

TERMS OF REFERENCE
Foothills Research Institute
Mountain Pine Beetle Ecology Program

Introduction

The Foothills Research Institutes' (FRI) Mountain Pine Beetle Ecology Program (MPBEP) will carry out focused research and investigations related to the infestation of mountain pine beetle in Alberta. Established under the Landscape Dynamics Theme of FRI's five year Business Strategy, research and projects conducted by this Program will examine current and emerging aspects of mountain pine beetle infestations in the foothills and mountainous areas of Alberta. The multi-year beetle ecology research project will also look at knowledge transfer and collaboration to pool experience and knowledge from British Columbia, Saskatchewan., and various regions of Alberta, so that researchers and industry are not duplicating each other's efforts.

Following an exploratory workshop in May 2007, potential research themes and topics were identified to guide the research planning process. These have been adopted and supplemented, resulting in the following priority areas:

1. Natural disturbance and stand dynamics research, which includes the relationship of fire, pine beetle and the eventual community impacts

- Benchmarking the independent stand dynamics of both fire and pine beetle
- Quantifying the additive impact of fire and pine beetle on long term stand dynamics
- Inclusion of both Limber and Whitebark Pine studies
- Identification and analysis of impact of species at risk impacted by fire and pine beetle
- Implications of pine beetle induced tree mortality on watershed integrity
- Identification of wildlife species habitat, inclusive of endangered species, impacted by fire and pine beetle events
- Post beetle successional strategies
- Climate change implications to mpb disturbance patterns
- Impacts to economic and social factors of affected communities

2. Understanding forest management implications and options associated with pine beetle infestations

- Rehabilitation of plantations
- Regeneration challenges at the landscape level
- Regeneration of harvested vs. unharvested stands and associated shrub and/or lichen persistence or regrowth.

- Climate change implications
- Silviculture and growth and yield implications

3. 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*)

- Fire fighter safety and community FireSmart protection planning requires this information in association with FP Innovations and WFORG
- Radiation outputs need to be calibrated
- Safety and evacuation zones need to be redefined
- Re-development of suppression strategies in beetle infected stands with FP innovation and WFORG
- Climate change implications

4. Understanding mountain pine beetle biology and impact in Alberta

- MPB population dynamics and dispersal in Alberta
- Climatic impacts to MPB development and distribution
- Control options and control impacts to other values (including prescribed burning, pheromone use, beetle proofing)
- MPB impacts and interactions with threatened species including whitebark pine and limber pine

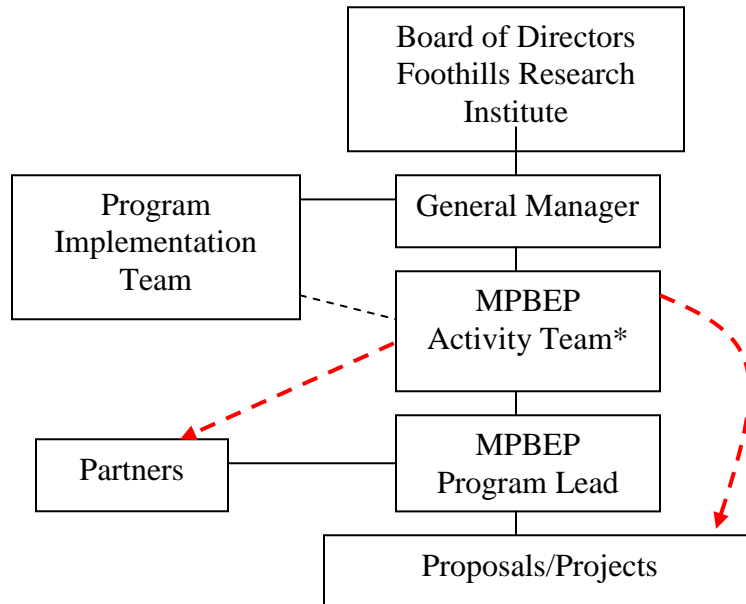
Implementation

An Activity Team and Leader with appropriate expertise have been appointed by the Executive of the Foothills Research Institute. The Activity Team will seek broad operational perspectives on management challenges and propose project direction and priorities to support the achievement of the Foothills Research Institutes' Business Strategy goals in regards to mountain pine beetle and fire ecology. The direction of this program will come from FRI as directed by the FRI's General Manager and the Program Implementation Team. The MPBEP Activity Team will additionally seek guidance and/or broad direction from the MPB Provincial Strategic Directions Committee. As the need arises, the Activity Team will expand the breadth of its membership to enhance its discussions and recommendations. The Activity Team will support the program through review of projects, outreach and support through funding, in kind support and recommendations.

Since the mountain pine beetle has reached epidemic proportions in British Columbia it would be prudent for the Leader to establish linkages with British Columbia and Natural Resources Canada, to transfer current technology and science knowledge to the Foothills Research Institute initiative. The implementation of this work will focus on the Foothills Research Institute area yet may include any relevant research, data and tools developed in western North America. The MPBEP is the "Science Information Forum" for the

Provincial Strategic directions committee on Mountain Pine Beetle” and will work closely with the provincial imitative.

Reporting Relationships



* The activity team is also the Science Information Forum for the Provincial Strategic directions committee.

Deliverables

- A five year business plan for the program
- List of research prioritization of potential/acceptable projects
- Maintain an up to date prospectus on mpb research relative to Themes identified
- A strategy for securing additional funding sources
- Communication and extension plan
- A strategy for creating appropriate linkages to other FRI programs and outside agencies
- A report on the program’s activities to the FRI, twice annually
- Working relationships with other like minded organizations working on mountain pine beetle ecology management issues on-going

Operations

- Quarterly meetings (and/or conference calls) will be held to review program progress, assess current activities, and assess new proposals.
- The Team will work by consensus, where requested a vote will be used with a simple majority.

- All issues regarding commitment of resources (e.g. manpower, funding, time) will require a motion. The approval of that motion will be noted in the minutes as either consensus or by vote.
- Members must be present at the meeting (or on conference call) to have a vote.
- Funding allocations for all potential programs will be done annually. The cycle of the process is:
 - 1) October 1, all projects to be in to the MPBEP Activity Team for review
 - 2) October 1 to 30, Approval of projects by Activity Team
 - 3) November 30, the MPBEP annual work plan will be drafted for the review and approval of the MPBEP Activity Team.
 - 4) February 28, The annual work plan is to have FRI Board approval
 - 5) April 15, the MPBEP activity Team is to set priorities for the next fiscal year and start working towards those goals.
- The Program Lead will provide team support for meetings including providing agendas, minutes and all required reports.
- The Team may establish task oriented groups such as; a technical advisory group, funding advisory group and a communication extension group or others as required.
- Team members will work in a spirit of cooperation and respect, seeking to ensure effective involvement and input from all.
- The Team will seek feedback from the Board of Directors at key decision points throughout the program development process
- The Board Liaison and the General Manager may be used to provide updates and to facilitate Team discussions on Board concepts and direction.
- The program Lead will provide written briefing notes twice a year to update the Team on progress on the various projects and deliverables.
- The team will select a chair who will work with the program lead in organizing agendas, and chair all meetings.
- The Team will use a formal review process in considering new projects. Any proposal submitted that directly benefits one activity team member will be reviewed with the exclusion of that member.
- To ensure this Program remains current and relevant, a review and update will be done of the Terms of Reference and the five year plan annually in conjunction with the annual work plan.

Mountain Pine Beetle Ecology Program Activity Team Members

Membership of the Activity Team represents various disciplines and partners of the Foothills Research Institute (see following). The Team will decide on membership and may invite others to join the Team. Those who are not a formal member of the Activity Team, but interested in topics of discussion are welcome to attend meetings. Guests with

particular expertise will be invited from time to time to facilitate informed and improved discussions on critical issues. Any reimbursement of travel and/or per diem expenses for team members will be discussed and agreed upon by the team.

MPBEP activity Team and contact information

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