

Timber Growth and Value Program

Eligible Research Topics 2007/08

September 2006

NOTE : The 2007/08 Call for Proposals is focused on a subset of the Program themes and topics. Please refer to the *Timber Growth and Value Program Research Strategy 2006-2016* for the complete set of themes and topics.

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Timber Growth and Value Program— Eligible Research Topics 2007/08

Introduction

The research topics and priorities described in this document are those eligible for funding under the Timber Growth and Value funding category of the Forest Investment Account Forest Science Program (FIA-FSP) in 2007/08. For simplicity of presentation, this document includes only the research topics and priorities eligible for funding in 2007/08. The ten-year research strategy of the Timber Growth and Value Program Advisory Committee (TPAC), *Timber Growth and Value PAC Research Strategy 2006-2016*, includes the complete list of research topics and provides context for understanding this year's priorities. It is available from the PricewaterhouseCoopers website (www.bcfsp.com) with other information related to the Call for Proposals.

Note that no priority ranking is implied by the numbering of research topics.

As previously, research topics are organized by theme, and priorities within research topics are specified individually and by geographic region. The regions used are those of the Ministry of Forests and Range: Coast (C), Northern Interior (NI), and Southern Interior (SI). A map showing these regions is available at: <http://www.for.gov.bc.ca/mof/maps/regdis/>

MPB Research

Research related to high-priority mountain pine beetle (MPB) issues is funded separately. Research related to MPB is supported through funding provided by the Government of Canada to the Province, and is administered separately from the regular FIA-FSP. Research topics and priorities eligible only for MPB funding are listed in the MPB priorities document: *Mountain Pine Beetle Research – Eligible Research Topics 2007/08*. **Note that this year, only proposals for single-year projects are being considered for MPB research funding.**

Submitting proposals

Proposals for regular and MPB research must be submitted using the appropriate proposal templates, which are available on www.bcfsp.com. Note that proposals submitted for regular FIA-FSP funding will not be disqualified if incidentally relevant to MPB. Some topics may be eligible for funding under the regular FIA-FSP or MPB funding, depending on the focus of the research.

Eligible Timber Growth and Value Research Topics and Priorities for 2007/08

This list of research priorities is a compilation and synthesis of input provided by the Timber Growth and Value Program Advisory Committee (TPAC) at the request of the FIA-FSP Forest Science Board (FSB). It serves as reference material to support the FIA-FSP Call for Proposals in September 2006. The research topics and priorities eligible for funding in 2007/08 are a subset of those identified in the Timber Growth and Value Program ten-year strategy. The FSB felt it necessary to focus spending as a means of ensuring that the FIA-FSP funds are used efficiently and effectively.

Proposals addressing topics identified in the ten-year strategy that are not identified as priorities for 2007/08 will also be considered under the “proponent-driven” category in the Call for Proposals. Funding for long-term research installation (LTRI) infrastructure and maintenance is carried out as a separate program under the 2007/08 Call for Proposals.

Theme 1.0 Basic research on tree growth and stand development

Description

Improve the understanding of basic biological processes such as competition for light, nutrients, and moisture, and the resulting allocation of carbon that regulates tree growth and stand development. This information is needed to improve operational models and decision-support tools.

1.1 Complex stands (including partial cutting and variable-retention harvesting)

Complex stands include multiple species, stands with structural diversity, and mixed stands of conifers and hardwoods. Areas of research eligible for funding in 2007/08 include:

Research priorities for topic 1.1		C	NI	SI
a	Species interactions		✓	✓
b	Microclimate effects related to tree and stand growth in multi-storied stands	✓	✓	✓
c	Natural regeneration	✓	✓	✓
d	Mortality	✓	✓	✓

1.3 Old stands

Old stands include those being retained for non-timber purposes, or that remain in inventory for long periods due to the age structure of a management unit. Areas of research eligible for funding in 2007/08 include:

Research priorities for topic 1.3		C	NI	SI
a	Volume loss			✓

Note: Successional processes and natural disturbance regimes are topics covered under the Sustainability Program.

Theme 2.0 Design and analysis of silvicultural systems

Description

Comparing silvicultural systems and management regimes at the stand, landscape, and forest levels to maximize timber volume and value while providing specific non-timber values of interest.

2.1 Complex stands (including partial cutting and variable-retention harvesting)

Development and monitoring of silvicultural systems for complex stands (multi-species, structurally complex) at multiple scales (stand, landscape, forest). Areas of research eligible for funding in 2007/08 include:

Research priorities for topic 2.1		C	NI	SI
a	The relationship between residual stand structure and understory recruitment and development; evaluation of the results of partial cuts and the effects on stand establishment, early growth and yield and response to management practices	✓	✓	✓
b	Development and monitoring of the impact of various stand treatment regimes on regeneration	✓	✓	✓

2.2 Even-aged stands

Development and monitoring of silvicultural systems designed for efficient, high-yield timber production while providing for joint production of specific non-timber values of interest including wildlife habitat and non-timber forest products (NTFPs). Areas of research eligible for funding in 2007/08 include:

Research priorities for topic 2.2		C	NI	SI
a	Assessment and analysis of fertilization experiments or trials (but not the initiation of new trials)	✓		

Theme 3.0 Growth and yield modeling/predictions

Description

Developing and improving models and decision-support tools that predict tree and stand characteristics related to the production of timber volume and value and to non-timber values, with priority given to models that support the provincial Timber Supply Review. This research may also include estimating and evaluating the impacts of management decisions on timber at multiple scales (stand, landscape, and forest).

3.1 Complex stands (including partial cutting and variable-retention harvesting)

Models of complex stands, including those with multiple species and stands with structural diversity. Areas of research eligible for funding in 2007/08 include:

Research priorities for topic 3.1		C	NI	SI
a	Boreal mixed wood (spruce-pine-aspen)		✓	
b	Coastal BEC zones (MH, CDF, CWH)	✓		
c	Interior BEC zones (ESSF, MH, SBS, ICH[NIR only])		✓	✓
d	Interior BEC zones (IDF, ICH [SIR only])			✓

3.2 Wood quality

Modeling effects of stand management regimes on wood properties, grades, and value. Areas of research eligible for funding in 2007/08 include:

Research priorities for topic 3.2		C	NI	SI
a	Determining impacts of silvicultural regimes on wood quality	✓	✓	✓

Theme 4.0 Timber losses to environmental and biotic factors (wind, drought, insects, disease, animals, fire)

Description

Finding methods to predict and mitigate timber losses due to environmental factors.

4.2 Estimating stand-level losses (other than MPB)

Research under this topic may involve the use of growth-and-yield models, but should not be mainly about growth-and-yield model development. Areas of research eligible for funding in 2007/08 include:

Research priorities for topic 4.2		C	NI	SI
a	Windthrow	✓		
b	Ips beetles		✓	✓
c	Spruce bark beetle		✓	✓
d	Root disease (Armillaria, Phellinus)	✓	✓	✓

4.3 Mitigating losses (other than MPB)

Strategies and management practices that mitigate losses at an appropriate operational scale and in a cost-effective manner. This topic spans areas from silvicultural practices to resistance research and tree breeding, and deals with losses from factors such as root rots, pine rusts, pine mistletoe, windthrow, and drought. Areas of research eligible for funding in 2007/08 include:

Research priorities for topic 4.3		C	NI	SI
a	Browse	✓	✓	✓
b	Growth-and-yield implications of stand management at the urban interface for fire hazard protection		✓	✓
c	Spruce budworm			✓

Theme 5.0 Analytical techniques and models for strategic analysis

Description

Development of new tools and the improvement of existing tools to support analysis of timber and NTFP supply, or the joint production of timber and non-timber values for resource analysis or local land-use planning.

5.1 Integration of data and models across scales

Research under this topic will involve developing techniques for integrating various data sources and models for strategic analyses. Areas of research eligible for funding in 2007/08 include:

Research priorities for topic 5.1		C	NI	SI
a	Techniques for integrating various data sources for strategic analyses (e.g., forest inventory, remote sensing, growth and yield, and non-conventional data layers such as NTFP and tourism)	✓	✓	✓

5.2 Development of novel methods to link process and empirical GY models

Development of new tools, and the improvement of existing tools to support analysis of timber and NTFP supply, or the joint production of timber and non-timber values for resource analysis or local land-use planning. Areas of research eligible for funding in 2007/08 include:

Research priorities for topic 5.2		C	NI	SI
a	Hybrid modeling (e.g., connecting SORTIE functionality with PROGNOISIS or TASS)	✓	✓	✓

Theme 6.0 Marketable resources other than timber

Description

Effects of silvicultural systems on non-timber forest products, and the values derived from non-timber forest products, primarily including wild edibles and floral greens.

6.2 Non-timber forest products (NTFP)

Research on the impacts of silvicultural practices on NTFP, and techniques for enhancing NTFP and overall stand value, with the objective of developing better co-management practices by combining silviculture with botanical, experiential, and traditional-use knowledge. Areas of research eligible for funding in 2007/08 include:

Research priorities for topic 6.2		C	NI	SI
a	Development and assessment of techniques for producing other resources in conjunction with timber production under various silvicultural systems	✓	✓	✓
b	Defining relationships between high value NTFPs, forest site conditions and stand dynamics	✓	✓	✓

Theme 7.0 Climate change

Description

Modeling the effects of climate change on tree and stand growth at multiple scales ranging from individual tree, to forest and landscape. Areas of research eligible for funding in 2007/08 include:

Research priorities		C	NI	SI
a	Predicting the effects of climate change on growth and yield at the tree, stand, and landscape level	✓	✓	✓
b	Predicting effects of climate change on forest health and condition (e.g., insects, disease, fire)	✓	✓	✓
c	Responding to ecosystem shifts including: establishment of new, and reassessment of existing, species and genecology trials; understanding ecosystem resilience; assessing risk	✓	✓	✓