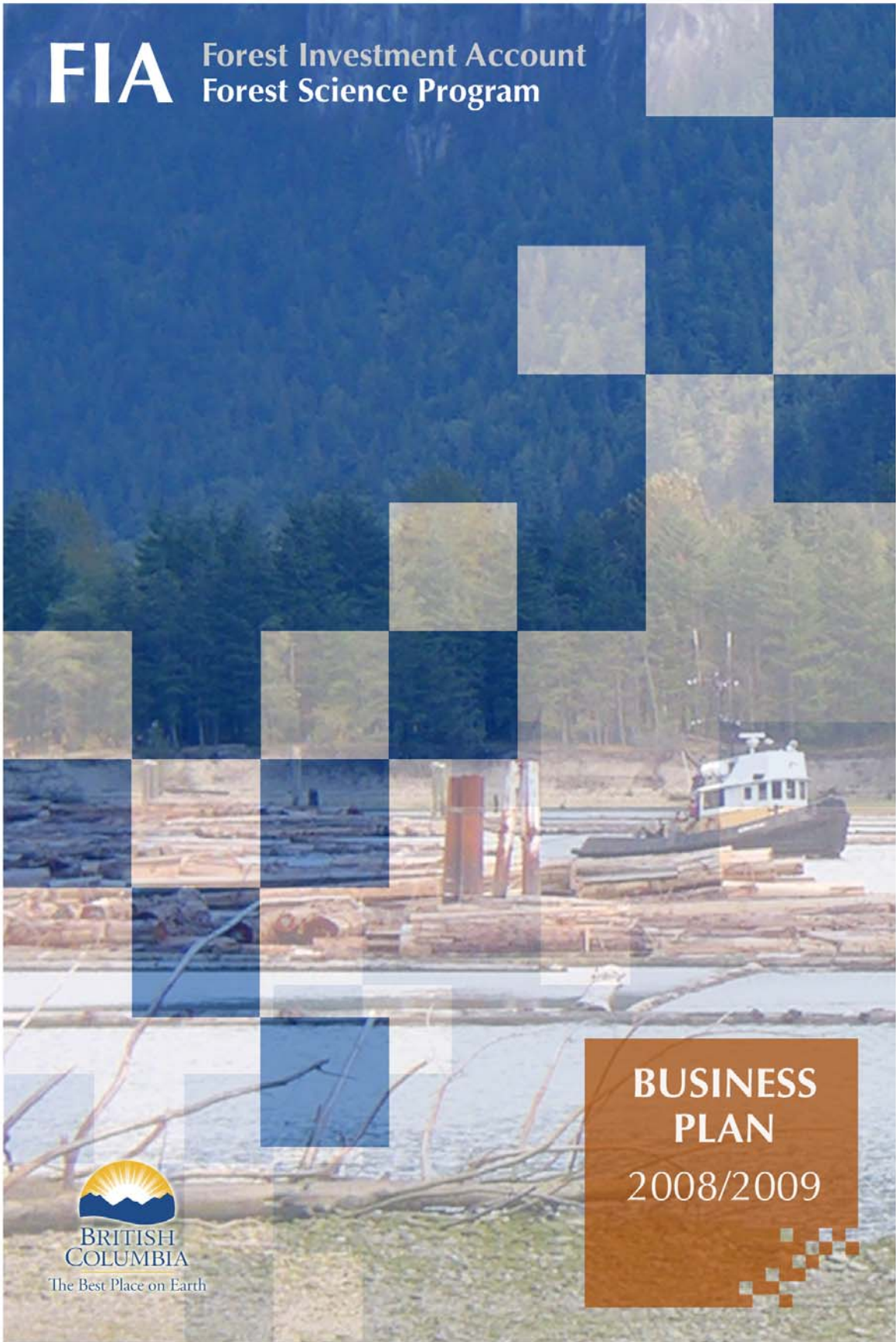


FIA Forest Investment Account Forest Science Program



**BUSINESS
PLAN**
2008/2009





Business Plan 2008/2009

March 2008

Library and Archives Canada Cataloguing in Publication Data

British Columbia. Forest Investment Account. Forest Science Program.

Business plan. -- 2005/2006-

Annual.

ISSN 1712-9796 = Business plan (British Columbia. Forest Investment Account. Forest Science Program)

1. British Columbia. Forest Investment Account. Forest Science Program – Periodicals. 2. Sustainable forestry – British Columbia – Research – Finance – Periodicals. 3. Sustainable forestry – British Columbia – Management – Periodicals.

I. Title. II. Title: FIA, Forest Investment Account, Forest Science Program business plan.

SD387.S87B74

354.5'5274'0971105

C2005-960038-1

More information on the FIA Forest Science Program can be found at
www.FIA-FSP.ca

Table of Contents

1	Introduction.....	1
1.1	FIA Forest Science Program	1
1.2	FIA Forest Science Board.....	1
2	FIA–FSP Activities 2007/08.....	3
2.1	Forest Science Board	3
2.2	Research	4
2.3	Extension	9
2.4	Administration	10
3	FIA–FSP Budget 2008/09	11
Appendix 1	Recommended projects, 2008/09.....	12

List of Tables

Table 1	Forest Science Board membership structure.....	1
Table 2	Forest Science Board members, 2008/09.....	2
Table 3	Forest Science Board committees, 2008/09	2
Table 4	Recommended Sustainability Program allocations by theme and topic	5
Table 5	Recommended Timber Growth and Value Program allocations by theme and topic.....	5
Table 6	Recommended allocations to continuing Sustainability projects (approved 2006/07 and 2007/08), based on progress to date	6
Table 7	Recommended 2008/09 allocations to continuing Timber Growth and Value projects (approved 2006/07 and 2007/08), based on progress to date.....	7
Table 8	Number and value of research projects, by duration and program	8
Table 9	Number and value of Growth and Yield Modelling Subprogram projects, by duration	8
Table 10	Number and value of Future Forest Ecosystems Subprogram projects, by duration	8
Table 11	Number and value of LTR projects in 2008/09, by duration	9
Table 12	Provincial Forest Extension Program budget summary, 2008/09	10
Table 13	FIA–FSP recommended budget allocation, 2008/09.....	11
Table A1	Recommended 2008/09 allocations to research and synthesis projects, by duration	12

List of Figures

Figure 1	Forest Science Board and committees relationships.....	2
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1 Introduction

1.1 FIA Forest Science Program

The Forest Investment Account (FIA) is a provincial government mechanism for promoting sustainable forest management in British Columbia. It is founded within a sub-vote of the Minister of Forests and Range to fund certain forest management activities. The FIA comprises five programs: Crown Land Use Planning Enhancement, Forest Science, Land Base Investment, Market Development, and Tree Improvement.

The FIA Forest Science Program (FIA–FSP) funds a range of research, knowledge synthesis, and extension activities that contribute to the three FIA goals:

- supporting sustainable forest management practices
- improving the public forest asset base
- promoting greater returns from the utilization of public timber.

The *FIA Forest Science Program Strategic Plan 2004–2008* sets out the vision, strategic goals, governance structure, planning framework, and forest science priorities for the FIA Forest Science Program. This document describes the activities that constitute the FIA–FSP Business Plan for 2008/09.

For more information on the FIA–FSP, visit www.FIA–FSP.ca.

1.2 FIA Forest Science Board

A 14-member Forest Science Board advises the Deputy Minister of Forests and Range (MFR) on FIA–FSP strategies and priorities. The Board comprises users and providers of scientific knowledge drawn from industry, governments, First Nations, and the forest science community. The Board composition is set out in Table 1.

Table 1 Forest Science Board membership structure

Affiliation	Members
Provincial Government	3
First Nations	2
Forest Sector	4
Federal Government (Canadian Forest Service)	1
Forest Science Provider Agencies (universities, government, and private organizations)	4
	14
<i>Ex-officio (non-voting)</i>	
PricewaterhouseCoopers LLP	1
Ministry of Forests and Range	1
Provincial Forest Extension Provider	1

Table 2 lists Board members for 2008/09.

Table 2 Forest Science Board members, 2008/09

Board Members	Affiliation
Bill Bourgeois, Chair	Forest Sector (New Direction Resource Management Limited)
Wayne Martin	Provincial Government (Ministry of Forests and Range)
Diane Medves	Provincial Government (Ministry of Forests and Range)
Art Tautz	Provincial Government (Ministry of Environment)
Gary Hogan	Federal Government (Canadian Forest Service)
Natasha Caverley	First Nations
Ivan Tallio	First Nations
Walter Matosevic	Forest Sector (Canadian Forest Products Ltd.)
Shannon Janzen	Forest Sector (Western Forest Products Inc.)
Wayne Wall	Forest Sector (International Forest Products Limited)
Gary Hunt	Forest Science Provider (Thompson Rivers University)
Barbara Hawkins	Forest Science Provider (University of Victoria)
Ernst Stjernberg	Forest Science Provider (FP Innovations – FERIC Division)
Gerry Still	Forest Science Provider (Ministry of Forests and Range)
<i>Ex-officio Members</i>	
Ian Brown	PricewaterhouseCoopers LLP
Monty Locke	Ministry of Forests and Range
Chris Hollstedt	Provincial Forest Extension Provider (FORREX)

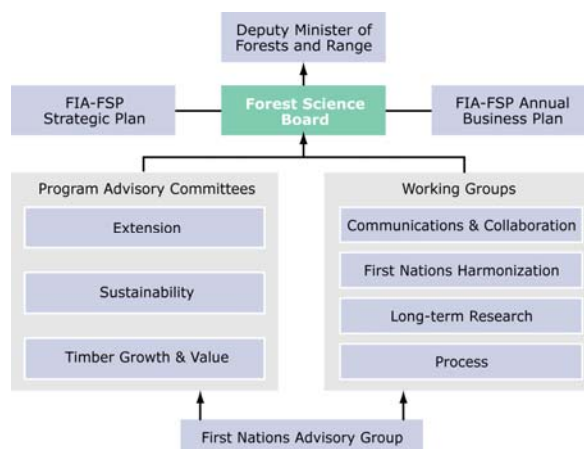
Three types of committees support the Forest Science Board: *Program Advisory Committees* (PACs) are standing committees charged with specific responsibilities relative to their respective programs; *Advisory Groups* (AGs) and *Working Groups* (WGs) are temporary committees established by the Board as needed to provide advice about specific issues. Table 3 lists the 2008/09 Board committees and chairs.

Table 3 Forest Science Board committees, 2008/09

Title	Type	Chair
Extension	PAC	
Sustainability	PAC	Scott McNay
Timber Growth and Value	PAC	Alan Vyse
First Nations	AG	Pamela Perreault
Firs Nations Harmonization	WG	Natasha Caverley
Communications and Collaboration	WG	Bill Bourgeois
Long-term Research	WG	
Process	WG	

Figure 1 illustrates the relationships between the Board, Program Committees, and Working Groups, and the development of the FIA–FSP Strategic Plan and annual Business Plan.

Figure 1 Forest Science Board and committees relationships



2 FIA–FSP Activities 2008/09

2.1 Forest Science Board

Board and Committee Support

Funding for the Board and its committees will decrease in 2008/09 due to the completion of program advisory committee projects and the majority of work on the FIA–FSP Strategic Plan in 2007/08. Support for Board and advisory committees, First Nations harmonization, and meeting costs represent the major components of the Board budget.

Program Development

In 2008/09, the Board will continue to address the following key issues:

- incorporating First Nations perspectives into the Program Advisory Committees and Working Groups, and First Nations interests into the FIA–FSP research and extension planning framework
- identifying research related to emerging issues
- investigating the priority and opportunity for long-term research
- evaluating a business-plan approach to research in growth and yield modelling and climate change
- focusing program priorities on critical resource management issues.

The Board will also implement the First Nations Forestry Council–Forest Science Board Protocol Agreement, review the Graduate Student Pilot Project, and complete the FIA–FSP Strategic Plan.

Communications

Effective, ongoing communications with key audiences is critical to the success of the Forest Science Board and the FIA Forest Science Program. In 2008/09, the Forest Science Board will maintain its communications activities to:

- assess and update the FIA–FSP Website
- publish the 2008/09 Business Plan, FIA–FSP Strategic Plan 2008–12, and 2007/08 Annual Report
- make presentations to profile the FIA–FSP and promote collaboration with other research and extension initiatives
- submit advertising and articles on FIA–FSP progress to forest science user and provider magazines and newsletters
- update and mount the FIA–FSP display at conferences and other key events
- support communication with First Nations communities and organizations about the role of First Nations representatives on the Board and how FIA–FSP is addressing First Nations interests.

The Communications and Collaboration Working Group will continue to seek opportunities to meet with senior government and industry officials and highlight the strategic direction and accomplishments of the FIA–FSP. A key message will be the need to include land-based research as a component of new provincial initiatives, and increase funding for long-term research related to climate change and ecosystem-based management.

The Board will recommend the funds required to support the FIA–FSP Strategic Plan to the Forest Investment Council for consideration in its allocations for 2009/10.

Collaboration

In 2008/09, the Board will continue to seek, support, and participate in partnerships that increase the effectiveness of FIA–FSP funding. In this regard, the Board will approach other land-based research initiatives to encourage collaboration and efficient delivery of joint funding.

Process Improvement

PwC will maintain a process of continuous improvement in 2008/09, gathering feedback from proponents and reviewers to strengthen the FIA–FSP Research Call for Proposals.

Processes associated with First Nations harmonization will continue to be refined in conjunction with the First Nations Board members, First Nations Advisory Group, and researchers.

Results from the 2007/08 survey of users will be used to improve the definition and tracking of internal and external FIA–FSP performance measures.

2.2 Research

New Projects

The Sustainability and Timber Growth and Value program strategies and priorities shape the annual FIA–FSP Research Call for Proposals. The largest proportion of available funds within each program is allocated to these priorities, and is available for single- and multi-year projects, as well as for long-term experiments. A smaller portion of funds is available for proposals that fall within the general research program, but on topics not identified as annual priorities.

From analysis of research initiated since 2004/05 and current commitments to multi-year projects started in 2005/06, the Board decided to focus new research projects in 2008/09 on the topics set out in Tables 4 and 5. These tables identify the recommended allocation of funding to specific themes and topics for the Sustainability and Timber Growth and Value programs; the numbers relate to the organization of topics in the strategies and in no way indicate priority. The research topics and priorities are described more fully in the program strategies and the documents on eligible research topics for 2008/09.^{1,2}

Twenty-four new projects, valued at \$1.19 million (Table 4), are recommended for funding under the Sustainability Program. Twenty-five new projects valued at \$1.15 million (Table 5) are recommended under the Timber Growth and Value Program.

¹ *FLA–FSP Sustainability Program Research Strategy 2007–2017; FLA–FSP Timber Growth and Value Program Research Strategy 2007–2017.*

² *FLA–FSP Sustainability Program Eligible Research Topics 2008/09; FLA–FSP Timber Growth and Value Program Eligible Research Topics 2008/09.*

Table 4 Recommended 2008/09 Sustainability Program allocations by theme (bold) and topic

	1-Year Projects		2-Year Projects		3-Year Projects	
	No.	2008/09 (\$)	No.	2008/09 (\$)	No.	2008/09 (\$)
Sustainability Program Allocation	7	299,864	4	231,120	13	529,691
1 Ecosystem structure, function, and processes, and biodiversity related to forest management	4	139,765	3	178,200	7	327,279
1.4 Effectiveness of site-level structures in maintaining biodiversity and rangeland habitats typified by grass and shrub cover	3	107,365	1	44,280	5	248,238
1.9 Climate change	1	32,400	2	133,920	2	79,041
4 Scientific information to inform policy, regulations, standards development, and (or) refinement	3	160,099	1	52,920	6	201,982
4.1 Species-at-risk recovery research	3	160,099	1	52,920	6	201,982

Note: Totals may not sum due to rounding. Italics indicate that project count includes a project that is not included in the budget figure.

Table 5 Recommended 2008/09 Timber Growth and Value Program allocations by theme (bold) and topic

	1-Year Projects		2-Year Projects		3-Year Projects	
	No.	2008/09 (\$)	No.	2008/09 (\$)	No.	2008/09 (\$)
Timber Growth and Value Program Allocation	8	215,795	12	627,236	6	288,580
1 Basic research on tree growth and stand development	1	35,219	2	95,385	3	158,980
1.1 Complex stands including partial cutting, variable retention	1	35,219	1	38,232	2	126,144
1.3 Old trees and stands			1	57,153	1	32,836
2 Design and analysis of silvicultural systems	2	38,124	3	63,790	1	39,960
2.1 Complex stands including partial cutting, variable retention	2	38,124	3	63,790	1	39,960
3 Growth and yield modeling/predictions	1	49,248	2	206,280		
3.1 Complex stands including partial cutting, variable retention	1	49,248	2	206,280		
4 Timber losses to environmental and biotic factors (wind, drought, insects <incl. MPB>, disease, animal damage, fire)			5	261,781		
4.1 Stand and forest dynamics following MPB			3	187,153		
4.4 Site productivity impacts			2	74,628		
6 Marketable resources other than timber					2	89,640
6.2 Non-timber forest products (NTFPs)					2	89,640
7 Climate change	4	93,204				
7.1 Predicting effects of climate change on forest health and condition (e.g., insects, disease, fire)	1	54,432				
7.2 Predicting effects of climate change on growth and productivity	1	19,980				
7.4 Physiological and adaptive responses of species and seedlots	2	18,792				

Note: Totals may not sum due to rounding. Italics indicate that project count includes a project that is not included in the budget figure.

Continuing Projects

Table 6 sets out the Board's recommendation for continued funding of 72 Sustainability Program

multi-year projects initiated in 2006/07 and 2007/08, based on progress to date.

Table 6 Recommended 2008/09 allocations to continuing Sustainability projects (approved 2006/07 and 2007/08), based on progress to date

Program/Topic		3-Year Projects		2-Year Projects		Subtotal (\$)
		No.	2008/09 (\$)	No.	2008/09 (\$)	
Sustainability		54	3,237,056	18	786,348	4,023,404
1	Ecosystem structure, function, and processes, and biodiversity related to forest management	22	1,225,161	4	225,828	1,450,989
1.1	Riparian ecology and management of small streams	4	337,209	1	42,120	379,329
1.3	Coarse filter approaches to maintaining biodiversity at the landscape scale	2	89,465	1	39,960	129,425
1.4	Effectiveness of site-level structures in maintaining biodiversity and rangeland habitats typified by grass and shrub cover	16	798,487	2	143,748	942,235
2	Decision support tools for sustainable forest management	2	99,835	2	98,064	197,899
2.1	Habitat supply modeling	2	99,835	2	98,064	197,899
3	Indicators, thresholds, and monitoring systems	17	886,226	6	213,408	1,099,634
3.1	Development of indicators and monitoring systems	7	283,451			283,451
3.2	Indicator thresholds of ecological sustainability	6	359,141	4	141,048	500,189
3.3	Indicators for socio-economic sustainability	3	163,858	1	34,560	198,418
3.4	Methods for balancing social, economic, cultural and environmental indicators of sustainability	1	79,776	1	37,800	117,576
4	Scientific information to inform policy, regulations, standards development, and (or) refinement	5	416,079	4	171,288	587,367
4.1	Species-at-risk recovery research	5	416,079	4	171,288	587,367
P	Proponent-driven	8	609,755	2	77,760	687,515

Note: Totals may not sum due to rounding.

Table 7 sets out the Board's recommendation for continued funding of 43 Timber Growth and Value

Program multi-year projects initiated in 2006/07 and 2007/08, based on progress to date.

Table 7 Recommended 2008/09 allocations to continuing Timber Growth and Value projects (approved 2006/07 and 2007/08), based on progress to date

Program/Topic		3-Year Projects		2-Year Projects		Subtotal (\$)
		No.	2008/09 (\$)	No.	2008/09 (\$)	
Timber Growth and Value		34	2,038,443	9	403,331	2,441,774
1	Basic research on tree growth and stand development	5	283,860	3	103,000	386,860
1.1	Complex stands including partial cutting, variable retention	4	265,252	3	103,000	368,252
1.3	Old trees and stands	1	18,608			18,608
2	Design and analysis of silvicultural systems	10	589,722			589,722
2.1	Complex stands including partial cutting, variable retention	8	465,711			465,711
2.2	Even-aged stands	2	124,011			124,011
3	Growth and yield modeling/predictions	5	444,351	1	61,560	505,911
3.1	Complex stands including partial cutting, variable retention	4	286,551	1	61,560	348,111
3.2	Wood quality	1	157,800			157,800
4	Timber losses to environmental and biotic factors (wind, drought, insects <incl. MPB>, disease, animal damage, fire)	4	214,585	1	72,468	287,053
4.1	Stand and forest dynamics following MPB	1	69,217			69,217
4.2	Estimating and/or mitigating stand-level losses	1	47,088			47,088
4.3	Mitigating losses	2	98,280	1	72,468	170,748
5	Analytical techniques and models for strategic analysis			3	141,463	141,463
5.1	Development of novel methods to integrate data and models across scales			2	112,756	112,756
5.2	Development of novel methods to link GY models to process, climate, hydrology, wildlife, and other models			1	28,707	28,707
6	Marketable resources other than timber	3	122,688			122,688
6.2	Non-timber forest products (NTFPs)	3	122,688			122,688
7	Climate change	4	272,834			272,834
7.1	Predicting effects of climate change on forest health and condition (e.g., insects, disease, fire)	1	59,400			59,400
7.2	Predicting effects of climate change on growth and productivity	1	88,154			88,154
7.3	Responding to ecosystem shifts	2	125,280			125,280
P	Proponent-driven	3	110,403	1	24,840	135,243

Note: Totals may not sum due to rounding.

Research Summary

The Board's goal, over time, is to maintain approximately equal funding of the Sustainability and Timber Growth and Value programs, while seeking a balance in funding projects of one to three years. The ability to achieve this balance is affected by the response of research proponents to annual priorities set out in the Call for Proposals.

Table 8 summarizes the number and value of new and continuing research projects recommended for funding in 2008/09, by duration and program.

The Sustainability Program represents 44% of the 2008/09 research budget (\$10 million), the Timber Growth and Value Program 34.4%, and proponent-driven projects 8.2%.

Table 8 Number and value of research projects in 2008/09, by duration and program

Project Duration	Sustainability Program		Timber Program		Proponent Driven		Subtotal	
	No.	2008/09 (\$)	No.	2008/09 (\$)	No.	2008/09 (\$)	No.	2008/09 (\$)
3 years	59	3,156,562	37	2,216,620	11	720,158	107	6,093,340
2 years	20	939,708	20	1,005,727	3	102,600	43	2,048,035
1 year	7	299,864	8	215,795			15	515,659
Total	86	4,396,134	65	3,438,142	14	822,758	165	8,657,034

Note: Totals may not sum due to rounding. Italics indicate that project count includes a project that is not included in the budget figure.

Collaborative Research

In 2007/08, the Board established two subprograms for collaborative research related to growth and yield modelling and climate change.³ These subprograms take a direct-delivery approach to funding collaborative research consistent with strategies and annual business plans.⁴ The Growth and Yield Modelling Subprogram (GYMS) builds on the priorities for growth and yield modelling set out in the Timber Growth and Value Strategy. The Future Forest Ecosystems Subprogram (FFES), builds on the priorities for climate change research set out in the Sustainability and Timber Growth and Value strategies.

In 2008/09, four collaborative projects, valued at \$374,030 (Table 9), are recommended for

funding through the GYMS; and five collaborative projects, valued at \$360,228 (Table 10), are recommended for funding through the FFES.

Table 9 Number and value of Growth and Yield Modelling Subprogram projects in 2008/09, by duration

Project Duration	No.	2008/09 (\$)
3 years	3	352,430
2 years	1	21,600
Total	4	374,030

Note: Totals may not sum due to rounding.

Table 10 Number and value of Future Forest Ecosystems Subprogram projects in 2008/09, by duration

Project Duration	No.	2008/09 (\$)
3 years	1	76,788
1 years	4	283,440
Total	5	360,228

Note: Totals may not sum due to rounding.

³ Proposals for other research related to growth and yield modelling and climate change are funded through the regular Call for Proposals.

⁴ *Growth and Modelling Subprogram Business Plan and Strategy 2008–2011 (July 2007); Future Forest Ecosystems Initiative 2007/08–2009/10 Strategic Plan (November 2007).*

Long-term Research Program

Long-term Research projects (LTRs) provide opportunities for the collection of long-term data and collaborative research relevant to priorities for the Sustainability and Timber Growth and Value programs.

The 2008/09 FIA–FSP provides \$609,623 to support site maintenance, core monitoring, and knowledge asset protection on 36 LTRs. Table 11 identifies the number and value of LTR projects recommended for funding in 2008/09, by duration.

Table 11 Number and value of LTR projects in 2008/09, by duration

Project Duration	No.	2008/09 (\$)
3 years	32	547,944
2 years	1	17,604
1 year	3	44,075
Total	36	609,623

Note: Totals may not sum due to rounding.

Partnerships with Other Research Initiatives

The Ministry of Forests and Range, through the FIA–FSP, contributes to the Sustainable Forest Management Network (SFMN). The SFMN is a national partnership to deliver an internationally recognized, interdisciplinary program that undertakes relevant university-based research and training. British Columbia has contributed to the SFMN since 2003.

Funding for the SFMN, covered under a 2006/07 agreement that extends to the end of 2008/09, enables the FIA–FSP to leverage funding from the network to address research in B.C.

2.3 Extension

Extension represents the full suite of communication, technology transfer, and informal education processes that form the crucial link between research and the policies and practices supporting science-based sustainable forest management in B.C. The FIA–FSP supports extension in two important, complementary ways: (1) proponent-delivered extension components of individual research projects and extension projects; and (2) ongoing support of the Provincial Forest Extension Program (PFEP) coordinated and delivered by the provincial forest extension provider, FORREX.

PFEP investments are guided by the *British Columbia Provincial Forest Extension Strategy 2005–2010*.⁵ Detail on 2008/09 expenditures is found in the PFEP Business Plan 2008–2011 and 2008/09 Addendum.⁶

The 2008/09 extension budget is allocated to seven extension subject-area clusters and the completion of six continuing extension synthesis projects from 2007/08, as summarized in Table 12.

⁵ *British Columbia Provincial Forest Extension Program Strategic Plan 2005–2010*, May 2006.

⁶ *British Columbia Provincial Forest Extension Program Business Plan 2008–2011*, February 14, 2008. *British Columbia Provincial Forest Extension Program Annual Business Plan 2008–2009 Addendum: Detailed Project Plans*, February 14, 2008.

Table 12 Provincial Forest Extension Program budget summary, 2008/09, by subject area cluster

Extension Program Cluster	Subtotal (\$)
Watershed Management	210,518
Forest Resource Dynamics	544,060
Ecosystem Management and Conservation Biology	275,040
Socio-economics	177,452
Aboriginal Forestry	314,000
Information Products and Services	582,370
Strategic Initiatives	181,560
FIA–FSP Funding (FORREX)	2,285,000
FIA–FSB Funding (Synthesis Projects)	182,666
Total (\$)	2,467,666

Note: Totals may not sum due to rounding.

2.4 Administration

Program Administration

PricewaterhouseCoopers (PwC) will continue to administer approved new and continuing (multi-year) research projects, extension synthesis projects, and the provincial forest extension provider contract in 2008/09.

Ministry of Forests and Range staff will manage the PwC contract and other contracts needed by the Forest Science Board and committees.

Audits

The PwC audit plan for 2008/09 will see the completion of both financial and performance audits for 2007/08 projects and the auditing of ongoing projects in 2008/09.

PwC uses a continuous risk management assessment process that allows risk to be assessed at both the recipient and project levels to determine the frequency and level of detail needed for project monitoring. Financial audits review the policies, procedures, and controls established at the project recipient level, along with project cost statements, to ensure consistent and correct application. Performance audits use objective measures to ensure that projects have achieved the agreed-upon milestones and outcomes.

3 FIA–FSP Budget 2008/09

In February 2008, the Forest Investment Council confirmed FIA–FSP funding of \$14.12 million.

Table 13 presents the Board’s recommended allocation of these funds.

Table 13 FIA–FSP recommended budget allocation, 2008/09

Activity	Budget (\$)	Budget (\$)	Budget (%)
Forest Science Board		670,352	4.7
Board and PAC support	541,000		
Program development	129,352		
Research		10,000,915	70.8
<i>Sustainability Program</i>		4,396,134	
Continuing multi-year projects (initiated 06/07, 07/08)	3,335,889		
New multi-year projects (08/09)	760,381		
Single-year projects (08/09)	299,864		
<i>Timber Growth and Value Program</i>		3,438,142	
Continuing multi-year projects (initiated 06/07, 07/08)	2,306,531		
New multi-year projects (08/09)	915,816		
Single-year projects (08/09)	215,795		
<i>Proponent-driven Research</i>		822,758	
Continuing multi-year projects (initiated 06/07, 07/08)	822,758		
<i>Growth and Yield Modeling Program</i>		374,030	
New multi-year projects (initiated 08/09)	374,030		
<i>FFEI Collaboration Research</i>		360,228	
New multi-year projects (08/09)	76,788		
Single-year projects (08/09)	283,440		
<i>Long-term Research Program</i>		609,623	
Continuing multi-year projects (initiated 06/07)	464,716		
New multi-year projects (08/09)	100,832		
Single-year projects (08/09)	44,075		
<i>Research Partnerships</i>		0	
Extension		2,467,666	17.5
Provincial Forest Extension Plan (FORREX)	2,285,000		
Extension Synthesis Projects (08/09)	182,666		
Communications		80,000	0.6
Administration		904,967	6.4
Program Administration (PwC and MFR)	571,000		
Audits	256,467		
Subprogram Administration (GYMP and FFES)	77,500		
Total 2008/09		14,123,900	

Appendix 1 Recommended projects, 2008/09

Table A1 Recommended 2008/09 allocations to research and extension synthesis projects, by duration

Category	Budget (\$)
New Single-Year Projects	862,560
Sustainability Program	299,864
Timber Growth and Value Program	235,181
FFEI Collaboration Research	283,440
Long-term Research Program	44,075
New Multi-Year Projects	2,353,380
Sustainability Program	885,914
Timber Growth and Value Program	915,816
Growth and Yield Modeling Program	374,030
FFEI Collaboration Research	76,788
Long-term Research Program	100,832
Continuing Multi-Year Projects	7,043,387
Sustainability Program	3,335,889
Timber Growth and Value Program	2,306,531
Proponent-driven Projects	822,758
Long-term Research Program	464,716
Synthesis Projects	182,666
Total	10,259,327

Note: Totals may not sum due to rounding.

The following pages list recommended projects for 2007/08 in each of the program categories. Note that totals may not sum due to rounding. Italics indicate projects that are not included in the total budget figure.

List of Acronyms Used in Appendix 1

AAFC	Agriculture and Agri-Food Canada	MoFR	Ministry of Forests and Range
ALRFS	Aleza Lake Research Forest Society	RRU	Royal Roads University
FNFC	BC First Nations Forestry Council (FNFC)	SFU	Simon Fraser University
BVC	Bulkley Valley Centre for Natural Resources Research and Management	TRU	Thompson Rivers University
CFS	Canadian Forest Service	UofA	University of Alberta
Interfor	International Forest Products Ltd.	UBC	University of British Columbia
JPRF	John Prince Research Forest	UNBC	University of Northern British Columbia
MMFA	McGregor Model Forest Association	UVic	University of Victoria
MoE	Ministry of Environment		

Sustainability Program Recommendations—Single-year Projects **TOTAL: \$299,864**

Topic	Project	Project Title	Proponent	Organization	2008/09 (\$)
S 1.4	Y091153	Analysis of riparian restoration techniques on biodiversity: use of invertebrates indicator species to determine appropriate restoration options for ecological recovery of riparian stands	Warren Warttig	Interfor	34,128
S 1.4	Y091154	Reassessment of arboreal lichen biomass at the Pinkerton Mountain Silvicultural Systems Site 10 years after partial cutting	Darwyn Coxson	UNBC	34,357
S 1.4	Y091155	Design of riparian zones: temporal response of secondary productivity to stream geomorphology and classification	Warren Warttig	Interfor	38,880
S 1.9	Y091081	How will climate change effect the distribution and competitive performance of <i>Centaurea maculosa</i> and <i>Linaria vulgaris</i> in south interior grasslands?	Lauchlan Fraser	TRU	32,400
S 4.1	Y091046	Stream habitat and bull trout (<i>Salvelinus confluentus</i>) responses to MPB riparian salvage harvesting in north-central British Columbia.	Scott Hinch	UBC	75,967
S 4.1	Y091088	Badger habitat use and movements in forested ecosystems	Karl Larsen	TRU	39,312
S 4.1	Y091176	Effects of a mountain pine beetle epidemic on forest floor vegetation dynamics and lichen regeneration in the Itcha Ilgachuz caribou winter range in the Quesnel TSA	John Youds	MoE	44,820

Sustainability Program Recommendations—Multi-year Projects **TOTAL: \$760,381**

Topic	Project	Project Title	Proponent	Organization	2008/09 (\$)	2009/10 (\$)	2010/11 (\$)	Total (\$)
S 1.4	Y091065	Effect of stand-level retention on carabid beetles in coastal B.C.	William J. Beese	Western Forest Products Inc.	44,280	44,280	0	88,560
S 1.4	Y091041	Early-seral forest stands and their relationship to wildlife populations and ecosystem stability.	Karl Larsen	TRU	36,072	51,300	43,200	130,572
S 1.4	Y091164	Harvesting and site preparation treatments to develop and maintain open canopy conditions in dry Douglas-fir forests: the Isobel Project	Walt Klenner	MoFR	44,280	72,360	66,420	183,060
S 1.4	Y091122	Contrasting spring and fall grazing regimes for effects on grassland biota	Donald Thompson	AAFC	64,530	54,054	50,306	168,890
S 1.4	Y091102	Are northern goshawks and forest harvesting compatible? An examination of the effects of different harvest practices on northern goshawk nest productivity	William Harrower	TRU	36,720	59,400	59,400	155,520
S 1.4	Y091136	Relations between riparian disturbance and habitat attributes in the Southern Interior of BC	Adam Wei	UBC	66,636	66,636	64,476	197,748

Topic	Project	Project Title	Proponent	Organization	2008/09 (\$)	2009/10 (\$)	2010/11 (\$)	Total (\$)
S 1.9	Y091110	Assessing alternative forest management strategies under climate change	Harry Nelson	UBC	60,480	64,260	0	124,740
S 1.9	Y091076	Effects of climate change on high-elevation plant communities and their ecological processes	Suzanne Simard	UBC	29,901	31,749	36,143	97,794
S 1.9	Y091120	Future vegetation structure and vertebrate distributions based on changes in moisture balance and temperature	Fred Bunnell	UBC	49,140	49,140	49,140	147,420
S 1.9	Y091111	Wildfire risk in a changing climate	Stephen Taylor	CFS	73,440	73,440	0	146,880
S 4.1	Y091172	Dietary dependence of Williamson's Sapsucker on coarse woody debris-associated ants	Jeff Meggs	Streamline Environmental Consulting Ltd.	33,876	25,380	3,996	63,252
S 4.1	Y091159	Effects of a mountain pine beetle epidemic on northern caribou habitat use, migration and population status	Deborah Cichowski	BVC	52,920	27,000	0	79,920
S 4.1	Y091050	<i>Determining the causes and magnitude of caribou mortality during a moose population decline</i>	Douglas Heard	MoE	32,400	32,400	32,400	97,200
S 4.1	Y091010	Response of woodland caribou to partial retention logging of winter ranges attacked by mountain pine beetle	Dale Seip	MoFR	89,640	89,640	76,140	255,420
S 4.1	Y091067	Testing relationships between habitat quality indices, forest configuration and marbled murrelet local population size	David Lank	SFU	40,252	35,024	11,254	86,530
S 4.1	Y091186	Identifying factors affecting the succession of terrestrial lichen communities in the Omineca Region of north-central British Columbia	Scott McNay	MMFA	38,214	49,944	16,527	104,685
S 4.1	Y091082	<i>Conservation genetics and ecology of the threatened coastal giant salamander in managed forests of British Columbia: setting priorities for an integrative species recovery plan</i>	John Richardson	UBC	93,133	92,701	79,741	265,575

Sustainability Program Recommendations—Continuing Projects (approved in 2007/08) TOTAL: \$2,297,858

Topic	Project	Project Title	Proponent	Organization	2007/08 (\$)	2008/09 (\$)	2009/10 (\$)	Total (\$)
S 1.1	Y092068	Ecosystem functioning in small streams and their riparian areas in response to partial harvest riparian management	Laurie Marczak	UBC	90,450	75,420	53,870	219,740
S 1.1	Y092097	Recovery processes of small streams and their riparian areas from clear-cutting and partial harvest riparian management	John Richardson	UBC	97,200	128,585	141,761	367,546
S 1.1	Y092232	Effects of livestock grazing in southern Interior wetlands: interactions with amphibians, benthic macroinvertebrates, vegetation, and breeding waterfowl	Lauchlan Fraser	TRU	50,000	66,204	66,204	182,408
S 1.1	Y092241	Assessing the sensitivity of streams to riparian changes: Does channel geomorphology determine how tightly forests and small streams are linked to downstream reaches?	Trent Hoover	UBC	36,000	67,000	51,667	154,667
S 1.1	Y092289	Source distances and delivery processes for large woody debris recruitment to small streams from riparian forests	Tom Johnston	MoE	29,160	42,120	0	71,280
S 1.3	Y092094	Lichen biodiversity in deciduous wetland swales	Darwyn Coxson	UNBC	75,420	39,960	0	115,380
S 1.3	Y092131	Using few species to assess the sustainability of many species	Fred Bunnell	UBC	27,324	46,157	35,573	109,054
S 1.4	Y092095	Forest ecosystem recovery following disturbance: a retrospective analysis of historic disturbances on the southern BC coast	Roderick Negrave	MoFR	39,960	68,796	0	108,756
S 1.4	Y092147	Structural recovery in second-growth forests on Lyell Island, Haida Gwaii	Audrey Pearson	Ecologia	14,040	74,952	0	88,992
S 1.4	Y092156	An experimental study of variable-retention harvest methods on forest birds	Ann Chan-McLeod	UBC	128,585	64,501	64,501	257,587
S 1.4	Y092157	Structure and functional values of riparian buffer strips for sustaining floristic diversity in interior forested landscapes	Lyn Baldwin	TRU	28,350	44,928	14,580	87,858
S 1.4	Y092240	Sustainable management of the ponderosa pine parkland ecosystems in the Thompson River watershed after the mountain pine beetle epidemic	Alan Vyse	TRU	46,049	64,476	64,476	175,001
S 1.4	Y092244	Creation of habitat for small mammal prey and their predators on clearcuts: coarse woody debris in piles and windrows	Thomas Sullivan	UBC	63,000	38,880	38,880	140,760
S 1.4	Y092280	The ecology and management of dry Douglas-fir forests: the Opax Mountain Silvicultural Study	Andre Arsenault	MoFR	55,080	97,200	97,200	249,480
S 2.1	Y092137	Developing and validating habitat-based management models for species "at risk" in northeastern BC	Fred Bunnell	UBC	40,381	40,435	22,216	103,032
S 2.1	Y092160	The application and evaluation of an ecosystem model to project the recovery of old-growth attributes in second-growth stands	Brad Seely	UBC	98,086	52,164	0	150,250
S 2.1	Y092259	Enhancing the resiliency of the Tweedsmuir-Entiako caribou to the current mountain pine beetle outbreak	Don Morgan	BVC	69,123	45,900	0	115,023

Topic	Project	Project Title	Proponent	Organization	2007/08 (\$)	2008/09 (\$)	2009/10 (\$)	Total (\$)
S 2.1	Y092282	Landscape habitat supply modelling to develop and test management scenarios that balance ecological and socio-economic indicators	Walt Klenner	MoFR	44,928	59,400	54,000	158,328
S 3.2	Y092004	Thresholds for post-wildfire flood, erosion, and mass wasting processes	Peter Jordan	MoFR	32,400	118,800	118,800	270,000
S 3.2	Y092033	Ecosystem recovery after disturbance: thresholds for biodiversity and resiliency indicators	Evelyn Hamilton	MoFR	51,084	32,970	22,680	106,734
S 3.2	Y092066	Cost-effective indicators of soil physical condition: natural variation in the relative bulk density and associated tree growth as measures of forest productivity and ecosystem resilience	Maja Krzic	UBC	15,552	28,188	0	43,740
S 3.2	Y092119	Determining thresholds of habitat quality for breeding birds in rangeland ecosystems in the Cariboo region	David Green	SFU	77,760	61,279	61,279	200,318
S 3.2	Y092167	Quantifying the responses of songbirds and woodpeckers to changes in habitat at the stand and landscape scales – does intensive monitoring result in different response curves?	Kenneth Lertzman	SFU	31,752	11,556	11,556	54,864
S 3.2	Y092171	Equivalent clear cut area thresholds in large-scale disturbed forests	Markus Weiler	UBC	29,592	70,200	0	99,792
S 3.2	Y092173	Integration of information on ectomycorrhizal fungal species for use as indicators of sustainable forestry in British Columbia	J.A. Tony Trofymow	CFS	149,000	12,960	0	161,960
S 3.2	Y092185	Food web dynamics of flying squirrels, red squirrels, and voles along a 100-year gradient of stand age following clearcut logging and wildfire	Daniel Durall	UBC	37,800	57,532	18,576	113,908
S 3.2	Y092251	Effects of habitat composition on the fitness of a mature forest indicator; do thresholds exist?	Todd Mahon	BVC	77,004	29,700	0	106,704
S 3.2	Y092261	Biogeochemical indicator and threshold for assessing ecological impacts of riparian forest management on downstream ecosystems	Takashi Sakamaki	UBC	42,174	77,004	71,226	190,404
S 3.3	Y092077	Development of appropriate economic and social indicators of sustainable forest management	John Innes	UBC	72,036	27,108	37,908	137,052
S 3.3	Y092250	Valuing low-elevation old-growth forests of the southwestern British Columbia mainland: an application of the contingent choice and production function techniques	Wolfgang Haider	SFU	71,126	34,560	0	105,686
S 3.4	Y092001	Sustainable forestry, traditional economies, and community well-being: a collaborative project with Gitxaala Nation and Nuxalk Nation	Charles Menzies	UBC	38,880	37,800	0	76,680
S 3.4	Y092271	Evaluating the ecological, economic, and social trade-offs of managing for valued plants and other non-timber forest products	Evelyn Pinkerton	SFU	58,320	79,776	108,540	246,636
S 4.1	Y092008	Group selection silvicultural systems to maintain caribou habitat in high elevation forests (ESSFwc3) in central BC	Michaela Waterhouse	MoFR	89,640	65,100	87,696	242,436

Topic	Project	Project Title	Proponent	Organization	2007/08 (\$)	2008/09 (\$)	2009/10 (\$)	Total (\$)
S 4.1	Y092133	Silvicultural systems to maintain northern caribou habitat in lodgepole pine forests in central BC	Michaela Waterhouse	MoFR	45,900	76,000	81,756	203,656
S 4.1	Y092135	Identification of long-eared myotis bat species in British Columbia: an essential tool for developing management recommendations for bat species at risk	Laura Friis	MoE	75,492	39,960	43,200	158,652
S 4.1	Y092158	Nest-site re-use and management of nest habitat attributes of Marbled Murrelets in coastal forests	Alan Burger	UVic	79,272	54,000	0	133,272
S 4.1	Y092201	Quantifying forest stand and landscape attributes that influence mountain caribou habitat fragmentation and predation rates	Bruce McLellan	MoFR	64,800	148,999	160,920	374,719
S 4.1	Y092209	Assessing critical habitat and threats to endangered stickleback species pairs on the forested land base	Jordan Rosenfeld	MoE	48,600	40,716	0	89,316
S 4.1	Y092238	Reconstructing historic diets and population dynamics of the Marbled Murrelet	Peter Arcese	UBC	42,120	46,872	0	88,992
S 4.1	Y092290	Fisher (<i>Martes pennanti</i>) habitat ecology in pine-dominated habitats of the Chilcotin	Larry Davis	Davis Environmental Ltd.	39,895	29,700	0	69,595

Sustainability Program Recommendations—Continuing Projects (approved in 2006/07) **TOTAL: \$1,038,031**

Topic	Project	Project Title	Proponent	Organization	2006/07 (\$)	2007/08 (\$)	2008/09 (\$)	Total (\$)
S 1.3	Y093014	Evaluating effectiveness of forest management practices at sustaining biological diversity in northeastern British Columbia	Fred Bunnell	UBC	41,475	42,984	43,308	127,767
S 1.4	Y093052	Does retention of downed wood help maintain stand-level functional biodiversity of mycorrhizal fungi in EESF clearcuts?	Melanie Jones	UBC	26,775	38,340	27,540	92,655
S 1.4	Y093167	Coarse woody debris in the East Kootenays: understanding sources and dynamics to guide targets for sustainable forest management	Lori Daniels	UBC	64,638	60,091	39,917	164,646
S 1.4	Y093256	Retention patches: windthrow and recruitment of habitat structure	Douglas Steventon	MoFR	0	43,200	43,200	86,400
S 1.4	Y093268	Fisher habitat ecology in the Peace River region	Eric Lofroth	MoE	38,848	39,960	29,700	108,508
S 1.4	Y093300	Downed wood in riparian areas and its contribution to stand-level biodiversity	John Richardson	UBC	23,847	37,829	37,949	99,625
S 1.4	Y093301	Long-term trends in amphibians in riparian reserves: are riparian reserves effective for their conservation?	John Richardson	UBC	22,281	24,509	25,498	72,288

Topic	Project	Project Title	Proponent	Organization	2006/07 (\$)	2007/08 (\$)	2008/09 (\$)	Total (\$)
S 1.4	Y093302	Dry forests and grasslands: stand structures, habitat, and small mammals as indicators of biodiversity	Thomas Sullivan	UBC	44,100	45,360	45,360	134,820
S 1.4	Y093314	Determining stand level structures in dry Douglas-fir forests that maintain appropriate levels of ectomycorrhizal genetic diversity to facilitate Douglas-fir regeneration	Suzanne Simard	UBC	46,778	59,184	59,184	165,146
S 1.4	Y093322	Can the important microbial diversity and nutrient cycling characteristics of old-growth Douglas-fir forests be maintained in managed second-growth forests?	Richard Winder	CFS	69,539	82,080	84,240	235,859
S 1.4	Y093324	Abundance of critical wildlife habitat attributes in relation to forest management practices	Walt Klenner	MoFR	17,631	51,840	70,200	139,671
S 1.4	Y093329	Measuring success in managing for Saskatoon berries and other traditionally important plants	Fred Sampson	Siska Traditions Society	36,814	25,714	25,714	88,243
S 3.1	Y093005	Using stereoscopic high resolution satellite imagery to assess landscape- and stand-level characteristics	Denis Collins	MoFR	43,614	31,536	29,376	104,526
S 3.1	Y093010	Developing indicators of soil productivity, function, and biodiversity through soil biotic communities	Marty Kranabetter	BVC	39,845	27,540	27,540	94,925
S 3.1	Y093040	Alternative indicators of the integrity of stream function as an assessment of sustainable forest management	John Richardson	UBC	79,323	76,405	60,431	216,160
S 3.1	Y093062	Integration of airborne LiDAR and hyperspectral remote sensing data to support the Vegetation Resources Inventory and sustainable forest management	Olaf Niemann	UVic	70,875	72,900	70,200	213,975
S 3.1	Y093074	Hydrologic indicators for watershed sensitivity to peak flow changes in small upland watersheds	Marwan Hassan	UBC	32,107	64,044	24,084	120,235
S 3.1	Y093282	Using GIS and multivariate statistical analysis to assess the relations between aquatic habitat indicators and forest harvesting at both stream reach and watershed scales	Adam Wei	UBC	58,485	53,676	53,676	165,837
S 3.1	Y093284	Soil disturbance effects of hoe-forwarding on tree growth and site productivity	Mary-Jane Douglas	Foresol Consulting Ltd.	40,215	21,276	18,144	79,635
S 3.3	Y093002	Common knowledge, values and perceptions of sustainable forest management held by First Nations communities	Ronald Trospen	UBC	30,633	118,984	106,618	256,235
S 3.3	Y093307	Improvement of social, economic, and other indicators of sustainable forest management and tools for their integration	John Innes	UBC	38,813	30,132	30,132	99,077
S 4.1	Y093065	Use of adaptive management to mitigate risk of predation for woodland caribou in north-central British Columbia	Scott McNay	MMFA	91,386	86,373	86,020	263,779

Timber Growth and Value Program Recommendations—Single-year Projects **TOTAL: \$215,795**

Topic	Project	Project Title	Proponent	Organization	2008/09 (\$)
T 1.1	Y091069	Residual stand effects on light transmission and understory conifer growth in partially cut stands in the CWHvh2, Queen Charlotte Islands	Roderick Negrave	MoFR	35,219
T 2.1	Y091149	Growth of montane conifers 15 years after clearcutting and alternative systems at MASS	William J. Beese	Western Forest Products Inc.	38,124
T 2.1	Y091060	<i>Regeneration in thinned and unthinned uneven-aged interior Douglas-fir stands</i>	<i>Peter Marshall</i>	<i>UBC</i>	<i>47,210</i>
T 3.1	Y091083	Incorporating the effects of tree-to-tree variability and upwind windfield conditions on mechanistic windthrow models and growth and yield models	Steve Mitchell	UBC	49,248
T 7.1	Y091028	Modeling phenology and outbreaks of the western spruce budworm	V.G. Nealis	CFS	54,432
T 7.2	Y091179	Examining interactions between long-term climatic fluctuations and Douglas-fir productivity in the BC interior	Scott Green	UNBC	19,980
T 7.4	Y091054	Drought tolerance of sub-maritime Douglas-fir progeny	Barbara Hawkins	UVic	18,792
T 7.4	Y091062	<i>Underlying biological processes: the role of ectomycorrhizal fungal communities in early growth and relocation success of whitebark pine under climate change</i>	<i>Hugues B. Massicotte</i>	<i>UNBC</i>	<i>19,386</i>

Timber Growth and Value Program Recommendations—Multi-year Projects **TOTAL: \$915,816**

Topic	Project	Project Title	Proponent	Organization	2008/09 (\$)	2009/10 (\$)	2010/11 (\$)	Total (\$)
T 1.1	Y091093	Responses of conifers and trembling aspen-dominated vegetation a decade after manual and chemical brushing in southern interior of BC: examining the role of climate, ecosystem, site, and vegetation characteristics	Jean Heineman	J. Heineman Forestry Consulting	38,232	28,231	0	66,463
T 1.1	Y091104	Microclimate and tree growth as affected by western hemlock variable retention groups	Andrew Black	UBC	58,104	68,040	68,040	194,184
T 1.1	Y091162	Crown competition, crown efficiency, tree growth and site type: quantification with terrestrial LIDAR	Bruce Larson	UBC	68,040	68,040	68,040	204,120
T 1.3	Y091053	Stand dynamics over 15 years in old-growth forests in the Coast Forest Region	Andy Mackinnon	MoFR	57,153	77,760	0	134,913
T 1.3	Y091075	Mycorrhizal fungi: unlocking its ecology and role for the establishment and growth performance of different conifer species in coastal ecosystems	Suzanne Simard	UBC	32,836	33,916	26,192	92,944
T 2.1	Y091033	Growth and development of overstorey and regeneration following partial cutting of dry-belt Douglas-fir	Catherine Bealle Statland	MoFR	24,100	3,000	0	27,100

Topic	Project	Project Title	Proponent	Organization	2008/09 (\$)	2009/10 (\$)	2010/11 (\$)	Total (\$)
T 2.1	Y091064	Effects of variable retention on planted and natural regeneration in coastal BC	N.J. Smith	Western Forest Products Inc.	39,960	37,800	37,800	115,560
T 2.1	Y091079	An evaluation of brushing and spacing treatments: growing space management in boreal forest mixedwoods	George Harper	MoFR	19,926	5,724	0	25,650
T 2.1	Y091090	Developing old growth benchmarks for evaluating multiscale structure-recruitment relationships in harvested coastal temperate forests	Sari Saunders	MoFR	19,764	6,588	0	26,352
T 3.1	Y091049	Validation of the SIBEC model for estimating site index in complex stands	Gordon Nigh	MoFR	70,200	0	0	70,200
T 3.1	Y091066	Site index models for amabilis fir	Gordon Nigh	MoFR	136,080	0	0	136,080
T 4.1	Y091087	Future productivity of lodgepole pine stands following mountain pine beetle outbreaks	René Alfaro	CFS	78,300	67,500	0	145,800
T 4.1	Y091095	Predicting development and productivity of southern interior mixed species stands following mountain pine beetle attack	Suzanne Simard	UBC	65,610	60,156	0	125,766
T 4.1	Y091188	The release of secondary stand structure in immature and mature pine stands following MPB attack	Chris Hawkins	UNBC	43,243	29,527	0	72,770
T 4.4	Y091045	Measurement and modelling of disturbance impacts on site hydrology and productivity in British Columbia's southern interior	Darryl Carlyle-Moses	TRU	47,898	47,684	0	95,582
T 4.4	Y091163	Predicting changes in early growing season water availability contributed as snowmelt following mountain pine beetle attack	Trevor Blenner-Hassett	Forestec Forestry Consulting	26,730	20,736	0	47,466
T 6.2	Y091158	Impact of accelerated timber harvesting on NTFPs in Burns Lake Community Forest	Wendy Cocksedge	RRU	48,600	39,960	31,860	120,420
T 6.2	Y091160	Quantifying the effects of silvicultural techniques, wildfire and forest stand attributes on black huckleberry abundance and productivity	Robin Munro	Robin Munro	41,040	33,480	45,360	119,880

Timber Growth and Value Program Recommendations—Continuing Projects (approved in 2007/08)

TOTAL: \$1,883,514

Topic	Project	Project Title	Proponent	Organization	2007/08 (\$)	2008/09 (\$)	2009/10 (\$)	Total (\$)
T 1.1	Y092003	Competitive effects of broadleaf trees on conifer performance over a range of ecosystems	Teresa Newsome	MoFR	91,136	98,998	78,905	269,039
T 1.1	Y092022	The effect of site type and stand structure on the relationship between growth and light availability for understorey trees	Rasmus Astrup	BVC	63,720	63,720	0	127,440
T 1.1	Y092073	Natural regeneration, mortality, and residual growth response 25 years after partial cutting on the Coast	Louise de Montigny	MoFR	127,100	129,924	175,203	432,227
T 1.1	Y092103	Regeneration, growth, and potential value of bitter cherry as a component of young complex stands on Southern Vancouver Island	Roderick Negrave	MoFR	43,632	23,220	14,040	80,892
T 1.1	Y092150	Modelling light, site quality, and crowding effects on growth of understorey subalpine fir in lodgepole pine forests	Suzanne Simard	UBC	26,568	29,808	0	56,376
T 1.1	Y092256	A long-term study of the post-harvest population dynamics, development, and emergent characteristics of mature Douglas-fir leave-trees on sub-boreal sites in Central Interior BC	Michael Jull	ALRFS	25,943	9,472	0	35,415
T 2.1	Y092108	Does fire promote regeneration and growth of western redcedar?	Roderick Negrave	MoFR	12,420	78,300	8,101	98,821
T 2.1	Y092116	Growth of 10 tree species in relation to location and microclimatic gradients in a strip shelterwood	Phil Comeau	UofA	70,524	64,800	51,840	187,164
T 2.1	Y092143	St. Mary's residual basal area study in a mixed-conifer stand	Michaela Waterhouse	MoFR	34,215	76,121	69,984	180,320
T 2.1	Y092145	Shelterwood silvicultural systems to address integrated resource management issues	Michaela Waterhouse	MoFR	78,450	83,950	110,052	272,452
T 2.1	Y092210	Effects of variable retention on planted and natural regeneration in coastal BC: data measurement and analysis	N.J. Smith	Western Forest Products Inc.	44,280	44,280	44,280	132,840
T 2.1	Y092211	Growth and release of understorey trees in partially cut pine stands	Rasmus Astrup	BVC	62,640	17,280	58,320	138,240
T 2.1	Y092279	Early survival and growth of natural regeneration and planted seedlings under seven silvicultural systems on the Coast	Louise de Montigny	MoFR	65,000	46,980	75,384	187,364
T 2.2	Y092055	SCHIRP: ecology and management of ericaceous shrub-dominated ecosystems in coastal BC	Annette van Niejenhuis	Western Forest Products Inc.	99,090	99,063	99,063	297,216
T 2.2	Y092127	Growth responses of red alder to fertilization: re-measurements of existing single-tree and multi-tree plot experiments on Vancouver Island and the Sunshine Coast	Paul Courtin	MoFR	27,270	24,948	24,948	77,166

Topic	Project	Project Title	Proponent	Organization	2007/08 (\$)	2008/09 (\$)	2009/10 (\$)	Total (\$)
T 3.1	Y092187	Evaluation of the complex stand simulation model SORTIE-ND for timber supply review in sub-boreal forests of northern BC	David Coates	BVC	75,600	91,800	32,400	199,800
T 3.1	Y092243	Managing northern mixed-wood stands to sustainably maximize productivity and minimize costs	Chris Hawkins	UNBC	68,426	73,791	64,206	206,423
T 3.1	Y092260	Development of a spatially explicit crown allometry model	Rasmus Astrup	BVC	57,240	61,560	0	118,800
T 3.1	Y092264	Modelling the development of coastal BC stands: an individual tree model linked to a variable retention microclimate model	N.J. Smith	Island Timberlands Limited Partnership	63,720	63,720	63,720	191,160
T 3.2	Y092078	Modelling the impacts of silvicultural treatments on the wood quality of interior spruce	James Goudie	MoFR	157,800	157,800	188,123	503,723
T 4.2	Y092130	Distribution and impacts of Phellinus root disease in the Southern Interior of British Columbia	Michelle Cleary	MoFR	58,752	47,088	36,504	142,344
T 4.3	Y092081	Influence of forest harvesting and succession on vole populations and feeding damage to plantations	Thomas Sullivan	UBC	49,680	49,680	49,680	149,040
T 4.3	Y092092	Development of molecular markers to aid in the identification of western redcedar populations that are resistant to deer browsing and heartwood rot fungi	Jim Mattsson	SFU	48,600	48,600	48,600	145,800
T 4.3	Y092230	Reducing wildfire hazards in the wildland–urban interface: impacts on timber yields and the best practices for stand management	Tom Hobby	RRU	85,093	72,468	0	157,561
T 5.1	Y092213	Integrating historical air photo data for cedar analyses	Marguerite Forest	Haida Mapping	104,705	92,128	0	196,833
T 5.1	Y092234	An evaluation and comparison of LiDAR remote sensing technology and large-scale digital photography for landscape-level forest management applications in complex multi-aged coniferous forests	Melanie Karjala	ALRFS	27,000	20,628	0	47,628
T 5.2	Y092048	Estimating natural regeneration and yield in pine-dominated stands following mountain pine beetle attack using SORTIE-ND and PrognosisBC in a hybrid modelling approach	Valerie LeMay	UBC	34,647	28,707	0	63,354
T 7.1	Y092277	Bark beetle response to climate change: a landscape-level risk model for British Columbia	Brian Aukema	UNBC	55,080	59,400	59,400	173,880
T 7.3	Y092200	Assessing ecosystem vulnerability to climate change from the tree- to stand- to landscape-level	Craig Nitschke	BVC	79,920	79,920	79,920	239,760
T 7.3	Y092215	Tree species growth rates and susceptibility to insects and diseases in the southern ICH under current and possible future climatic conditions	Alan Vyse	TRU	65,880	45,360	15,120	126,360

Timber Growth and Value Program Recommendations—Continuing Projects (approved in 2006/07)
TOTAL: \$423,017

Topic	Project	Project Title	Proponent	Organization	2006/07 (\$)	2007/08 (\$)	2008/09 (\$)	Total (\$)
T 1.1	Y093038	Light as a factor in the growth and survival of four planted conifer species across forest gaps	Peter Fielder	MoFR	36,691	14,438	13,110	64,239
T 1.3	Y093017	Rates of mortality and dead tree dynamics in old coastal forest stands	Roberta Parish	MoFR	43,607	34,849	18,608	97,064
T 2.1	Y093262	Effects of partial retention and common mycorrhizal networks on seedling recruitment in Douglas-fir forests across British Columbia	Suzanne Simard	UBC	57,750	54,000	54,000	165,750
T 3.1	Y093286	Defining boreal mixedwoods and exploring their response to management and natural disturbance (fire, MPB) through spatially explicit ecosystem management modeling	Hamish Kimmins	UBC	71,400	73,440	57,240	202,080
T 4.1	Y093313	Analysis of insect, disease, and abiotic factors affecting post-free-growing lodgepole pine in Southern Interior British Columbia	Suzanne Simard	UBC	29,996	81,570	69,217	180,784
T 6.2	Y093021	Timber/NTFP compatible management extension	Wendy Cocksedge	RRU	51,450	43,200	38,880	133,530
T 6.2	Y093163	Chanterelle mushroom habitat modeling and inventory	Tyson Ehlers	Tysig Ecological Research	27,552	23,004	27,648	78,204
T 6.2	Y093318	Understanding the spatial and quality attributes of culturally important non-timber forest product species in mountain pine beetle affected areas of the Cariboo-Chilcotin	Wendy Cocksedge	RRU	53,445	54,000	56,160	163,605
T 7.2	Y093061	Climatic influence on economic impacts of spruce bark beetle	Harry Swain	UVic	24,117	88,884	88,154	201,155

Proponent-driven Project Recommendations—Continuing Projects (approved in 2007/08) TOTAL: \$811,958

Project	Project Title	Proponent	Organization	2007/08 (\$)	2008/09 (\$)	2009/10 (\$)	Total (\$)
Y092039	Assessing soil disturbance and tree growth after stumping	Paul Courtin	MoFR	29,160	12,960	12,960	55,080
Y092042	Long Term Soil Productivity Study	Shannon Berch	MoFR	102,367	160,463	160,936	423,766
Y092054	Effects of intensive fertilization on timber and non-timber resources	Rob Brockley	MoFR	25,700	25,164	37,700	88,564
Y092070	The effect of contamination on performance of progeny from coastal Douglas-fir seed orchards	Joe Webber	ProSeed Consulting	26,784	26,244	26,784	79,812
Y092075	The ecological resilience of lodgepole pine seed orchard crops	Joe Webber	ProSeed Consulting	31,320	24,840	0	56,160
Y092080	Carnation Creek – Forestry impacts and watershed recovery processes in a small coastal drainage	Peter Tschaplinski	MoFR	175,000	175,000	189,000	539,000
Y092136	Developing a new indicator of soil functioning for use in designing variable-retention harvesting	Sue Grayston	UBC	66,068	66,068	66,068	198,204
Y092186	In situ characterization of soil microbe function in an ICH chronosequence	Melanie Jones	UBC	49,680	44,280	0	93,960
Y092192	Twenty-year effects of mechanical site preparation and burning on soil properties and lodgepole pine nutrition in sub-boreal British Columbia	Jacob Boateng	MoFR	68,848	23,544	16,286	108,678
Y092208	Managing the interacting effects of grazing and global climate change in BC Interior rangelands	Lauchlan Fraser	TRU	47,520	47,520	47,520	142,560
Y092214	Cotton Creek phase II: multi-scale, spatially explicit studies of mountain pine beetle impacts on watershed function	Dan Moore	UBC	113,400	113,400	113,400	340,200
Y092245	Restoration of forest soils: long-term productivity results	Chuck Bulmer	MoFR	28,500	0	28,499	87,779 ¹
Y092258	Stand management and forest productivity	Louise de Montigny	MoFR	59,000	58,995	92,173	210,168
Y092267	Extension - Options for the landscape-level management of dry NDT4 ecosystems in the Southern Interior Forest Region	Walt Klenner	MoFR	23,760	33,480	0	57,240

¹ Total for Y092245 exceeds sum of years shown in table because project is also funded in 2010/11.

Proponent-driven Project Recommendations—Continuing Projects (approved in 2006/07) TOTAL: \$10,800

Project	Project Title	Proponent	Organization	2006/07 (\$)	2007/08 (\$)	2008/09 (\$)	Total (\$)
Y093046	Book preparation: <i>Ecology, Conservation and Management of British Columbia's Inland Rainforest</i>	Darwyn Coxson	UNBC	30,984	24,300	10,800	66,084

Growth and Yield Modelling Subprogram Recommendations—Multi-year Projects **TOTAL: \$374,030**

Topic	Project	Project Title	Proponent	Organization	2008/09 (\$)	2009/10 (\$)	2010/11 (\$)	Total (\$)
T 3.1	G095003	GYMP: expansion of the Tree and Stand Simulator for complex stands	James Goudie	MoFR	177,200	316,200	306,200	799,600
T 3.1	G095074	GYMP: Development of the PrognosisBC model for the complex stands in southern and central interior of BC	Abdel Azim Zumrawi	MoFR	99,036	105,840	84,240	289,116
T 4.1	G095048	Regeneration and growth following MPB-attack: synthesis of knowledge; a GYMP project	Chris Hawkins	UNBC	21,600	25,920	0	47,520
T 7.2	G095109	GYMP: Representation of climate change impacts on forest growth in FORECAST	Brad Seely	UBC	76,194	76,680	73,980	226,854

Future Forest Ecosystems Subprogram Recommendations—Single-year Projects **TOTAL: \$283,440**

Project	Project Title	Proponent	Organization	2008/09 (\$)
F090112	Preliminary assessments of climate change impacts on the carbon balance of BC's forest ecosystems	David Spittlehouse	MoFR	70,200
F090115	Improving access to high spatial-resolution climate data for climate change studies	David Spittlehouse	MoFR	73,440
F090116	Increasing the spatial range of ClimateBC	David Spittlehouse	MoFR	64,800
F090140	Towards a framework for the operational assessment of ecological resilience in temperate and boreal ecosystems	Elizabeth Campbell	MoFR	75,000

Future Forest Ecosystems Subprogram Recommendations—Multi-year Projects **TOTAL: \$76,788**

Project	Project Title	Proponent	Organization	2008/09 (\$)	2009/10 (\$)	2010/11 (\$)	Total (\$)
F090138	Multi-species adaptation trial	Greg O'Neill	MoFR	76,788	194,724	215,460	486,972

Long-Term Research Program Recommendations TOTAL: \$144,907

LTRI	Project Title	Proponent	Organization	2008/09 (\$)	2009/10 (\$)	2010/11 (\$)	Total (\$)
R097004	Thinning and planting density research experiments in the BC interior	Rob Brockley	MoFR	24,840	30,240	14,040	69,120
R097006	Fertilization research field experiments in the BC interior	Rob Brockley	MoFR	3,780	7,020	28,080	38,880
R097023	Russell Creek Experimental Watershed	Bill Floyd	MoFR	13,500	13,500	13,500	40,500
R097037	Long-term sub-boreal mixedwood studies	Chris Hawkins	UNBC	11,135	0	0	11,135
R097072	UBC Malcolm Knapp Research Forest	Ionut Aron	UBC	15,120	0	0	15,120
R097077	Maintenance of 15 to 25 year old site preparation and species trials	Teresa Newsome	MoFR	23,680	20,740	24,397	68,818
R097117	Long-term effects of vegetation management treatments in aspen- lodgepole pine stands on growth, yield and stand development	Jean Mather	Skyline Forestry Consultants Ltd.	17,820	0	0	17,820
R097123	Northern Wetbelt Silvicultural Systems Project	Michael Jull	ALRFS	17,604	12,744	0	30,348
R097134	The Aleza Lake Research Forest Longterm Research Installation	Michael Jull	ALRFS	17,428	16,348	16,348	50,124

**Long-Term Research Program Recommendations—Continuing Projects (approved in 2007/08)
TOTAL: \$101,961**

LTRI	Project Title	Proponent	Organization	2007/08 (\$)	2008/09 (\$)	2009/10 (\$)	Total (\$)
L098044	SCHIRP: ecology and management of ericaceous shrub-dominated ecosystems in coastal BC	Annette van Niejenhuis	Western Forest Products Inc.	8,505	5,625	11,340	25,470
L098056	Management regimes for red alder plantations	Paul Courtin	MoFR	12,960	12,960	12,960	38,880
L098109	Alex Fraser Research Forest	Cathy Koot	UBC	37,260	32,778	32,778	102,816
L098176	The Coastal Forest Chronosequence Sites	J.A. Tony Trofymow	CFS	16,200	11,880	16,200	44,280
L098190	Maintenance of mechanical site preparation studies in boreal and sub-boreal British Columbia	Jacob Boateng	MoFR	17,820	11,880	10,800	40,500
L098195	Long-term Research Installations in the John Prince Research Forest	Dexter Hodder	JPRF	15,120	5,400	5,400	25,920
L098248	West Arm Demonstration Forest: climate, sediment, and streamflow monitoring (EP 1202)	David Gluns	MoFR	21,006	21,438	21,816	64,260

Long-Term Research Program Recommendations—Continuing Projects (approved in 2006/07)
TOTAL: \$362,755

LTRI	Project Title	Proponent	Organization	2006/07 (\$)	2007/08 (\$)	2008/09 (\$)	Total (\$)
L099001	Carnation Creek Experimental Watershed	Peter Tschaplinski	MoFR	56,700	35,000	20,000	111,700
L099002	Rennell Sound Project	Tom Millard	MoFR	17,325	10,800	16,200	44,325
L099003	Long Term Soil Productivity Study	Shannon Berch	MoFR	22,831	19,050	19,050	60,931
L099004	Group selection systems to maintain caribou habitat in high elevation forests (ESSFwc3) in central BC	Michaela Waterhouse	MoFR	12,161	7,100	8,500	27,761
L099005	Silvicultural systems to maintain northern caribou habitat in lodgepole pine forests in central BC	Michaela Waterhouse	MoFR	31,946	7,900	18,900	58,746
L099006	Shelterwood silvicultural systems to address integrated resource management issues (EP1186-EP1104.01-EP1191)	Michaela Waterhouse	MoFR	22,331	16,050	14,650	53,031
L099007	St. Mary's Residual Basal Area Study in a mixed conifer stand	Michaela Waterhouse	MoFR	13,022	7,000	4,500	24,522
L099008	Flathead Research Installation	Bruce McLellan	MoFR	22,575	21,500	21,500	65,575
L099009	Sicamous Creek Silvicultural Systems Project	Alan Vyse	TRU	66,150	60,480	49,680	176,310
L099018	Conifer/broadleaf mixture experiments in the southern interior of BC	Suzanne Simard	UBC	32,624	16,200	16,200	65,024
L099020	The Upper Penticton Cr. Watershed Experiment	Rita Winkler	MoFR	12,705	64,800	64,800	142,305
L099021	Long-term evaluation of impacts of wildfire and mountain pine beetle infestation on in-stream wood recruitment and transport processes	Adam Wei	UBC	57,750	10,800	10,800	79,350
L099022	Interior Stand Management Experiments (EPs 370, 886.01, 922, 962, 964, 987.04)	Rob Brockley	MoFR	17,850	15,000	15,984	48,834
L099024	Montane Alternative Silviculture Systems (MASS)	William J. Beese	Western Forest Products Inc.	35,175	17,280	17,280	69,735
L099029	Pothole Creek Study Area	Catherine Bealle Statland	MoFR	2,331	2,500	2,500	7,331
L099030	Westwold - natural regeneration studies in partially cut interior Douglas-fir	Catherine Bealle Statland	MoFR	5,775	5,000	5,500	16,275
L099031	UBC Malcolm Knapp Research Forest experimental watersheds	M.C. Feller	UBC	59,236	39,960	7,560	106,756
L099032	Isobel dry-belt Douglas-fir management project	Walt Klenner	MoFR	37,840	8,640	5,400	51,880
L099033	The Opax Mountain LTRI	Andre Arsenault	MoFR	38,430	19,440	19,440	77,310

LTRI	Project Title	Proponent	Organization	2006/07 (\$)	2007/08 (\$)	2008/09 (\$)	Total (\$)
L099036	Experimental Project (E.P.) 886.13 "Maximizing the Productivity of Managed Forests in the Interior of BC"	Rob Brockley	MoFR	28,355	24,000	24,311	76,666

Extension Synthesis Projects Recommendations—Continuing Projects (approved in 2007/08) TOTAL: \$182,666

Project	Project Title	Proponent	Organization	2007/08 (\$)	2008/09 (\$)	2009/10 (\$)	Total (\$)
S094200	Quantitative synthesis of abundance, fall rates and decay rates of snags and down wood in BC's forests	Fred Bunnell	UBC	53,078	9,720		62,798
S094203	Forest management to minimize impacts of forestry operations on streamwater quality: synthesis of the literature	M.C. Feller	UBC	4,590	2,500		7,090
S094205	Forest management in the watersheds of fans	David Wilford	MoFR	47,596	18,814		66,410
S094208	Twenty year effects of mechanical site preparation on conifer survival, growth, and predicted yield in boreal and sub-boreal British Columbia	Jacob Boateng	MoFR	32,913	11,718		44,631
S094213	Synthesis of results and recommendations from Fish/Forestry Interaction Programs (FFIP) completed in the Pacific Northwest	David Maloney	MoFR	111,300	37,800		149,100
S094219	A critical review and analysis of indigenous traditional knowledge (ITK) research to improve provincial mechanisms for its incorporation in forest management	Peggy Smith	FNFC		102,114	32,941	135,055

