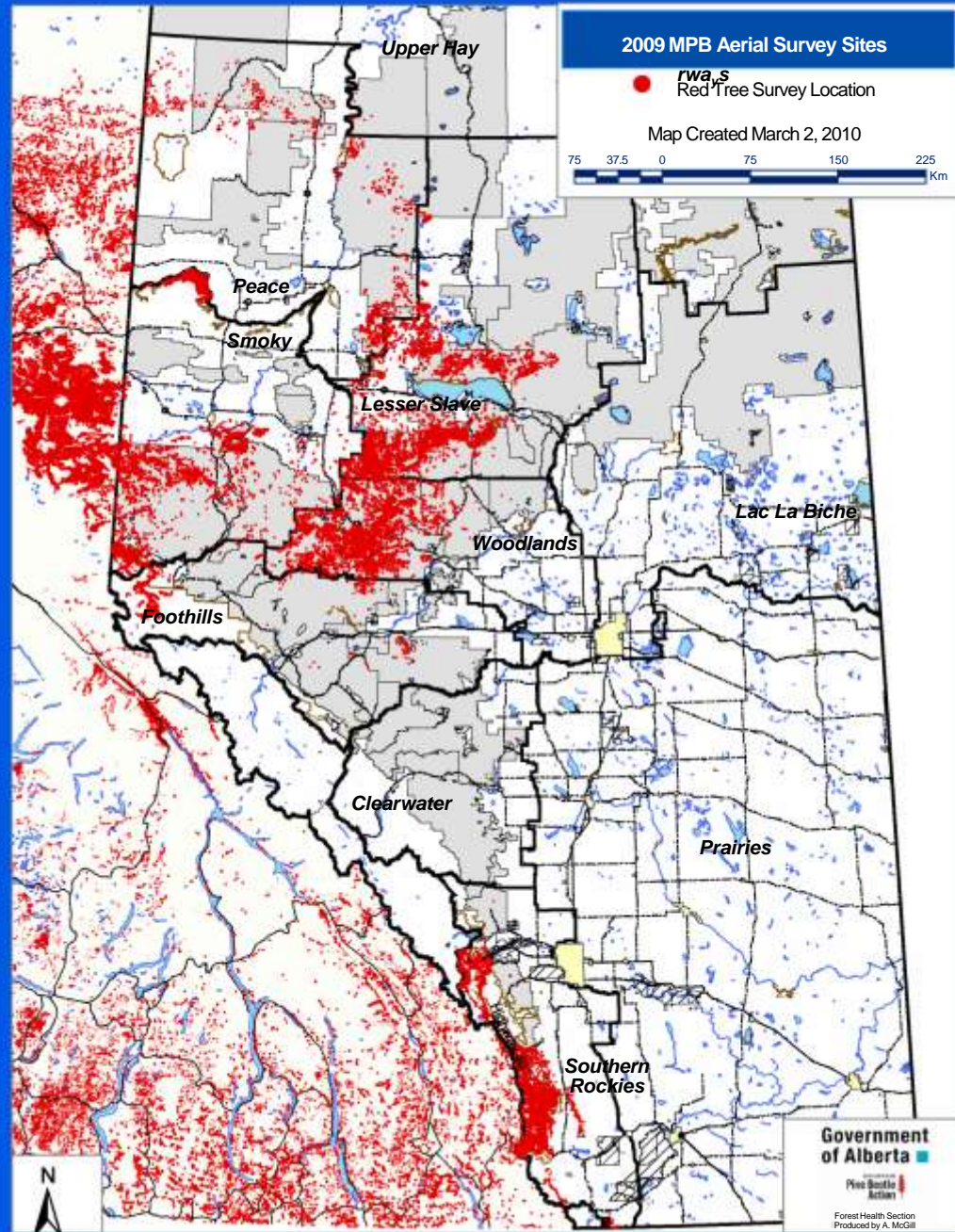


Natural Resources  
Canada

Ressources naturelles  
Canada



# Alberta MPB Sites



# MPBEP Priorities

- As guiding principals the MPBEP will use the present four priority areas identified in the five year plan
- The MPBEP is an active research program of the Foothills Research Institute
- Communication is viewed a high priority in ensuring all knowledge is made available to all publics





MPBEP As guiding principals the MPBEP will use the present four priority areas identified in the five year plan

- **Natural disturbance and stand dynamics research, which includes the relationship of fire, pine beetle and the eventual community impacts**
- **Understanding forest management implications and options associated with pine beetle infestations**
- **Quantification of the short and long-term changes to the fire regime that includes fire intensity and severity in beetle infected stands (*FP Innovations FERIC WFORG focus*)**
- **Understanding the mpb biology and impact in Alberta**



# MPBEP is an active research program of the Foothills Research Institute

- Currently there are six on-going research projects through the MPBPB
- The program has completed a compendium providing meta data on 356 mpb projects in western North America
- Original funds have been leveraged at 3:1 in funding not accounting for in-kind
- Currently three new projects being reviewed



# MPBEP Future work

- Ensure there is an annual work shop providing up dates on current mpb research projects
- With the MPBEP Activity Team hold a program review and direction setting work shop
- Areas of interest to the MPBEP Activity Team
  - Maintain a work connection with other research agencies here in Alberta and in other locations
  - Look beyond mpb control and focus on ecological impacts after the infestation



# MPBEP Future work

- Areas of interest to the MPBEP Activity Team con't.
  - Link with other FRI programs in collaboration on future research projects
  - Integrate climate change into the ecological adaptation
  - Provide data, tools and guidance to resource managers in adapting to ecological changes due to mpb





# A Partnership That Produces Results!

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