

FIA Forest Investment Account
Forest Science Program

**BUSINESS
PLAN**

2005/2006



Business Plan 2005/2006

March 2005

Library and Archives Canada Cataloguing in Publication Data

Business plan / FIA--Forest Science Program. -- 2005/06-
Annual.

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

1. British Columbia. Forest Science Program - Periodicals. 2. Forests and
forestry - Research - British Columbia - Periodicals. I. British Columbia.
Forest Science Board. II. Title: FIA--Forest Science Program business plan.

SD14.B7B74 354.5'5274'0971105 C2005-960038-1

More information on the FIA Forest Science Program can be found at
<http://www.fia-fsp.ca>

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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 upon a sub-vote of the Legislature, authorizing the Minister of Forests to fund certain forest management activities. The FIA is comprised of seven programs: Land-Base Investment, Crown Land-Use Planning and Enhancement, Tree Improvement, Small Tenures, International Marketing, Product Development, and Forest Science.

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 2005/06.

For more information on the FIA-FSP, visit <http://www.fia-fsp.ca>

1.2 FIA Forest Science Board

A 12-member Forest Science Board advises the Deputy Minister of Forests on FIA-FSP strategies and priorities. The Board comprises users and providers of scientific knowledge drawn from industry, governments, and the forest science community. The Board composition and Board members for 2005/06 are set out in Tables 1 and 2.

Table 1 Forest Science Board membership structure

Affiliation	Members
Provincial Government	3
Forest Sector (2 Coast, 2 Interior)	4
Federal Government (Canadian Forest Service)	1
Forest Science Provider Agencies (universities, private organizations)	4
	12
<i>Ex-officio (non-voting)</i>	
PricewaterhouseCoopers	1
Ministry of Forests	1
Extension specialist	1

Table 2 Forest Science Board members 2005/06

Board Members	Affiliation
Bill Bourgeois, Chair	Forest Sector
Ted Nash, Vice-Chair	Ministry of Forests
Ralph Archibald	Ministry of Forests
Gerry Still	Ministry of Forests
Max Blouw	University of Northern B.C.
Randy Chan	Tolko Industries Ltd.
Gary Hogan	Canadian Forest Service
Diane Medves	Weyerhaeuser Company
Cindy Prescott	University of B.C.
Alex Sinclair	Forest Engineering Research Institute of Canada
Art Tautz	Ministry of Water, Land and Air Protection
Paul Wooding	Canfor Corporation
<i>Ex Officio Members</i>	
Steve Stearns-Smith	Stearns-Smith & Associates
Michael Armstrong	PricewaterhouseCoopers
Monty Locke	Ministry of Forests

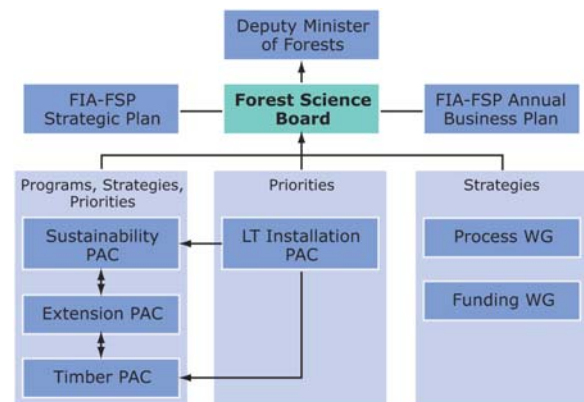
Two types of committees support the Forest Science Board: *Program Advisory Committees* (PACs) are standing committees charged with specific responsibilities relative to their respective programs; *Working Groups* (WGs) are temporary committees established by the Board as needed to provide advice about specific issues. Table 3 lists the 2005/06 Board Committees and Chairs.

Table 3 Forest Science Board committees 2005/06

Title	Type	Chairperson
Timber Growth and Value	PAC	Jack Woods
Sustainability	PAC	Gerry Still
Extension	PAC	Randy Chan
Long-term Research Installations	PAC	Henry Benskin/ Cindy Prescott
Program Funding	WG	Bill Bourgeois
Process	WG	Paul Wooding

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 2005/06

2.1 Forest Science Board

Strategic Planning

In 2005/06, the Forest Science Board will develop strategies for its Sustainability, Timber Growth and Value, and Extension programs. The Sustainability and Timber Growth and Value strategies will confirm program priorities for the annual FIA-FSP Call for Proposals. The Extension strategy will address the needs of the FIA Forest Science Program, FIA Land-Base Investment Program, and FIA Small Tenures Program.

Key issues to be addressed in 2005/06 include:

- working with the provincial extension provider to direct the Extension Program
- assessing the province's need for additional research into mountain pine beetle
- addressing the research needs for socio-economic indicators and trade-off techniques to support land use planning processes
- develop performance measures for the FIA-FSP.

Planning Framework

Building on the planning framework initiated in 2004/05, the PACs will define annual business planning processes that involve industry, government, and agency stakeholders to capture broad regional priorities. These processes will provide annual focus to the strategic goals of each program, and shape the Call for Proposals. Collectively, these efforts will contribute to a provincial planning framework that is systematic, transparent, and

easily understood by industry, government, and agency stakeholders.

Governance

The Board will complete and adopt its bylaws in 2005/06.

Communications

Effective, ongoing communications with key audiences is critical to the success of the Forest Science Board and the FIA Forest Science Program. In 2005/06, the Forest Science Board will start the following communication activities:

- assess and revise the FIA-FSP Website
- publish the FIA-FSP Planning Framework, 2005/06 Business Plan, and 2004/05 Annual Report
- develop presentation materials to assist with fundraising.

Fundraising

The Fundraising Working Group will continue to seek opportunities to meet with senior government and industry officials and highlight the strategic direction of the program. Work will also be done to identify key successes from the program, building on previous evaluations done by Forest Renewal BC and Forest Innovation Investment.

Awareness of the FSP strategic direction and identification of successes will allow for greater linkages, leverage opportunities, and involvement with other government ministries, FIA programs, and industry.

Process Improvement

PricewaterhouseCoopers (PwC) will maintain a process of continuous improvement in 2005/06, gathering feedback from proponents and reviewers to strengthen the FIA-FSP Research Call for Proposals. In 2004/05, the Forest Science Board made decisions on 43 suggestions for improvements on submissions, review process, eligible costs, and long-term research installations.

In conjunction with PwC, the Process Working Group will also focus on strengthening the number of reviewers and involvement from all parts of the forest sector for both the Letter of Intent (LOI) and full proposal stages.

2.2 Research

New Projects

The Sustainability and Timber Growth and Value PAC strategies and annual 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 available to single- and multi-year projects, as well as 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 the annual priority.

Based on analysis of current commitments to multi-year projects started in 2004/05, the Board decided to focus new research projects in 2005/06 on the topics set out in Tables 4 and 5. The tables identify the recommended allocation of funding to projects within specific themes and topics; the numbers relate to the organization of topics and in no way indicate priority. These topics are described more fully in the two PAC documents on recommended research topics.¹ More information on recommended projects is found in the appendix.

In 2005/06, the Board also recommended funding three projects that fall within the research program, but not within priority topics. The two single-year projects, valued at \$98,490, relate to baseline studies on economic value and compatible management of non-timber forest products, and synthesis and extension of research on the nutritional sustainability of variable retention harvesting. Also recommended was a two-year project to predict growth responses to climate change among co-occurring major tree species in British Columbia; it is valued at \$17,850 in this fiscal year.

¹ *Sustainability Program Recommended Research Topics 2005/06, September 2004; Timber Growth and Value Program Recommended Research Topics 2005/06, September 2004.*

Table 4 Recommended Sustainability Program allocations by themes (bold) and topics

	Single-Year		Multi-Year	
	No.	2005/06 (\$)	No.	2005/06 (\$)
Sustainability Program Allocation	12	487,332	12	517,810
1 Ecosystem structure, function and processes, and biodiversity related to forest mgmt.	5	157,963	5	186,556
1.1 Riparian ecology and management of small streams	3	90,607	0	0
1.3 Coarse filter approaches to maintaining biodiversity at the landscape scale	1	48,372	2	67,725
1.4 Effectiveness of stand-level structures and habitat in maintaining biodiversity	1	18,984	3	118,831
3 Sustainable forest management indicators, targets, and monitoring systems	7	329,369	4	156,036
3.1 Indicators and monitoring systems	5	223,109	4	156,036
3.2 indicator targets and functional thresholds of sustainability	2	106,260	0	0
4 Scientific information to inform policy, regulations, and FRPA practice requirements	0	0	3	175,218
4.1 Species at Risk - recovery research			3	175,218

Table 5 Recommended Timber Growth and Value Program allocations by themes (bold) and topics

	Single-Year		Multi-Year	
	No.	2005/06 (\$)	No.	2005/06 (\$)
Timber Growth and Value Program Allocation	9	407,102	13	722,113
1 Basic research on tree growth and stand development	2	64,260	5	190,853
1.1 Complex stands	2	64,260	5	190,853
2 Design and analysis of silvicultural systems	1	40,542	2	81,333
2.1 Complex stands	1	40,542	2	81,333
3 Growth and yield modeling/predictions	3	162,856	2	181,137
3.1 Complex stands	3	162,856	2	181,137
3.3 Estimating impacts	0	0	0	0
4 Timber losses to environmental factors (wind, drought, insects, and disease)	3	139,444	4	268,790
4.1 Stand and forest dynamics following MPB	2	89,044	3	181,230
4.2 Estimating losses	1	50,400	1	87,560

Ongoing Projects

Table 6 sets out the Board's recommendation for continued funding of multi-year projects

initiated in 2004/05, based on a review of progress to date and 2005/06.

Table 6 Recommended ongoing projects (approved in 2004/05) by interim research themes

	Program/Topic	3-yr Projects	2005/06 (\$)	2-yr Projects	2005/06 (\$)	Subtotals (\$)
Sustainability		33	2,805,651	11	397,724	3,203,375
1-1	Foundations for biodiversity	1	51,055			51,055
1-2	Sustainability indicators	4	391,265	1	25,000	416,265
1-3	Targets for biodiversity	1	34,858	1	41,118	75,976
1-4	Natural disturbance ecology			1	69,800	69,800
2-1	Maintenance of ecosystem characteristics	2	185,000			185,000
2-2	Ecosystem responses to forest practices	8	627,294			627,294
2-3	Effects of climate change	1	42,000	1	24,640	66,640
3-1	<i>Species at Risk Act</i>	3	277,068	3	143,100	420,168
3-2	<i>Forest and Range Practices Act</i>	3	320,010	2	14,998	335,008
4-2	Effects of forest practices on watersheds and water	7	588,275			588,275
4-3	Analytical and decision-making models	2	167,867	2	79,068	246,935
4-6	Habitat supply models	1	120,960			120,960
Timber		29	1,800,908	8	358,482	2,159,390
5-1	Managing complex forests	1	74,550	1	9,996	84,546
5-2	Silvicultural systems and treatments for productivity of complex stands	6	423,898			423,898
5-3	Site prescriptions for full growth potential	4	188,082			188,082
5-4	Silviculture systems and treatments for forest health and wildfire	4	152,688	2	49,513	202,201
5-5	Better seed sources/species selection	1	10,000			10,000
6-1	More efficient prescriptions for IRM			1	48,300	48,300
6-2	Maintain or enhance economic viability	3	185,289	1	14,999	200,288
6-3	Predicting production effects	1	44,100	2	150,674	194,774
6-4	Optimize timber qualities	1	33,180			33,180
7-1	Timber supply models and AAC determination			1	85,000	85,000
7-2	Effects of management practices	6	559,161			559,161
7-3	Continued development of SIBEC and other tools	1	99,960			99,960
7-5	Use of various molecular technologies	1	30,000			30,000
Totals		62	4,606,559	19	756,206	5,362,765

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. This transition may take several years, as the multi-year projects approved in 2005/06 are replaced by

single-year and new multi-year projects. Table 7 identifies the number and value of research projects funded in 2005/06, by duration and program. The Sustainability Program represents 56% of the 2005/06 research budget, and the Timber Growth and Value Program 44%.

Table 7 Number and value of research projects funded in 2005/06, by duration and program

Project Duration	Sustainability Program		Timber Program		Totals
	No.	2005/06 (\$)	No.	2005/06 (\$)	
3 year	39	3,095,107	37	2,251,365	5,346,472
2 year	17	626,078	13	630,138	1,256,216
1 year	12	487,332	9	407,102	894,434
	68	4,208,517	59	3,288,605	7,497,122

Long-term Research Installation Maintenance

The 2005/06 FIA-FSP provides \$666,708 to support site maintenance, core monitoring, and knowledge asset protection on 40 Long-term Research Installations (LTRIs) in British Columbia. These installations provide opportunities for the collection of long-term data and collaborative research relevant to priorities established for the Sustainability and Timber Growth and Value Programs.

Partnerships with other Research Initiatives

The Ministry of Forests, through the FIA-FSP, contributes to the Canadian Forest Innovation Council (CFIC) and Sustainable Forest Management Network (SFMN). CFIC is a national initiative established to encourage forest sector innovation that supports industry profitability, environmental quality, and community sustainability. 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 CFIC and SFMN since 2003. Since its current grant to the SFMN is still in effect, the FIA-FSP will contribute to CFIC only in 2005/06.

2.3 Extension

In 2005/06 the FIA-FSP will work with the provincial Forest Extension Provider to continue a provincial Forest Extension Program to address the extension needs of the FIA Forest Science Program, FIA Land-Base Investment Program, and FIA Small Tenures Program. It will deliver existing information that is not currently accessible to users, as well as new information resulting from research, including the FIA-FSP.

A Forest Extension PAC, comprising Board members, chairs of the Sustainability and Timber Growth and Value PACs, and the contract Forest Extension Provider, will

recommend a Forest Extension Strategy and annual workplan to address priority management issues and user-identified needs.

2.4 Administration

Program Administration

PricewaterhouseCoopers (PwC) will continue to administer FSP approved projects in 2005/06, including multi-year projects, new projects, and maintenance of selected long-term research installations. It will also administer the provincial Forest Extension Provider contract in 2005/06, and the 2006/07 Call for Proposals.

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

In 2005/06 performance measures for the FSP will be developed. Currently the focus has been to report on performance through PwC's quarterly reports and implement a process of continuous improvement through feedback from proponents and proposal reviewers. Focus in 2005/06 will be to develop measures or

indicators of program success and performance such as quality of investments, wise spending, and program results.

Audits

The PwC audit plan for 2005/06 will see the completion of both financial and performance audits for 2004/05 projects and auditing of ongoing projects in 2005/06.

PwC uses a continuous risk management assessment process, which 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 include a review of policies, procedures, and controls surrounding the FSP that are established at the recipient level and a review of project cost statements to ensure consistency with and applicability to the individually approved project. Performance audits use objective measures to ensure that projects have achieved the agreed-upon milestones and outcomes.

3 FIA-FSP Budget 2005/06

Table 8 sets out the FIA-FSP budget allocations for 2005/06.

Table 8 FIA-FSP budget allocation 2005/06

Activity			Budget (\$)	Budget (%)
Forest Science Board			261,330	2.5
Research			8,305,670	79.2
Sustainability Program		4,208,517		40.1
Continuing multi-year projects (initiated 04/05)	3,203,375			
New multi-year projects (05/06)	517,810			
Single-year projects (05/06)	487,332			
Timber Growth and Value Program		3,288,605		31.4
Continuing multi-year projects (initiated 04/05)	2,159,390			
New multi-year projects (05/06)	722,113			
Single-year projects (05/06)	407,102			
New Proponent-driven Proposals		116,340		1.1
Long-term Research Installation Maintenance		666,708		6.4
Research Partnerships		25,500		0.2
Extension			1,250,000	11.9
Administration			665,000	6.3
Program Administration	415,000			
Audits	250,000			
Total 2005/06			10,482,000	100

Appendix: Recommended Projects 2005/06

Recommended Allocation of FIA-FSP Research Funding 2005/06

Category		Budget (\$)
New Single-Year Projects		894,434
Sustainability Program	487,332	
Timber Growth and Value Program	407,102	
New Multi-Year Projects		1,239,923
Sustainability Program	517,810	
Timber Growth and Value Program	722,113	
Continuing Multi-Year Projects		5,362,765
Sustainability Program	3,203,375	
Timber Growth and Value Program	2,159,390	
Sub-total	7,497,122	
New Proponent-driven Projects		116,340
Long-term Research Installations		666,708
Total		8,280,170

The following pages list recommended projects for 2005/06 in each of the program categories.

Timber Growth and Value Program Recommendations—Single-Year Projects
TOTAL: \$407,102

Rank	Project No.	Topic No.	Project Title	Proponent	Organization	2005-06 (\$)
1	Y061151	1.1	Improving juvenile tree growth prediction for complex Mountain Pine Beetle damaged stands	Kevin Kriese	Bulkley Valley Centre	34,860
2	Y061188	4.2	Conifer Defoliating Insects of British Columbia – An Identification and Information Guide	Robert Duncan	NRCan	50,400
3	Y061012	1.1	Modeling individual tree mortality for northern mixed-species stands	Bruce Larson	UBC	29,400
4	Y061134	4.1	Regeneration and Stand Structure in Stands in the East Ootsa and Entiako Areas after Infestation by Mountain Pine Beetles	Debbie Cichowski	Bulkley Valley Centre	52,500
5	Y061021	4.1	Stand to landscape level effects of the mountain pine beetle (MPB) outbreak in central British Columbia	Chris Hawkins	UNBC	36,544
6	Y061033	3.1	Evaluation of an ecosystem-based approach to mixedwood modelling	Brad Seely	UBC	49,350
7	Y061132	3.1	Development of the Prognosis BC growth and yield simulator in the Southern and Central BC: Model Validation	Abdel-Azim Zumrawi	MoF	83,518
8	Y061094	2.1	Long term Research Installation Number 042; EP 1151: Dispersed Retention in the Coast-Interior Transition. Evaluation of a range of overstory densities for harvesting and managing Douglas-fir dominated stands (Boston Bar)	Brian D'Anjou	MoF	40,542
9	Y061168	3.1	Incorporating variable retention harvesting functionality into the Forest Service Spatial Analysis Model (FSSAM)	Mario Di Lucca	MoF	29,988

Sustainability Program Recommendations—Multi-Year Projects TOTAL: \$517,810

Rank	Project No.	Topic No.	Project Title	Proponent	Org.	2005-06 (\$)	2006-07 (\$)	2007-08 (\$)	Total (\$)
1	Y061062	1.3	Coarse filter approaches for the conservation biology of canopy lichens in wet cedar-hemlock and sub-boreal spruce forests of central-interior BC	Darwyn Coxson	UNBC	49,875	58,800	46,725	155,400
2	Y061076	3.1	Dispersal and Habitat Selection by Juvenile Northern Goshawks in a Managed Forest Landscape	Karl Larsen	UCC	19,689	19,689	-	39,378
3	Y061183	1.4	Assessment of the effectiveness of green tree retention in maintaining the diversity of and promoting the recolonization by ectomycorrhizal fungal species into harvested areas of coastal forest	Tony Trofymow	NRCan	33,831	33,474	24,518	91,823
4	Y061042	4.1	Title of the Project: Evaluating and refining guidelines for forested buffers for grizzly bear habitat management	Bruce McLellan	MoF	73,500	57,750	57,750	189,000
5	Y061093	3.1	Recovery of soil carbon and nitrogen ten years after harvesting and site preparation at Sicamous Creek	Graeme Hope	MoF	40,797	7,560	-	48,3567
6	Y061044	1.3	Ecologically-based connectivity indices for landscape monitoring	David Huggard	UBC	17,850	20,000	-	37,850
7	Y061136	4.1	Establishing a Science Basis for Recovery of Woodland Caribou in North-central British Columbia	Scott McNay	Consultant	57,618	58,800	-	116,418
8	Y061030	3.1	Terrestrial gastropods as indicator species for monitoring biodiversity effects from variable retention harvesting practices	Bill Beese	Weyerhaeuser	47,250	47,250	47,250	141,750
9	Y061029	3.1	Utility of carabid beetles as indicator species for monitoring biodiversity effects from variable retention harvesting practices	Bill Beese	Weyerhaeuser	48,300	48,300	-	96,600
10	Y061008	1.4	Stand Structure and Maintenance Of Biodiversity In Green-Tree Retention Stands At 30 Years After Harvest: A Vision Into The Future	Thomas Sullivan	UBC	54,600	54,600	54,600	163,800
11	Y061071	4.1	Forecasting forest vegetation response to management activities aimed at reducing ungulate browse in mountain caribou winter range	Alan Vyse	UCC	44,100	14,700	-	58,800
12	Y061027	1.4	Amphibians as indicators of wetland habitat conservation under variable retention harvesting practices	Bill Beese	Weyerhaeuser	30,400	31,920	31,920	94,240

Timber Growth and Value Program Recommendations—Multi-Year Projects TOTAL: \$722,113

Rank	Project No.	Topic No.	Project Title	Proponent	Org.	2005-06 (\$)	2006-07 (\$)	2007-08 (\$)	Total (\$)
1	Y061148	1.1	Regeneration and Stand Structure following Mountain Pine Beetle infestation in the sub-boreal spruce zone	David Coates	MoF	76,188	69,888	-	146,076
2	Y061184	4.1	Predicting Advanced Regeneration Density in Lodgepole Pine Stands in the Northern Interior of British Columbia	Philip Burton	NRCan	38,745	52,920	38,745	130,410
3	Y061003	4.1	Determining susceptibility of young pine plantations to the mountain pine beetle, <i>Dendroctonus ponderosae</i> , and manipulating future stands to mitigate losses	Lorraine Maclauchlan	MoF	92,085	84,210	-	176,295
4	Y061088	3.1	TASS III: Simulating the management, growth and yield of complex stands	Jim Goudie	MoF	132,207	146,875	120,625	399,707
5	Y061169	4.2	Incorporating the effects of windthrow after variable retention harvesting into TASS and TIPSy	Mario Di Lucca	MoF	87,560	53,960	63,546	205,065
6	Y061080	1.1	Interactions between light and nitrogen availability on juvenile tree growth in partial cut forests	Marty Kranabetter	MoF	24,365	31,500	31,500	87,365
7	Y061106	1.1	Quantifying growth of spruce saplings in spruce-birch mixedwood stands under different environmental conditions in the SBS zone	Scott Green	UNBC	22,050	14,700	-	36,750
8	Y061141	1.1	Effects of the variable retention silvicultural systems on microclimate, establishment and growth of trees in west coast forests	Andy Black	UBC	42,000	42,000	42,000	126,000
9	Y061079	2.1	A study of stand growth, development, and structural biodiversity in complex and even-aged ESSF spruce-subalpine fir forests, 14 years after treatment (<i>EP 1119.01 Lucille Mountain Project</i>)	Mike Jull	UNBC	23,583	11,445	-	35,028
10	Y061028	1.1	Improving predictions of juvenile tree growth in complex mixtures for sustainable forest management	Suzanne Simard	UBC	26,250	21,000	10,500	57,750
11	Y061051	3.1	Modelling boreal mixedwoods (spruce-aspen-pine) with TASS	George Harper	MoF	48,930	44,100	44,625	137,655
12	Y061075	2.1	Natural and artificial regeneration response to opening size and site preparation in a high elevation fir-spruce stand at Sicamous Creek	Alan Vyse	UCC	57,750	34,650	-	92,400
13	Y061072	4.1	A Framework for Documenting the Effects of the Mountain Pine Beetle Outbreak in Sub-Boreal Forests of Northern B.C.	Craig Delong	MoF	50,400	31,185	31,185	112,770

Recommendations—Proponent-driven Projects TOTAL: \$116,340

Project No.	Project Title	Proponent	Organization	2005-06 (\$)	2006-07 (\$)	2007-08 (\$)	Total (\$)
Y061065	Critical Information for Policy Development and Management of Non-Timber Forest Products in British Columbia: Baseline Studies on Economic Value and Compatible Management	Darcy Mitchell	Royal Roads University	69,090	-	-	69,090
Y061034	Synthesis and extension of research on the nutritional sustainability of variable retention harvesting	Cindy Prescott	UBC	29,400	-	-	29,400
Y061107	Predicting the growth responses to climate change among co-occurring, major tree species in B.C.	Scott Green	UNBC	17,850	14,700	-	32,550

Sustainability Program Recommendations—Continuing Projects from 2004-05 Selection Process

TOTAL: \$3,203,376

Topic No.	Project No.	Project Title	Proponent	Org.	2004-05 (\$)	2005-06 (\$)	2006-07 (\$)	Total (\$)
1-1: Foundations for biodiversity	Y062001	Beetle Families of British Columbia	Geoffrey Scudder	UBC	51,055	51,055	51,055	153,165
1-2: Sustainability indicators	Y062031	Linking multiple indicators of biological diversity to forest management decisions	Frederick L. Bunnell	UBC	51,240	50,800	50,800	152,840
1-2:	Y062049	Green Tree Retention: A tool to maintain ecosystem health and function	Sue Grayston	UBC	138,726	190,000	190,000	518,726
1-2:	Y062093	Ten-year soil fauna responses to soil compaction and organic matter removal at Sub-Boreal Spruce LTSP	Shannon M. Berch	MoF	24,280	25,000	-	49,280
1-2:	Y062128	Benthic Macroinvertebrate Sustainability Indicator Development for SFMP and LRMP Applications	Ian Sharpe	WLAP	73,500	74,970	75,000	223,470
1-2:	Y062151	Does logging elevated ultraviolet radiation exposure of streams impact juvenile coho?	Max L. Bothwell	NRCan	68,460	75,495	72,100	216,055
1-3: Targets for biodiversity	Y062113	Development of indicators of stream condition, function, and capacity for juvenile salmon	Jordan Rosenfeld	WLAP	7,980	34,858	7,600	50,438
1-3:	Y062114	Implications of static riparian reserve zones for long-term function of naturally migrating river channels	Jordan Rosenfeld	WLAP	39,690	41,118	-	80,808
1-4: Natural disturbance ecology	Y062233	Development and Analysis of a British Columbia Natural Disturbance Database	Stephen Taylor	NRCan	89,250	69,800	-	159,050
2-1: Maintenance of ecosystem characteristics	Y062064	Ectomycorrhizae and networks: their role in facilitating Douglas-fir regeneration under water, site and climatic stresses	Suzanne Simard	UBC	68,176	80,000	30,000	178,176
2-1:	Y062220	Harvesting and site preparation treatments to develop and maintain open canopy conditions in dry-belt Douglas-fir forests: The Isobel Project	Walt Klenner	MoF	104,475	105,000	25,000	234,475
2-2: Ecosystem responses to forest practices	Y062062	Cumulative watershed effects of forestry practices on stream ecosystems	Yixin Zhang	UBC	85,388	80,000	80,000	245,388
2-2:	Y062069	Understorey succession following ecosystem restoration of ingrown dry forests	Reg Newman	MoF	16,688	10,000	15,000	41,688
2-2:	Y062177	Dispersal and Habitat Selection by Juvenile Northern Goshawks in a Managed Forest Landscape	Karl Larsen	UVIC	53,288	33,600	15,960	102,848

Topic No.	Project No.	Project Title	Proponent	Org.	2004-05 (\$)	2005-06 (\$)	2006-07 (\$)	Total (\$)
2-2:	Y062250	Soil conditions and tree growth in BC's forests: factors affecting ecosystem response to forest practices	Chuck Bulmer	MoF	105,000	100,000	100,000	305,000
2-2:	Y062299	The ecology and management of dry Douglas-fir forests: The Opax Mountain Silvicultural Study	Andre Arsenaault	MoF	117,915	88,580	200,000	506,495
2-2:	Y062342	Experiments on Edge Effects in Marbled Murrelets: Incorporating Reproductive Performance into Habitat Quality	David B. Lank	SFU	94,110	75,000	75,000	244,110
2-2:	Y062363	VR Emulating Canopy Gaps in Coastal Forests: An Operational Trial and Experiment	Lori D. Daniels	UBC	63,825	55,025	30,000	148,850
2-2:	Y062367	"Effects of logging on export of organic matter from headwater streams"	Brian Heise	UCC	79,474	85,089	87,000	251,563
2-3: Effects of climate change	Y062026	Effects of Climate Change on Avian Communities and Implications for Sustainable Forest Management	Ann Chan-McLeod	UBC	42,404	42,000	42,000	126,404
2-3:	Y062149	Spatial climate data and assessment of climate change impacts on forest ecosystems	David L. Spittlehouse	MoF	22,969	24,640	-	47,609
3-1: Species at Risk Act	Y062006	Group selection systems to maintain caribou habitat in high elevation forests (ESSFwc3) in central BC	Michaela Waterhouse	MoF	81,367	65,388	92,925	239,679
3-1:	Y062007	Silvicultural systems to maintain northern caribou habitat in lodgepole pine forests in central BC	Michaela Waterhouse	MoF	102,371	65,625	55,755	223,751
3-1:	Y062023	Refining conservation priorities in British Columbia	Fred L. Bunnell	UBC	46,941	49,600	-	96,541
3-1:	Y062035	Ecological relationships between threatened caribou herds and their habitat in the central Rocky Mountains Ecoregion	Dale R. Seip	MoF	135,200	50,000	-	185,200
3-1:	Y062086	Quantifying forest stand and landscape attributes that influence mountain caribou habitat fragmentation and predation rates	Bruce McLellan	MoF	146,055	146,055	146,055	438,165
3-1:	Y062309	Identification of Critical Habitat of Breeding Marbled Murrelets	David B. Lank	SFU	77,848	43,500	-	121,348
3-2: Forest and Range Practices Act	Y062061	Habitat use by Marbled Murrelets on southwest Vancouver Island and implications for forest management	Alan E. Burger	UVIC	79,800	79,800	83,000	242,600
3-2:	Y062084	Long Term Soil Productivity Study	Shannon M. Berch	MoF	180,167	72,000	87,000	339,166
3-2:	Y062209	Management of complex coastal mixedwoods in BC for productivity and free-growing	Keith Thomas	MoF	41,709	10,000	-	51,709

Topic No.	Project No.	Project Title	Proponent	Org.	2004-05 (\$)	2005-06 (\$)	2006-07 (\$)	Total (\$)
3-2:	Y062222	Carnation Creek – Forestry impacts and watershed recovery processes in a small coastal drainage	Peter J. Tschaplinski	MoF	175,560	168,210	171,050	514,820
3-2:	Y062324	Coastal fan destabilization and forest management	Tom Millard	MoF	30,450	4,998	-	35,448
4-2: Effects of forest practices on watersheds and water	Y062017	Ecology and management of riparian - stream ecosystems: a large-scale experiment using alternative streamside management techniques	John S. Richardson	UBC	194,919	195,727	195,727	586,373
4-2:	Y062027	The Effects of Riparian Harvesting on Fish Habitat and Ecology of Small Headwater Streams	David Maloney	MoF	145,740	145,677	145,740	437,157
4-2:	Y062115	Snow, road, soil moisture, and harvest distribution effects on streamflow at Upper Penticton Creek	Rita Winkler	MoF	124,230	62,546	100,000	286,776
4-2:	Y062127	An experimental approach to evaluate impacts of the recent Okanagan Mountain Park Fire and other disturbances on large woody debris recruitment and transportation processes	Adam Wei	OUC	32,655	25,473	25,473	83,601
4-2:	Y062273	Tsitika River Sediment Budget project	Rod Hudson	MoF	119,700	96,587	120,750	337,037
4-2:	Y062327	Evaluation of fire site rehabilitation methods in terms of controlling erosion and sedimentation	David Findlay Scott	OUC	49,980	32,550	38,000	120,530
4-2:	Y062328	Testing the H60 concept in the Interior Watershed Assessment Procedure by process hydrology studies	David Findlay Scott	OUC	37,065	29,715	33,000	99,780
4-3: Analytical and decision-making models	Y062045	A species accounting system to integrate indicators of biological diversity	Fred L. Bunnell	UBC	70,740	70,742	85,700	227,181
4-3:	Y062074	Landscape Analysis of Habitat Supply and Effects on Populations of the Northern Spotted Owl in B.C.	F. Louise Waterhouse	MoF	74,067	12,000	-	86,067
4-3:	Y062276	Numerical modelling of wind flow in retention system openings	Stephen J. Mitchell	UBC	67,069	67,069	-	134,138
4-3:	Y062365	Development of analytic and decision models for assessing grizzly bear needs from forest management objectives	Fred Hovey	MoF	95,871	97,125	97,125	290,121
4-6: Habitat supply models	Y062348	An ecosystem approach to planning for sustainable management of mountain goat resource values and timber supply	Canfor	Canfor	80,758	120,960	125,000	326,718

Timber Growth and Value Program Recommendations—Continuing Projects from 2004/05 Selection Process
TOTAL: \$2,159,390

Topic No.	Project No.	Project Title	Proponent	Org.	2004-05 (\$)	2005-06 (\$)	2006-07 (\$)	Total (\$)
5-1: Managing complex forests	Y062066	Improving predictions of juvenile tree growth in complex mixtures for sustainable forest management	Suzanne Simard	UBC	59,325	9,996	-	69,321
5-1:	Y062092	Light and Tree Growth in Complex Forest Stands	David G. Simpson	MoF	71,925	74,550	60,000	206,475
5-2: Silvicultural systems and treatments for productivity of complex stands	Y062022	Competitive effects of broadleaf trees on conifer performance over a range of ecosystems	Teresa Newsome	MoF	87,061	98,847	67,872	253,780
5-2:	Y062043	Shelterwood silvicultural systems to address integrated resource management issues	Michaela Waterhouse	MoF	90,527	98,981	50,085	239,593
5-2:	Y062065	Effects of young stand silviculture on conifer/broadleaf mixtures in seral ICH forests of southern interior BC	Suzanne Simard	UBC	80,955	30,000	12,000	122,955
5-2:	Y062067	Predicting development and productivity of southern interior mixed species stands through calibration and modeling with SORTIE-BC	Suzanne Simard	UBC	55,283	46,998	47,000	149,281
5-2:	Y062159	Management regimes for red alder plantations	Paul Courtin	MoF	51,387	59,850	60,000	171,237
5-2:	Y062305	Managing Northern Mixedwood Stands to Sustainably Maximize Productivity and Minimize Costs	Chris Hawkins	UNBC	74,232	89,222	90,240	253,694
5-3: Site prescriptions for full growth potential	Y062021	Expert System for making site preparation and vegetation management decisions in southern interior B.C.	Donald Sachs	Consultant	68,078	13,000	10,000	91,078
5-3:	Y062101	Effects of intensive fertilization on timber and non-timber resources	Robert Brockley	MoF	118,335	91,841	103,000	313,176
5-3:	Y062190	SCHIRP: ecology and management of ericaceous shrub-dominated ecosystems in coastal BC	Cindy Prescott	UBC	75,950	79,801	80,000	235,751
5-3:	Y062210	Sulphur Fertilization of Lodgepole Pine -- A Stable Isotope Tracer Study	Paul Sanborn	UNBC	69,510	3,440	3,440	76,390

Topic No.	Project No.	Project Title	Proponent	Org.	2004-05 (\$)	2005-06 (\$)	2006-07 (\$)	Total (\$)
5-4: Silviculture systems and treatments for forest health and wildfire	Y062041	Reducing the impact of Armillaria root disease via mixed species plantations, including western red cedar	Bart J van der Kamp	UBC	77,229	29,513	-	106,742
5-4:	Y062138	Vole Population And Seedling Damage Monitoring with Diversionary Feeding Methods	Thomas P. Sullivan	UBC	48,300	48,300	48,300	144,900
5-4:	Y062143	Evaluation of Hypholoma Trials	Bill K. Chapman	MoF	34,650	20,000	-	54,650
5-4:	Y062184	New egg survey method for population assessments of the western hemlock looper (Lambdina fiscellaria lugubrosa) (Lepidoptera: Geometridae).	Art Stock	Art Stock Consulting, Ltd.	35,739	30,000	30,000	95,739
5-4:	Y062203	Genetic variation in the foliar pathogen Dothistroma septospora and relationship to toxin production	Kathy J. Lewis	UNBC	33,763	27,901	7,800	69,463
5-4:	Y062204	Relationships between climate, forest practices and incidence of Dothistroma septospora	Kathy J. Lewis	UNBC	29,146	46,488	23,770	99,404
5-5: Better seed sources/species selection	Y062364	Comandra rust screening in Bulkley Valley lodgepole pine	Alistair Schroff	Babine Forest Products	30,525	10,000	10,000	50,525
6-1: More efficient prescriptions for IRM	Y062053	Implications of Landscape Composition and Pattern in Managed Sub-boreal Forests	J. Douglas Steventon	Bulkley Valley Centre	50,400	48,300	-	98,700
6-2: Maintain or enhance economic viability	Y062005	Evaluating large-scale forest zoning to improve the efficiency of timber production and biodiversity objectives	Fred L. Bunnell	UBC	74,288	74,289	82,740	231,316
6-2:	Y062170	Functional Large Woody Debris in Small Streams: What is it?	D. Hogan	MoF	64,050	14,999	-	79,049
6-2:	Y062240	Optimum nutrition and nutrient loading in Douglas-fir	B.J. Hawkins	UVIC	25,032	16,000	23,000	64,032
6-2:	Y062294	Forest Management in Interior British Columbia: Moving Beyond Equivalent Cut Area (ECA)	Younes Alila	UBC	94,511	95,000	95,000	284,511
6-3: Predicting production effects	Y062218	Planning Methods to Reduce Costs and Enhance Value Recovery in Sustainably Managed Forests	Victor Komori	Canfor	140,585	106,259	-	246,843
6-3:	Y062286	Montane Alternative Silvicultural Systems (MASS): growth limitations on regeneration	Alan K. Mitchell	NRCan	43,995	44,100	44,100	132,195

Topic No.	Project No.	Project Title	Proponent	Org.	2004-05 (\$)	2005-06 (\$)	2006-07 (\$)	Total (\$)
6-3:	Y062304	Managing for Intimate Species Mixtures in BC's Boreal Forest	Chris Hawkins	UNBC	44,649	44,415	-	89,064
6-4: Optimize timber qualities	Y062183	Identification and Propagation of Novel Value-Added Hardwood Varieties	Jim Mattsson	SFU	33,653	33,180	35,000	101,833
7-1: Timber supply models and AAC determination	Y062223	Impacts of Armillaria Root Disease on Stand Productivity in the Southern Interior	Mike Cruickshank	NRCan	139,377	85,000	-	224,377
7-2: Effects of management practices	Y062024	Long-term effects of vegetation management treatments on growth and yield and stand development	W. Jean Mather	Skyline Forestry Consultants, Ltd.	86,312	71,558	73,500	231,370
7-2:	Y062090	Sustainable Mixedwood Management in the Sub-Boreal Spruce Zone of British Columbia	Chris Hawkins	UNBC	76,581	74,981	72,000	223,561
7-2:	Y062102	Stand Management Growth and Yield Field Experiments in the B.C. Interior	Robert Brockley	MoF	107,100	88,425	149,000	344,525
7-2:	Y062156	Stand Management Cooperative - Growth and Yield Installations in BC	Louise de Montigny	MoF	56,625	54,998	55,000	166,623
7-2:	Y062266	Coastal Stand Management Growth and Yield Field Experiments	Louise de Montigny	MoF	146,924	148,200	150,000	445,125
7-2:	Y062290	Modelling the impact of stand management regimes on the wood characteristics of lodgepole pine	James Goodie	MoF	194,565	121,000	121,000	436,565
7-3: Continued development of SIBEC and other tools	Y062071	SIBEC Site Index Estimates	Shirley Mah	MoF	102,795	99,960	100,000	302,755
7-5: Use of various molecular technologies	Y062110	Evaluating the Protocol for Quantifying the Effect of Pollen Contamination on the Genetic Worth of Conifer Seed Orchards	John (Joe) E. Webber	ProSeed Consulting	30,030	30,000	30,000	90,030

Recommendations—Long-Term Research Installations TOTAL: \$666,708

Program	LTRI No.	Project Title	Proponent	Org.	2005-06 (\$)	2006-07 (\$)	2007-08 (\$)	Total (\$)
T	49	Date Creek Silv Systems	D. Coates	MoF	17,850	525	1,050	19,425
T	58	Sicamous Creek Silv. Systems (Level 1)	A. Vyse	MoF	52,500	52,500	52,500	157,500
T	57	Opax Mountain Silv. Systems	A. Arsenaault	MoF	18,900	18,900	18,900	56,700
S	35	Carnation Creek Watershed	P Tschaplinski	MoF	36,750	36,750	15,750	89,250
S	16	Coastal Forest Chronosequence	T. Trofymow	NRCAN	15,750	10,500	15,750	42,000
T	31	EP922	R. Brockley	MoF	6,248	1,050	4,200	11,498
T	33	EP964	R. Brockley	MoF	8,269	10,500	10,500	29,269
T	41	The HyP3 Project: Hypermaritime Forests	P. LePage	MoF	4,200	5,250	-	9,450
T	42	EP1256 Roberts Creek	Hudson/D'Anjou/Cushon	MoF	31,542	15,750	21,525	68,817
T	53	EP1104.02-Caribou Habitat in High Elev. Forests	M. Waterhouse	MoF	18,165	8,138	10,500	36,803
S	43	Rennell Sound	Marquis/D'Anjou/Millard	MoF	12,600	15,750	10,500	38,850
T	60	EP1208 - N. Caribou habitat in lodgepole pine	M. Waterhouse	MoF	13,125	12,600	12,600	38,325
T	5	Aleza Lake Research Forest	M. Jull	UBC / UNBC	11,550	13,650	13,650	38,850
S	37	Pothole Creek	C. Bealle Statland	MoF	1,260	1,260	1,260	3,780
T	14	Shawnigan Lake Research Forest	A. Mitchell	NRCAN	15,750	68,250	21,000	105,000
T	40	EP1151 Boston Bar	B. D'Anjou	MoF	5,565	-	-	5,565
T	6	Malcolm Knapp Research Forest	I. Aron	UBC	22,680	24,465	24,465	71,610
T	30	EP886.13	R. Brockley	MoF	19,950	22,050	19,950	61,950
S	9	PROBE	S. Simard	UBC	8,400	43,680	43,680	95,760
T	64	Northern Wetbelt Silviculture Systems	M. Jull	UNBC	13,913	32,288	32,288	78,488
S	8	Alex Fraser Research Forest	C. Koot	UBC	28,350	29,715	19,215	77,280
T	28	EP703 GY fert & thinning	L. deMontigny	MoF	1,890	4,410	11,130	17,430
T	13	MASS	A. Mitchell	NRCAN	16,800	21,000	21,000	58,800
S	59	EP952 Upper Penticton Creek Watershed	R. Winkler	MoF	50,379	50,400	50,400	151,179
T	23	EP 1013 & 1206 - SMC	L. deMontigny	MoF	10,500	26,250	64,470	101,220
S	36	LTSP EP1148	S. Berch	MoF	12,600	47,250	47,250	107,100
S	62	EP1202 West Arm Demonstration Forest	D. Gluns	MoF	30,870	30,870	30,870	92,610

Program	LTRI No.	Project Title	Proponent	Org.	2005-06 (\$)	2006-07 (\$)	2007-08 (\$)	Total (\$)
T	11	Birch/Conifer Mixture Experiments	S. Simard	UBC	21,000	42,000	63,000	126,000
S	34	Flathead Rvr Drainage (Grizzly)	B. McLellan	MoF	22,575	22,575	22,575	67,725
T	26	EP1213 STEMS	L. deMontigny	MoF	13,650	18,900	13,650	46,200
S	44	Russell Creek/Tsitika Wtshd	R. Hudson	MoF	24,112	24,150	24,150	72,412
T	63	NIVMA Plot Maintenance	N. Donat	NIVMA	38,430	51,240	51,240	140,910
T	55	EP1186-EP1104.01-EP1191 - Shelterwood	M. Waterhouse	MoF	11,760	15,750	10,500	38,010
T	50	Coal Mine Rd: EP966, 972.01/.02/.03	L. Bedford/Hawkins	MoF	7,350	-	-	7,350
T	10	Paper Birch Density Management	S. Simard	UBC	8,400	-	-	8,400
T	56	Isobel dry-belt Douglas-fir management	W. Klenner	MoF	16,800	10,500	3,150	30,450
S	4	Hoe-Forwarding Effects	M. Douglas	Foresol	3,675	7,875	7,875	19,425
T	15	Stony Lake - Site Prep Effects	S. Taylor	NRCAN	5,250	3,150	17,850	26,250
S	1	Impacts of wildfire, beetles and harvesting	A. Wei	OUC	5,250	32,550	32,550	70,350
S	25	EP1192.01 Boreal Mxdwds	G. Harper	MoF	2,100	-	-	2,100