

Ministry of Water, Land, and Air Protection

**Strategy for Implementing the
Forest Investment Account (FIA)
Land Base Investment Program (LBIP)
2003/04
and
Report on Accomplishments 2002/03**

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Executive Summary

The Forest Investment Account (FIA), initiated in April 2002, is a provincial government mechanism for promoting sustainable forest management in British Columbia. The Land Base Investment Program (LBIP) is led by government, administered by PricewaterhouseCoopers (PwC), and delivered by the forest industry with the understanding that investments must reflect the objectives, expectations and standards set by government.

The role of the Ministry of Water, Land and Air Protection (MWLAP) is to develop standards, best management practices and guidelines related to FIA eligible activities and establish resource objectives related to the Ministry's business that contribute to sustainable forest management. In collaboration with the Ministry of Sustainable Resource Management, the MWLAP is also responsible for managing data and information related to FIA eligible activities.

This document has two purposes: 1) it outlines the strategy for implementing the Forest Investment Account LBIP initiative for 2003/04 and details how the Ministry's activities will fulfill the objectives and expectations of the Ministry of Forests for the LBIP; and 2) it reports on the accomplishments from FIA LBIP funding to the MWLAP in 2002/03. Consistent with the goals and criteria of the FIA program, the MWLAP Service Plan, the Environmental Stewardship Division (ESD) and Environmental Protection Division Business Plans and the regional ESD Business Plans are the drivers and justification for the proposed activities described in this strategy. The strategy is based on the premise that FIA funded MWLAP activities are fully integrated with day-to-day operations in the Ministry.

At the provincial level, the highest priorities for the MWLAP LBIP funding are developing technical standards, best management practices (BMPs), guidelines and resource objectives necessary for:

1. Licensees to carry out their FIA eligible activities; and
2. Government to fulfill responsibilities related to implementing forest and range legislation and regulations, and related legislation.

The highest priority technical standards and resource objectives are those that will provide certainty to the forest industry and contribute to sustainable forest management. These are:

1. FIA activity audit standards that have not yet been developed or need substantial updating – e.g., for the FIA eligible activities of monitoring terrestrial and aquatic sustainable forest management values or for using herbicides for stand treatments. (Includes development of provincial and regional monitoring indicator framework for terrestrial and aquatic biodiversity values through field testing and verification.)
2. Resource objectives for species and ecosystems at risk (specified in recovery plans).
3. Identified wildlife resource objectives, e.g., species accounts, wildlife habitat areas and wildlife habitat features;
4. Ungulate winter range objectives (communicated through maps and models); and
5. Resource objectives related to the *Forest and Range Practices Act* values and features for biodiversity, forage, water, fish/aquatics ecosystems and wildlife/terrestrial ecosystems. Includes determining objectives for water, terrestrial and aquatic biodiversity values through baseline monitoring.

The FIA funds available for the MWLAP in 2003/04 are \$2,188,000. Anticipated deliverables are included in this report.

In 2002/03 \$2.5 million was available, of which \$2,429,759 was spent. Performance targets or deliverables were finalized by January 15, 2003, and this report includes the year end accomplishments.

A framework and method for assessing the benefits of the FIA funding to the Ministry of Water, Land and Air Protection business will be completed in September 2003 and conducted in the third quarter. This framework will include an analysis of the success of FIA in promoting sustainable forest management and identification of gaps in delivery by industry and government that need to be addressed by targeted FIA funding in 04/05 and subsequent fiscal years. Feedback from the assessment will contribute to a longer term strategy on how the MWLAP can utilize the FIA funding, and possibly other similar funding, to meet expectations detailed in the Service Plan that relate to sustainable forest management.

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1.0 Introduction

1.1 Background

The Forest Investment Account (FIA), initiated in April, 2002, is a provincial government mechanism for promoting sustainable forest management in British Columbia. It is founded upon a Vote of the Legislature, authorizing the Minister of Forests to provide funding for certain forest management activities. Specific amounts have been dedicated to program elements at the provincial level, other amounts have been allocated for disbursement to tree farm licence holders and certain tenure holders in each timber supply area. (*FIA – Government Objectives, Expectations and Eligibility Regarding Land-base Expenditures, April 12, 2002; FIA Website*).

Across the sweep of provincial and local program elements, the objectives of FIA expenditures include (the objectives for which the Ministry of Water, Land and Air Protection has direct responsibilities are italicized):

- 1) Actively fostering sustainable forest management by:
 - a) *Acquiring better information about forest resources;*
 - b) *Improving the modelling of forest dynamics;*
 - c) *Fostering comprehensive strategic land-use planning;*
 - d) *Monitoring changes to forest resources;*
 - e) *Supporting the creation of sustainable forest management plans; and*
 - f) *Supporting the feasibility of third-party certification.*
- 2) Improving the public forest asset base by:
 - a) Supporting the creation and deployment of improved seedlings and other germplasm;
 - b) Funding backlog reforestation of areas denuded before 1987;
 - c) Reclaiming site productivity; and
 - d) *Restoring damaged ecosystems.*
- 3) Promoting greater returns from the utilization of public timber by:
 - a) Promoting secondary manufacturing; and
 - b) Marketing British Columbia forest products.

The MWLAP will primarily be involved in the Land Base Investment Program (LBIP), which supports:

- a) development of resource objectives and standards that apply to licensees' land base activities; including using baseline monitoring to collect information needed to set resource objectives;
- b) development of monitoring objectives and standards for terrestrial and aquatic biodiversity values that apply to licensees' land base activities
- c) issuing of permits needed by licensees to undertake land base activities; and
- d) maintenance and use of data collected through FIA investments.

The MWLAP is also participating in the Forestry Innovation Investment Program, by participating at the Deputy Minister level, assessing the need for research within the MWLAP, redesigning the program, and sitting on the Research Advisory Committee. The focus is to ensure that projects funded under this program support the land base activities, that is, the operational needs related to sustainable forest management.

1.2 Purpose

This document has two purposes, it:

- 1) Outlines the strategy for implementing the FIA LBIP initiative for 2003/04 and details how the MWLAP activities will fulfill the objectives and expectations of the Ministry of Forests for the FIA; and
- 2) Reports on the accomplishments from the MWLAP FIA LBIP funding in 2002/03.

The MWLAP Service Plan, the Environmental Stewardship Division (ESD) Business Plan, the Environmental Protection Division (EPD) Business Plan and the regional ESD Business Plans are the drivers and justification for the proposed activities described in this strategy. The strategy is based on the premise that FIA funded MWLAP activities are fully integrated with day-to-day operations in the Ministry.

1.3 Scope

The activities and strategies in this document relate to the Land Base Investment Program.

This strategy outlines how the Biodiversity Branch, as the lead for the MWLAP, will ensure that activities meet the overall objectives and expectations of the FIA, primarily through the identification of deliverables (targets) and tracking and reporting their achievement (accomplishments). Some of the specific project deliverables are also referenced in the MWLAP Business Plans, and in the Service Plan as “strategies”. Headquarters and regional staff, where feasible, will partner with licensees, other resource ministries, academia, Fisheries and Oceans Canada and others to achieve these deliverables and possibly leverage additional funds.

The shift from public sector forest stewardship to stewardship shared with the private sector requires changes to doing business; including changes in legislation. Activities described in this strategy are strongly linked to the expected MWLAP responsibilities for developing and implementing the *Forest and Range Practices Act* (Results Based Code) and the Integrated Pest Management Act (in progress).

The strategy outlines how the MWLAP is accountable for the funding allocation, and how priorities for internal allocations are derived.

This document has been prepared primarily as guidance for MWLAP staff, and as a reference for other participants in the FIA LBIP - MoF, MSRM, licensees and PricewaterhouseCoopers.

The strategy includes a detailed description of the allocation of the 2003/04 LBIP funding of \$2.188 million in Appendix 1, which is summarized in a table in Appendix 2. The 2002/03 detailed accomplishments are described in Appendix 3, and summarized in a table in Appendix 4.

1.4 MWLAP Goal

The MWLAP goal is to use FIA funds to foster sustainable forest management, improve the public forest asset base for many values and products, and help achieve the MWLAP Service and Business Plan deliverables and objectives. This is accomplished through the integration of FIA funded activities into staff work plans, which will emphasize the connections between FIA funded activities and activities funded through other sources.

In 2003/04, each Service Line in the budgeting process is linked to a goal and objective in the MWLAP Service Plan. Reporting through the government budget system is therefore directly linked to achieving Service Plan objectives.

1.5 Internal Allocation Process

The development of the 2003/04 internal allocation is included in this strategy. This process involved:

- Analyzing the 2002/03 MWLAP allocation and accomplishments, compared with the work licensees conducted under the LBIP;
- Discussing the MWLAP priorities at a workshop May 20, 21 where all regions were represented;
- Discussing the MWLAP priorities and possible partnerships with licensees (both provincially and regionally); and
- Developing an iterative ranking process that represents the priorities across the MWLAP provincially and regionally, related to FIA eligible activities.

1.6 Deliverables in the ESD and EPD Business Plans

The following Service Lines and Service Plan deliverables are represented with the corresponding MWLAP 2003/04 FIA projects (note: project numbers listed below are prefixed with “29810”):

Table 1.6.1 - SL 31224 – Species at Risk Strategy – includes development of a species at risk strategy – *Strategy 3*: Coordinate government, public and industry-led actions to identify, protect and recover species and ecosystems at risk

Service Plan Key Deliverable	FIA Project Numbers and Titles
Prioritization of species and ecosystems for recovery planning	#20 FIA SAR Training; #21 FIA Recovery Planning Biologists
Support and initiate recovery teams	#13 Recovery Plans (various plants, invertebrates and reptiles); #14 Caribou Recovery; #18 Fish Species Recovery (Stickleback); #21 FIA Recovery Planning Biologists; #22 FIA Recovery Team Mgt. Support; #30 Spotted Owl Recovery Team
Species at risk recovery planning; priority species at risk projects (regions)	#13 Recovery Plans (Reg 1 – QCIGO; Reg 2 – Pacific Salamander, Pacific Shrew, Tall Bugbane; Reg 6 – Haida Ermine); #14 Caribou Recovery (Reg. 3, 4, 7,); #21 FIA Recovery Planning Biologists (Reg 1 – QCIGO; Reg 2 – Pacific Salamander, Pacific Shrew, Tall Bugbane; Reg 6 – Haida Ermine; QCIGO and QCI Ecosystem); #22 FIA Recovery Team Mgt. Support (Reg 1, 2, 6); #30 FIA Spotted Owl Recovery Team
Develop Identified Wildlife Management Strategy (IWMS) Version 2 procedures	#18 Fish Species Recovery (accounts for Williston Arctic grayling and Dolly Varden); #29 FIA Conservation Standards and objectives
Develop Ungulate Winter Range (UWR) procedures	#29 FIA Conservation Standards and Objectives
Establish UWRs	#7 – FIA Data Management; #29 FIA Conservation Standards and Objectives (HQ, Reg 1, 4, 5)
Establish Wildlife Habitat Areas (WHAs)	#7 – FIA Data Management; #18 FIA Fish Species Recovery (Stickleback); #29 FIA Conservation Standards and Objectives (HQ; Reg 1, 2, 3, 5, 6, 7, 8, 9)

Table 1.6.2 SL 31226 – Stewardship Standards – Includes provisions of guidelines and standards for protection of biodiversity – *Strategy 5*: Provide clear guidelines and standards for appropriate protection and conservation of biodiversity on Crown land outside the protected areas system; *Strategy 9*: Maintain regulatory and stewardship activities to monitor and report on achievement of standards used to manage and conserve ecosystems, species and their habitats

Service Plan Key Deliverable	FIA Project Numbers and Titles
Complete priority conservation projects	#1 FIA Program Management; #29 FIA Conservation Standards and Objectives (HQ: FIA audit standards for non-timber silviculture treatments, terrestrial/riparian restoration and herbicide use; Reg 2: information for management plan; Reg 7: forest ingress); #39 WR Communications; #56 FIA Stream Crossing

Table 1.6.3 SL 31229 – Living Rivers – Includes development of a Living Rivers Strategy – *Strategy 4*: Coordinate government, public and industry-led actions to protect and improve our waterways through a Living Rivers Strategy

Service Plan Key Deliverable	FIA Project Numbers and Titles
Build funding partners with other governments and public trusts	#61 FIA SFM Planning Partnerships (co-develop two WFSPs)

Table 1.6.4 SL 31242 – Species and Ecosystems Monitoring and Reporting – Includes the implementation of monitoring and reporting programs – *Strategy 2*: Implement monitoring and reporting programs to track the status of species and ecosystems and their responses to management actions

Service Plan Key Deliverable	FIA Project Numbers and Titles
Framework for monitoring and reporting criteria; monitoring and reporting priorities	#51 FIA Monitoring Partnerships (HQ, Reg 1, 2, 4); #52 FIA Biodiversity Indicators (HQ, Reg 1); #59 FIA Monitoring Training;
Science-based standards, indicators, data analysis and peer review processes	#45 WQO Monitoring (EPD); #51 FIA Monitoring Partnerships (HQ, Reg 1, 2, 4); #52 FIA Biodiversity Indicators (HQ, Reg 1); #58 FIA Monitoring Database; #60 FIA Wildlife Tree Monitoring

Table 1.6.5 SL 31243 – Biodiversity Standards/Guidelines – Includes development of standards – *Strategy 4:* Work with the private and public sector partners to develop environmental standards and best practices for the *Forest and Range Practices Act*

Service Plan Key Deliverable	FIA Project Numbers and Titles
Develop objectives, standards, guidelines and BMPs for priority sectors and activities	#41 FIA Temperature Sensitive Streams; #43 FIA Significant Fisheries Values

Table 1.6.6 SL 30543 –Safe, High Quality Drinking Water (EPD) – Ensure safe, high quality drinking water and reduce discharges that threaten water quality - *Strategy:* Protect surface water and groundwater from health threatening contamination by implementing ground water regulations and Action Plan on Safe Water

Service Plan Key Deliverable	FIA Projects Titles
Conduct water quality assessments and studies; develop water quality objectives; evaluate bio-monitoring technology	#45 WQO Monitoring (EPD)

1.7 Communications

Communications will be managed by Colene Wood, Forest Investment Manager. Internally, specific communication will be maintained within Biodiversity Branch (Branch Management Team), with contacts in headquarters EPD (Lynn Kriwoken, Narender Nagpal), with ESD regional FIA contacts and with ESD Regional Managers through Scott Benton, Director. Externally, communications will be maintained at the regular FIA LBIP meetings with the MoF (Ken Baker, Rick Brand, Monty Locke) and MSRM (John Wakelin, Ted Murray). Coordination with the MSRM FIA CLUPE funding will be maintained through Al Lidstone, MSRM. Communications with PricewaterhouseCoopers¹ (PwC) will be through Kevin Bromley, FIA Director.

The primary form of communications with licensees is through the MoF FIA internet website. The MWLAP has responsibility to post standards, BMPs and guidelines for the eligible FIA activities that relate to MWLAP business. Regional staff is also encouraged to communicate directly with the region/district MoF staff and licensees. Direct communication with licensees is critical for effective sustainable forest management planning and partnerships on projects. See Figure 1.7 for an illustration of communication flow, inputs and outputs.

Regular internal communication channels will be used where possible, including:

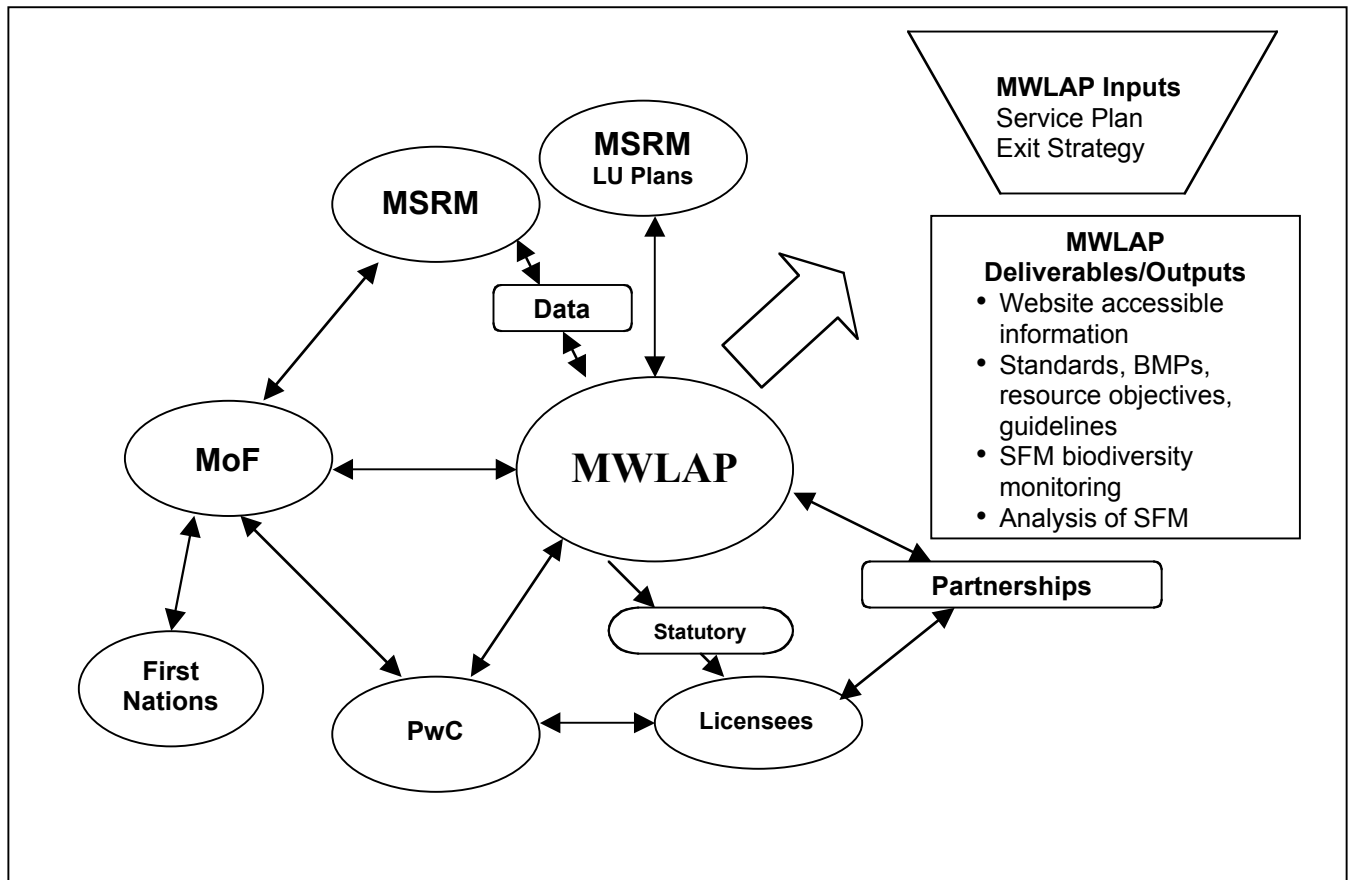
¹ PwC are contracted by the MoF to administer the Land Base Investment Program.

- Updates at Branch and section meetings;
- ESD Regional manager conference calls; and
- Other conference calls.

In addition, a section on the MoF intranet website to update staff is being planned, which MWLAP staff will be able to access.

Public communications will be managed through the Deputy Minister's office.

Figure 1.7: MWLAP FIA Inputs, outputs and communication flow



2.0 Principles and Allocation Process

The following principles highlight the approach taken to develop the internal allocation in 2003/04.

1. The FIA model promotes shared responsibility for forest stewardship. Under the LBIP, licensees will take the lead for conducting FIA activities, often where the MWLAP used to lead (e.g., watershed restoration) or had sole responsibility before 2002/03 (e.g., terrestrial restoration).
2. FIA funding may be used by WLAP to undertake pilot projects where industry is not implementing program objectives, for example, through implementation of regional monitoring projects in priority conservation areas where industry has not initiated biodiversity monitoring.
3. FIA funding may be used by WLAP to test and understand the effectiveness of specific standards or where monitoring results would help improve existing standards or set new ones.
4. FIA funding may be used by WLAP to conduct pilot monitoring projects intended to develop or validate monitoring applied science monitoring methods.
5. All MWLAP projects must fit with the MoF expectations, ie, the projects must related to LBIP activities and sustainable forest management.
6. Each MWLAP project should make the maximum contribution to the Service Plan deliverables.
7. Because the MWLAP FIA expenditures have direct links to the Service Plan, staff time needs to be managed and accounted for in the staff EPDPs (i.e., workplans). Some staff provide technical input to the PwC managed licensee projects, and this time is often in kind (e.g., for aquatic restoration).
8. There are clear deliverables associated with each proposed project. At the end of the year, review of the accomplishments will help assess the success of our spending (e.g., return on investment, best use of time, etc.).
9. Partnerships will be used where possible, to help ensure most activities can continue in future years regardless of funding to the MWLAP. Potential partners are MoF, MSRM, forest licensees, academia, and other provincial and federal agencies. MWLAP will leverage funds where possible.

10. The MWLAP maintains responsibility for developing environmental standards, and will use licensees and their FIA products to help fulfill this responsibility where feasible.
11. MWLAP will likely have to provide funds to MSRM for specific analyses of information/data related to our needs.
12. All rules and policies on contracting and transfer agreements will be followed.
13. For MWLAP funded provincial level projects, HQ is the lead with regional involvement critically necessary; some regions are implementing provincial level projects with HQ involvement, to help build regional capacity, understanding and.

The MWLAP projects were selected according to consistently applied criteria that were reviewed and refined through several iterations with regional and headquarters staff and managers. This was a challenging process given that demand for project funding greatly exceeded the budget available.

The highest priority is for standards and resource objectives that address the legal requirements in the *Forest and Range Practices Act* and the federal *Species at Risk Act*.

Regional FIA contacts have highlighted some key issues that need to be carried forward to any re-allocation of unspent funds in 03-04 or as part of next year's allocation process:

- 1) Need more funding for UWR establishment and consideration of funding for Type 3 UWR. Licensees are not contributing to this activity in any large degree.
- 2) There are huge needs to develop resource objectives for land use planning, which are high regional priorities. Licensee projects contribute to implementing LUPs, but there are no targets within the FIA model or other mechanisms to ensure this work proceeds according to the plans.
- 3) Caribou recovery plan implementation work is a high priority in certain regions, and more funding is needed. Work is prioritized in the Recovery Plans which are at varying stages of completion.
- 4) Regions need to conduct monitoring, including setting resource objectives through baseline monitoring, in partnership with licencees and without licencee participation in high priority conservation areas where the industry is unable to be involved.

Table 2.0 summarizes the % allocation in 2002/03 (actual) and 2003/04 (proposed) as a comparison, related to the LBIP activities.

Table 2.0 – Comparison of 2002/03 and 2003/04 MWLAP FIA Allocation by LBIP Activity (Percentage)

<i>LBIP Activity</i>	<i>2002/03 % Spent</i>	<i>2003/04 % Allocated</i>
SAR Planning	24%	21%
Treatments for Non-Timber Objectives	4%	6%
Restoration	7%	<1%
Resource Inventories – Biodiversity, Wildlife	34%	36%
Monitoring SFM Values	19%	14%
Program	8%	7%
Misc	4%	1%
FRPA Resource Objectives		13%
Unallocated		2%
Total	100%	100%

3.0 Responsibilities and Accountability

The MWLAP, through the Deputy Minister, is responsible for:

1. Setting government's priorities in the form of objectives, expectations and eligibility regarding the land base expenditures at a corporate level, in consultation with the MoF and MSRM;
2. Contributing to the achievement of #1; and
3. Ensuring MWLAP interests are addressed.

The Deputy Minister sits on the Forest Investment Council (FIC), and will advise the Deputy Minister, MoF on matters related to all FIA programs. As the FIA LBIP proceeds, the DM will help evaluate the effectiveness of the model, and provide options on modifying the implementation.

The MWLAP is accountable to the MoF regarding the financial management of the FIA funds, and is ultimately accountable to the public through the Ministry mandate.

Through budget management, accountability is passed to the Responsibility Centres (RCs), to spend the allocated FIA funds according to the agreed upon deliverables. All RCs will report quarterly on deliverables completed that quarter. Unspent funds not solely attributed to one RC will be reallocated according to priorities set during the initial allocation, in consideration of timing elements.

See the FIA website <http://www.for.gov.bc.ca/hcp/fia/> for more details on the roles and responsibilities of the MoF, MSRM, PwC, and licensees.

3.1 FIA Letter of Agreement (MoF/MWLAP)

Table 3.1 summarizes the expectations of the MoF.

**Table 3.1 – Ministry of Forests/Ministry of Water, Land and Air Protection
2003/04 FIA Agreement**

FIA Objective: "Actively fostering sustainable forest management by:"		
Tactical Objective:	Budget	Performance Measures:
#1. Developing, maintaining, revising and communicating (eg, website) government's technical standards and resource objectives for activities undertaken by FIA recipients for sustainable forest management. (Note: much of this work done in partnership with FIA Recipients and academic institutes).	\$1,710,000	<ul style="list-style-type: none">• Up-to-date web enabled standards, BMPs, and guidelines for species at risk recovery planning, watershed fish-based sustainability planning, restoration planning, non-timber stand treatments, instream aquatic restoration activities, and riparian restoration activities;• Up-to-date web enabled standards, BMPs, and guidelines for sustainable forest management (sfm) planning, silviculture strategies, stand treatments, resource inventories, monitoring sfm values and

		ecosystem modeling (all in collaboration with MoF and MSRM); <ul style="list-style-type: none"> • Resource objectives for water quality, temperature sensitive streams, significant fisheries watersheds, wildlife habitat features, wildlife habitat areas, species/ecosystems at risk, and others (for certain parts of the province); and • Assurance that the above reflect current audit findings, government direction and science, and are understandable.
#2. Supporting the FIC through participation of the Deputy Minister and reporting on the analysis of benefits of the FIA funding to the MWLAP and audits.	\$15,000	<ul style="list-style-type: none"> • Report to the FIC.
#3. Analysing FIA funded data products received from FIA Recipients; maintaining and using data collected through FIA investments in collaboration with MSRM.	\$190,000	<ul style="list-style-type: none"> • Reports and advice that provide technical expertise for audits and advice for overall program management. • Data repositories for each MWLAP responsibility activity area, to ensure data is publicly accessible.
#4. Assisting third party administrators and cooperating ministries; and participating in the Land Base Investment Program Task Group.	\$110,000	<ul style="list-style-type: none"> • Technical expertise provided to PwC and other ministries to support their areas of responsibility; and • Reports to MoF as required.
#5. Developing and maintaining partnerships with FIA recipients and academic institutions to implement FIA funded activities. (Note: does not include partnerships to develop standards, BMPs, resources objectives; see #1 above).	\$172,000	<ul style="list-style-type: none"> • Partnership agreements signed or in principle, recognizing joint achievement of performance measures for individual FIA activities.

3.2 MWLAP Responsibilities related to the *Forest and Range Practices Act*

Section 3.2 summarizes the responsibilities of the MWLAP related to development of the *Forest and Range Practices Act (FRPA)*, as outlined in, *Detailed list of WLAP deliveries for implementation of the Results Based Code* (Rodger Stewart, 2002). Sections 3.2.1 and 3.2.2 below highlight the general direction to WLAP staff for developing the *FRPA*. Section 3.2.3 below lists detailed FIA funded deliverables related to the MWLAP responsibilities for the *FRPA*.

3.2.1 General *FRPA* Responsibilities

1. “*Maintain environmental standards*” – need clearly stated and accessible standards, accessible on the web.

2. “*Continuing to balance social, environmental and economic interests*” – need clearly stated environmental interests/values/objectives for tactical (eg, SFMPs) and operational planning.
3. “*Lead the development of best management practices, operational expectations and standards for achievement of results*” – see #1 above.
4. “*Monitor achievement of results, and will monitor and report on indicators of the state of the environment*” – develop standards for monitoring achievement of results (effectiveness monitoring); and conduct monitoring and auditing of these indicators related to the *FRPA*. Influence licensee selection of indicators to reflect the reporting for state of the environment.
5. “*Responsible for compliance and enforcement (c&e) of environmental standards*” – as related to FIA licensee eligible activities, in consultation with PwC; develop c&e monitoring procedures/standards; and conduct monitoring and auditing related to the *FRPA*. (Note that PwC audit a proportion of projects to determine whether licensees followed standards. Project quality assurance is the responsibility of the licensee. Ministries staff may accompany PwC on such audits as a means to understanding how such audits might contribute to meeting MWLAP legislated responsibilities).

3.2.2 Detailed *FRPA* Responsibilities

The MWLAP is responsible for establishing:

1. Locations and objectives for specialized treatments for wildlife habitat conservation;
2. Water quality objectives for community watersheds;
3. Resource objectives consistent with policy, location and objectives for wildlife habitat areas, zones and objectives for implementation of general wildlife measures; and
4. Resource objectives consistent with policy, boundaries of ungulate winter ranges and objectives for forest cover retention.

3.2.3 2003/04 MWLAP FIA Deliverables as per *FRPA*

The following summarizes the deliverables that will be produced under FIA 2003/04 funding, primarily related to developing the *FRPA*.

3.2.3.1 Identified Wildlife (IW) (#16) and Species and Ecosystems at Risk

- Species account for Williston Arctic Grayling;
- Initiate species account for Dolly Varden;
- Species accounts for 2 forest snails and Dromedary Jumping Slug, 2 plant communities, and 5 bat species;
- Recovery Action Plan for Texada Island stickleback;
- Recovery Strategy and Action Plan for Scouler’s corydalis, Rocky Mnt. Tailed Frog, Dromedary Jumping Slug;

- Surveys for Recovery Strategy for Oregonian Forestsnail and Puget Oregonian Forestsnail;
- Recovery Strategy for Boreal Caribou;
- BC Provincial SAR Strategy;
- Co-chair Scouler's corydalis and Spotted Owl Recovery Teams;
- Chair invertebrate Recovery Group;
- Recovery Strategy, Recovery Plan for Spotted Owl;
- Chair national Recovery Team for the QCI Goshawk, Recovery Strategy, engage licensees;
- Recovery Strategy and Recovery Plan for Haida Ermine;
- Support Recovery Team for Northern Goshawk;
- Recovery Action Plan for Hear Range N. Mnt. Caribou herd;
- Support Recovery Team for Selkirk herd Caribou;
- Chair and prepare Recovery Strategy and Recovery Plan for Pacific Giant Salamander, Pacific Water Shrew and Tall Bugbane;
- Monitor overwintered Spotted Owl, complete trend analysis, monitor sites, and relocate individuals;
- Radar survey estimates for Marbled Murrelet populations;
- Partnership to complete Wells Gray South Caribou census Thompson Region 3;
- Training module and pilot delivered, Guide to Recovery Planning in BC; and
- Print Field Guide to SAR (coast).

3.2.3.2 Fire Management (#21)

- Survey procedure, rating system and methods for evaluating grasslands affected by forest encroachment.

3.2.3.3 Ungulate Winter Range (#16)

- Finalize UWR maps and objectives for Merritt TSA (Deer, Elk, Moose, Goats, Sheep);
- Three workshops for UWR management;
- Track radio-collared Mule Deer to verify winter range habitat in Okanagan Region 8;
- UWR in Morice TSA in partnership with the IFPA;
- Establish UWR in Kootenay Region 4;
- Finalize UWR maps, objectives and rationales for Arrowsmith, Strathcona and Kingcome TSAs and 12 TFLs;
- Identify and verify boundaries of UWR in Lower Mainland Region 2;
- Submit UWR Plans for Mnt. Goat for Soo, Fraser, Sunshine Coast, for Deer in TFL 38, Soo and Fraser TSAs, and for Moose in TFL 38; and
- Provincial Plan for 03/04 and beyond.

3.2.3.4 Coarse Woody Debris (#8)

- Complete and extend coarse woody debris BMP.

3.2.3.5 Wildlife Habitat Areas (#16)/Wildlife Habitat Features (#17)

- Identifying Wildlife Habitat Features;
- BMP for Wildlife Habitat Features and training materials;
- Test Wildlife Habitat Features BMP in Vancouver Island Region 1;
- Review and refine provincial method for selection of WHAs in Omineca Region 7;
- Inventory critical habitat for selected Identified Wildlife species for WHAs in Peace Region 9;
- Delineate WHAs for Graham River Caribou;
- Identify WHA candidates for priority Volume 1 and 2 species and establish top priority WHAs in Thompson Region 3;
- Establish Grizzly Bear WHAs;
- Surveys for WHAs for Grouse, Spotted Owls, Western Screech Owl;
- Information for WHAs for White-headed Woodpeckers, Flammulated Owl, Coastal Tailed Frog, Mountain Beaver, Lewis Woodpecker, Williamson Sapsucker in Region 8;
- Confirm presence of Myotis bats for WHAs in Skeena Region 6;
- Establish WHAs in Cariboo Region 5;
- Prioritized list of WHA eligible species in Omineca Region 7;
- Assessment of Bull Trout spawning;
- Establish 5 WHAs for red-listed plant species in Vancouver Island Region 1; and
- Identify 15 WHAs for Grizzly Bear, Marbled Murrelets, Tall Bugbane and others in Lower Mainland Region 2.

3.2.3.6 Watershed Restoration (WR)

- Two issues of Streamlines (watershed restoration).

3.2.3.7 Riparian Management (#14)

- FIA technical audit standards for riparian restoration.

3.2.3.8 Significant Fisheries Values (#14) & Temperature Sensitive Streams (TSS)

- Policies for temperature sensitive streams and significant fisheries values;
- Test and validate the Stream Crossing Monitoring protocol;
- Evaluate baseline assessment criteria for aquatic ecosystems in Vancouver Island Region 1;
- Threshold temperatures for fish communities in Thompson and Omineca Regions 3, 7;
- Measurable temperature changes related to clearcuts; and
- Fish distribution model related to significant fisheries values.

3.2.3.9 Monitoring (#23)

- FIA technical audit standards and FRPA standards, including effectiveness, for monitoring biodiversity in partnership with licensees through academic institutions;
- Template for consistent reporting of monitoring (compliance and effectiveness);
- Fill gaps in baseline database and refine methods for monitoring effectiveness of wildlife tree patches;
- Evaluate an IBI or “reference-condition approach” calibrated for the Kootenay Region 4 and the Okanagan Region 8 for water quality;
- Conclude IBI approach for Skeena Region 6;
- Develop a monitoring protocol for Crown lands to monitor red-listed plant species communities in Nanaimo lowlands, Vancouver Island Region 1; and
- Effectiveness monitoring training module pilot delivered.

3.2.3.10 Sustainable Forest Management Plans (SFMPs)/Watershed Fish Sustainability Plans (WFSPs) (for Resource Development Permit Tests, Goal, Result and Rule Statements #3-5)

- Conduct 2 pilot Watershed-based Fish Sustainability Plans with licensees;
- Workshop(s) to strategically get regional staff and licensees involved in SFMPs, determine roles for HQ staff;
- Methods for integrating SFM planning with other planning, eg, Recovery Planning, etc; and
- Future involvement of MWLAP based on 02/03 and 03/04 experiences.

4.0 Staffing and Resources

The following summarizes the FIA funded and base staff positions and auxiliaries responsible for implementing the FIA funded MWLAP LBIP projects, with their manager shown in brackets. Salaries and benefits for a total of approximately 12 MWLAP FTEs will be funded by the FIA, and 4 months of a coop student for the library (JV from the MoF).

- *Program Manager* (Davis) – Colene Wood (seconded) - 1 FTE
- *Information Management* (base funded - Gail Harcombe) – 1 month
- *Section Unit Head* (Davis) – Stewart Guy – 0.8 FTE
- *Ecosystem Specialist* (Davis) – Jared Hobbs – 1 FTE
- *Database Manager* (Davis) – Jeff Hoyt, auxiliary – 1 FTE
- *GIS Technician* (Davis) – Byron Woods – 1 FTE
- *Data management, GIS support* (Davis) – Coop position – 1 month
- *HQ Recovery Planning Biologists* (Feick) – auxiliaries, Brenda Costanzo, Kari Nelson (33%), Jennifer Heron (50%, part-time) – 1.7 FTEs
- *Recovery Planning Biologists* (Regions 1, 2, 4, 6) – auxiliaries– 2 FTEs
- *Resource Features Biologists* – Louise Blight (Davis), TBD (Down) auxiliary - 1 FTE
- *Resource Features Biologists* (Regions 3, 8) – auxiliaries – 1 FTE
- *Aquatic Biologist* (Down) – Eric Parkinson – 0.2 FTE
- *EPD Herbicide Technician* – 0.5 FTE

5.0 Priorities for Licensees LBIP Activities and Partnerships

Sections 5.1 to 5.3 highlight the MWLAP 2003/04 priorities for sustainable forest management as related to the FIA LBIP licensee activities.

5.1 Identified Wildlife Management

Through the Identified Wildlife Management Strategy (IWMS), species accounts (i.e., management practices and standards) are developed. Protection on the ground is achieved by establishing Wildlife Habitat Areas (WHAs), identifying and protecting Wildlife Habitat Features (WHFs) and identifying and protecting General Wildlife Measures (GWMs). Recovery of species and ecosystems at risk is achieved by setting up Recovery Teams, developing Recovery Strategies and Action Plans, and monitoring species/ecosystem recovery.

High priorities for the MWLAP in 2003/04 are:

- Completing and communicating IWMS Version 2;
- Developing policy and completing the list of WHFs;
- Establishing and mapping WHAs and WHFs;
- Developing policy for GWMs;
- Establishing Recovery Teams for key forest dependent species/ecosystems and continuing support for those already established; and
- Implementing Recovery Action Plans.

The MWLAP has entered partnerships with specific forest licensees, and are encouraging all licensees to conduct the following LBIP activities where needed:

- *Species and Ecosystems at Risk Recovery Strategies/Management Planning and Watershed Fish-based Sustainability Plans;*
- *Watershed Restoration Plans;*
- *Ecosystem Restoration Plans;*
- *Stand Treatments to Meet Non-timber Objectives* (eg, space a young forest to enhance wildlife habitat structure and features);
- *Restoration and Rehabilitation – Aquatic, Riparian and Terrestrial Treatments* (eg, construct instream structures to restore fish habitat for an identified wildlife species; space and underburn a young forest to improve forage for a species at risk);
- *Resource Inventories – Fish & Fish Habitat, and Biodiversity – Wildlife and Wildlife Habitat Mapping* (eg, inventory a species at risk to determine population trend; establish WHAs);
- *Forest Dynamics and Decision Support* (eg, test a model that predicts a species at risk response to changing habitat); and
- *Training and Extension* (eg, deliver a workshop to forest practitioners on how to identify wildlife habitat features during forest operations).

5.2 Forest Land Base Standards and Objectives

The FIA model requires activity audit standards to be clear, concise and results oriented. The MWLAP will have FIA audit standards developed for all activities by the end of 2003/04. Ongoing revisions are essential, based on adaptive management feedback and input from forest licensees and researchers.

Forest land base standards and resource objectives are essential for implementation of the *Forest and Range Practices Act* and the *Integrated Pest Management Act* (IPMA) (not yet proclaimed). The MWLAP is responsible for leading the development of FRPA resource objectives for Significant Fisheries Values, Temperature Sensitive Streams, Water Quality, and General Wildlife Measures, and to develop standards for Ungulate Winter Range (UWR), Monitoring Stream Crossings, Coarse Woody Debris, and others. Under the IPMA, the MWLAP develops standards for using pesticides.

Licensees can contribute to the development of resource objectives and standards, and to the protection of wildlife, fish, habitat and biodiversity, through partnerships and innovative projects under the following LBIP activities:

- *Stand Treatments to Meet Non-timber Objectives* (eg, space a young forest to enhance UWR attributes);
- *Stand Establishment and Treatment – Impeded Stands* (eg, conduct a herbicide treatment in partnership with the MWLAP that helps develop standards for a chemical used near a watercourse);
- *Restoration and Rehabilitation – Aquatic, Riparian and Terrestrial Treatments* (eg, plant brush and tree species to influence stream temperature);
- *Resource Inventories – Fish & Fish Habitat, and Biodiversity – Wildlife and Wildlife Habitat Mapping* (eg, establish UWRs);
- *Resource Inventories – Monitoring SFM Values – Water Quality/Quantity, Terrestrial Biological and Physical Monitoring, Aquatic Biological and Physical Monitoring* (eg, collecting data to develop water quality objectives);
- *Forest Dynamics and Decision Support* (eg, test a model that shows the development of UWR over time); and
- *Training and Extension* (eg, deliver a workshop to demonstrate innovative ways to measure temperature sensitive streams).

The MWLAP is partnering with various academic institutions to develop methods and standards for measuring indicators selected to monitor the achievement of sustainable forest management. Any licensee project in 2003/04 for this purpose is considered innovative, and the licensee is a) encouraged to partner with the academic institutions; and 2) must participate in and contribute to an extension workshop which will be held early in 2004.

5.3 Restoration of Aquatic, Riparian and Terrestrial Ecosystems

Protection of important ecosystem function and structure during forest development is the prime objective, at the landscape and stand level. Standards, resource objectives and best management practices have been developed that consider this a necessity.

Restoration is a tool to improve ecosystem function and structure that has been degraded through development. Licensee restoration activities significantly decreased in 2002/03 from previous years. Licensees are encouraged to engage in *Watershed Fish-based Sustainability Planning*, *Watershed Restoration Planning*, and *Ecosystem Restoration Planning* in order to strategically plan investments. They are also encouraged to link the results of restoration treatments to sustainable forest management.

5.4 Partnerships

Meaningful partnerships with licensees and others will be pursued as a demonstration of shared stewardship. The target is to have at least \$10,000 per region of MWLAP FIA funds dedicated to partnerships (i.e., \$90,000), and \$200,000 at the headquarters level. This year staff will also work towards developing partnerships for next fiscal.

A ministry/licensee partnership could help the licensee:

1. Leverage funds from other agencies, including federal sources (for instance, until there is a recovery strategy for a rare or endangered species, most federal funding sources are not available. Federal funding is to be used primarily for implementation. It is the responsibility of the province and provincial stakeholders such as forest licensees to develop the strategies and recovery action plans);
2. Attain forest management certification, especially for volume based tenure holders, where stewardship is an element of the certification scheme, eg, having WHAs established on their tenure areas likely qualifies as forest stewardship;
3. Reduce costs of forest management, including reducing licensees' costs through better relationships and planning;
4. Operate under the *FRPA*, as licensees will have a better understanding of priorities and opportunities;
5. Do innovative work that doesn't yet have technical standards established (eg, terrestrial and aquatic sfm monitoring); or

6. Answer the Government's call for shared forest stewardship (Minister de Jong's mandate).

Partnerships with the MWLAP under the FIA can take three main forms:

1. **Partnerships for sustainable forest management planning** – MWLAP staff will work in various ways to influence licensees as they develop the management unit SFMP. At the very least, staff will ensure information essential for the planning is made available to the licensees, preferably on the MWLAP website.

Formal “Partnership/Stewardship Agreements” will be initiated where there are opportunities for the MWLAP, MoF and MSRM to support specific licensees moving towards licensee-led wildlife area planning. The agreement will document the roles and responsibilities of the government and licensee staff, and how funds from each agency will be used to meet specific objectives. An MOU has been signed with Lignum Ltd. and with the licensees on the Sunshine Coast TSA; one is being initiated with Canfor; and more are planned with Weyerhaeuser, Tembec, Timberwest and others.

2. **Partnerships on individual projects** – Project deliverables will be mutually agreed upon, and MOUs and other such agreements will be used to specify the details. Academia will be involved where scientific information collection and methodologies are being developed. Connections to research (FIA and other research) will be made.
3. **Partnerships related to monitoring** – partnerships with licensees and academia to determine sustainability indicators, develop baseline information and protocols, and establish monitoring strategies have been confirmed with Weyco, Canfor, and Interfor, along with UBC, UNBC and SFU. Partnerships include a reputable research institution, such as a university, as the purpose is to ensure that the new science is credible. The licensee is encouraged to develop the link with the institution, and through this link the MWLAP will support the licensees’ work.

APPENDIX 1: 2003/04 MWALP FIA DETAILED ALLOCATION by LBIP ACTIVITY

MWLAP FIA 2003-04 Detailed Deliverables by % for each FIA Activity - July 31, 2003										
Note 1: "Scope" refers to the scope of the project, "0" is provincial, "10" is for more than one region; otherwise refers to region number										
Note 2: "FIA #", each number should be prefaced by 29810										
FIA #	S.L.	RC/Spending Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allocation	Partners	Leveraged funds	Comments
Strategic Resource Planning - Developing Management Unit or Watershed Level Strategies - Species at Risk/WFSPs										
61	31229	Alley, Jamie 2961L	FIA SFM Planning Partnerships	Conduct two pilots to develop WFSPs with licensees to build capacity (location to be confirmed by 3rd quarter)	10	Andy Witt; regions		TBD		Consider 2 possibilities from Morice, Nimpkish, Okanagan.
18	31224	Down, Ted 2961D	FIA Fish Species Recovery	1) Develop Recovery Action Plan and WHA designation for Texada Island Stickleback pairs; 2) Complete accounts for Williston Arctic grayling; 3) Initiate IWMS account for Dolly Varden.	10	Gary Norris				
13	31224	Feick, Jenny 2961A	FIA Recovery Plans	1) Complete Recovery Strategy and Action Plan for Scouler's corydalis (plant); 2) Complete "Invertebrates at Risk" surveys to provide data needed for recovery strategies for Oregonian Forestsnail and Puget Oregonian Forestsnail; 3) Complete draft Recovery Strategy and Action Plans for Rocky Mountain Tailed Frog (Region 4); 4) Dromedary Jumping Slug (Region 1)	10	Brenda Costanzo (1 & 3), Ted Antifeau (3), Jennifer Heron (2 & 4)		Various licensees, Parks Canada, First Nations groups		

FIA #	S.L.	RC/Spending Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allocation	Partners	Leveraged funds	Comments
14	31224	Feick, Jenny 2961A	FIA Caribou Recovery	Develop Recovery Strategy for Boreal Caribou; support for recovery team meetings (NTAC, MTAC, BTAC).	10	Ian Hatter		Slocan Forest Products	In-kind	Telemetry work
21	31224	Feick, Jenny 2961A	FIA Recovery Planning Biologists	1) Develop BC SAR Strategy (BC & KN); 2) Develop training module (Guide to Recovery Planning in BC for licensees) (BC & KN); 3) Provide advice on procedures for recovery teams and technical and procedural review recovery strategies; 4) Support recovery teams (BC); 5) Co-chair Scouler's corydalis and Spotted Owl recovery teams (BC); 6) Provide administrative support for recovery teams (17 continuing teams; 3 caribou TACs); 7) Chair invertebrate recovery group (JH); 8) Manage contracts and complete strategies and plans for forest invertebrates at risk (JH).	0	Kari Nelson, Brenda Costanzo, Jennifer Heron				33% of Kari Nelson's salary; 100% of Brenda Costanzo's salary; 50% of Jennifer Heron's salary; travel
22	31224	Feick, Jenny 2961A	FIA Recovery Team Mgt. Support	Support recovery team meetings (3 continuing teams): Scouler's corydalis Region 1, Rocky Mtn. Tailed Frog Region 4, Invertebrates Group.	10	Brenda Costanzo, Jennifer Heron				
29	31224	Feick, Jenny 2961A	FIA Conservation Standards and Objectives	1) Prepare species accounts for 3 invertebrates (2 forest snails, Dromedary Jumping Slug), and two plant communities; 2) Prepare species accounts and management recommendations for 5 species of forest bats.	10	Ted Lea - (plants), Jennifer Heron (invertebrates) (1); Laura Friis (2)		HCTF?, Wes-tern Canada Bat WG, U of Alberta		

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
30	31224	Feick, Jenny 2961A	FIA Spotted Owl Recovery Team	Complete draft Strategy, develop Recovery Plan for Spotted Owl; team meeting support	10	Brenda Costanzo and Mike Chutter		Various licensees, Parks Canada, First Nations groups		
21	31224	Janz, Doug 296A3	FIA Recovery Planning Biologists	In cooperation with the Region 6 Recovery Biologist, 1) Establish and co-chair a national recovery team for the Queen Charlotte Goshawk (<i>Accipiter gentilis laingi</i>); 2) Co- facilitate at least two recovery team meetings for the Queen Charlotte Goshawk; 3) Draft a national recovery strategy for the Queen Charlotte Goshawk. Also, 4) Coordinate recovery planning and assist with other projects related to forest dependent species and ecosystems at risk in Region 1; 5) Coordinate recovery team activities for forest dependent species in Region 1 with the Identified Wildlife program (including establishment of Wildlife Habitat Areas); 6) Engage licensees in recovery planning for forest dependent species at risk in Region 1.	10	Doug Janz				Includes travel/PD; balance for salaries/ benefits
22	31224	Janz, Doug 296A3	FIA Recovery Team Mgt. Support	Support meetings for new Recovery Team for NOGO.	10	Erica McClaren				

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
13	31224	Larden, Troy 296UN	FIA Recovery Plans	Complete draft Recovery Strategy and Recovery Plan for Haida Ermine for submission to Biodiversity Branch and RENEW.	10	Alvin Cober, Brenda Costanzo		Licen- sees, CHN, Parks Canada		Region 6
21	31224	Larden, Troy 296UN	FIA Recovery Planning Biologists	Support 3 recovery teams: 2 new (QCI NOGO and QCI Ecosystem), and Haida Ermine. In cooperation with the Region 1 Recovery Biologist, establish and co-chair a national recovery team for the Queen Charlotte Goshawk (Accipiter gentilis laingi). In cooperation with the Region 1 Recovery Biologist: 1) Co- facilitate at least two recovery team meetings for the Queen Charlotte Goshawk; 2) Assist with preparation of a national recovery strategy for the Queen Charlotte Goshawk (to be drafted by the Region 1 Recovery Biologist). Also, 3) Facilitate at least two Haida Ermine recovery team meetings; 4) Complete the draft recovery strategy (approved by Bruce Morgan and submitted to RENEW) and draft a recovery action plan for the Haida Ermine; 5) Facilitate initiation of a Haida Gwaii (Queen Charlotte Islands) Species at Risk Recovery Team; 6) Participate in recovery planning	10	Alvin Cober, Anne Hether- ington		Parks Can- ada?		Region 6. Includes for travel/PD; balance for auxiliary salaries/ben- e-fits

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
				for other forest dependent species on the Queen Charlotte Islands as appropriate; 7) Coordinate recovery team activities for forest dependent species on the Queen Charlotte Islands with the Identified Wildlife program (including establishment of Wildlife Habitat Areas) and Land Use Planning processes; 8) Engage licensees and First Nations in recovery planning for forest dependent species at risk on the Queen Charlotte Islands.						
22	31224	Larden, Troy 296UN	FIA Recovery Team Mgt. Support	Support recovery team meetings: 1) one RIG for West Central; 2) 2 new (QCI NOGO and QCI Ecosystem) and Haida Ermine.	10	Rick Marshall (#1); Alvin Cober (#2)				
14	31224	Ritchie, Chris 296WN	FIA Caribou Recovery	1) Develop draft Action Plan for Hear Range N. Mnt. Caribou herd, Recovery Implementation Group; 2) Support recovery team meetings for Hart Range/Cariboo Mtn., North-Central East and West.	10	Glen Watts		MoF Dale Seip	HCTF?	Region 7. Possible partnership s with licensees.
14	31224	Soobotin, Al 296PN	FIA Caribou Recovery	1) Coordinate Selkirk Herd Caribou Recovery activities (technical advisory committees and recovery action groups); 2) Support recovery team meetings for two RIGs (South and North Kootenays).	10	Guy Woods		Various		Region 4 - Salary/bene fits for Leo DeGroot

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
13	31224	Van Hove, John 296E7	FIA Recovery Plans	Complete draft recovery strategies and draft recovery action plans for each of the 3 species in Project 21, Van Hove.	10	Ross Vennes-land		Various	HCTF?	
21	31224	Van Hove, John 296E7	FIA Recovery Planning Biologists	1) Chair the Pacific Giant Salamander, Pacific Water Shrew and Tall Bugbane recovery teams; 2) Facilitate at least two recovery team meetings for each species; 3) Complete draft recovery strategies (approved by Bruce Morgan and submitted to RENEW), and draft recovery action plans for each species; 4) Develop funding proposals and coordinate action planning for all species; 5) Coordinate recovery team activities with the Identified Wildlife program (including establishment of Wildlife Habitat Areas); 6) Engage licensees in recovery planning for forest dependent species at risk.	10	Ross Vennes-land		Various		Travel/pd; balance for salary
22	31224	Van Hove, John 296E7	FIA Recovery Team Mgt. Support	Expenses for at least two recovery team meetings for each of the 3 species in Project 21, Van Hove.	10	Ross Vennes-land				
30	31224	Van Hove, John 296E7	FIA Spotted Owl Recovery Team	1) Monitor overwintered owl; 2) complete trend analysis of Spotted Owls; 3) monitor known sites and monitor spp.; 4) relocate individuals.	10	Ian Black-burn		MoF, MSRM, CFLA, Interfor, CWS, GVRD, BCEN	\$70K	Region 2
% Allocation - Strategic Resource Planning - Developing Management Unit or Watershed Level Strategies - Species at Risk/WFSPs							21			

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
Stand Establishment and Treatment - Stand Treatments to Meet Non-Timber Objectives										
29	31226	Davis, Rod 2961G	FIA Conservation Standards and Objectives	1) Review and revise guidelines to develop FIA audit standards for non-timber stand treatments; 2) Complete terrestrial restoration and riparian restoration FIA audit standards..	0	Colene Wood				
29	31226	Davis, Rod 2961G	FIA Conservation Standards and Objectives	Complete herbicide standards	0	Sylvia von Schuck- mann				
Dollars and % Allocation - Stand Establishment and Treatment - Stand Treatments to Meet Non-Timber Objectives							5.6			
Restoration and Rehabilitation - Aquatic, Riparian and Terrestrial										
		Alley, Jamie	Watershed Restoration Planning & WFSPs - technical standards	Line up partners to develop technical standards and procedures for applying AECS to planning and restoration and application to a pilot project in an interior system (Okanagan)	0	Ted Pobran		SRM	Line up partners and pursue in 04/05	
		Down, Ted	Aquatic Restoration - Data Management - Project registry	FIA funded watershed restoration projects are captured by the existing fisheries project registry into a searchable database. Licensees and government can better evaluate the benefits of projects.	0	Ted Down, Tony Cheong (SRM)				Confirm amount from MSRM; try to find funds from other projects

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
		Down, Ted	Aquatic Restoration - FIA audit standards	Aquatic Restoration - Review and solicit input from MoF, MSRM, licensees on the current FIA audit standards.	0	Ted Down, Andrew Wilson				Try to do in house
29	31226	Ritchie, Chris 296WN	FIA Conservation Standards and Objectives	Forest ingress in grasslands - develop a survey procedure, rating system and standard for evaluating grasslands affected by forest encroachment and identifying candidate areas for terrestrial ecosystem restoration related to ungulate winter range and other habitats. (Partnership funds will hopefully be available to test the procedure, and Slocan will be encouraged to contribute to developing the standards).	7	Donna Thornton		Grass- lands Council of Canad a; MoF		
Dollars and % Allocation - Restoration and Rehabilitation - Aquatic, Riparian and Terrestrial							<1			
Information Gathering and Management - Resources Inventories - Biodiversity, Wildlife and Wildlife Habitat Mapping										
29	31224	Baccante, Nick 296YN	FIA Conservation Standards and Objectives	Inventory critical habitat for selected Identified Wildlife species (e.g. rare warblers, bull trout, etc.); delineate and document WHAs for submission to Victoria; delineate WHAs from the Graham River Caribou data analysis.	9	Nick Baccante		Slocan, Canfor		

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
14	31224	Burwash, Michael 296GN	FIA Caribou Recovery	Regional Partnerships - Continue partnership with licensees to complete Wells Gray South Caribou census, monitor calf survival and assess predation impacts; produce updated maps and guidelines for LRMP and FRPA UWR.	3	John Surgenor		SIMPC W	\$101K	Licensee project #4250001.
29	31224	Burwash, Michael 296GN	FIA Conservation Standards and Objectives	1. Review existing information for IWMS; provide information for resource planning; identified candidate WHAs for priority Volume I and Version 2 species; establish top priority (5-10) WHAs; 2. Finalize UWR maps and objectives for Merritt TSA (deer, elk, moose, goats, sheep); products to be available for approval by end of fiscal: maps, objectives, rationale.	3	1. John Surgenor , 2. Michael Burwash				Use HQ for mapping; considering an auxiliary
		Davis, Rod	FIA Conservation Standards and Objectives	Complete and extend Coarse Woody Debris BMP	0	Mike Fenger		MoF	\$10K	Try to do in house
7	31224	Davis, Rod 2961G	FIA Data Management	Complete GIS mapping related to WHA, UWR for HQ and regions	0	Stewart Guy				Byron Woods sal/ben, Jeff Hoyt sal/ben, coop, travel

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
29	31224	Davis, Rod 2961G	FIA Conservation Standards and Objectives	1) Coordinate WHA development; revise standards; develop licensee partnerships; support regions; 2) Establish Grizzly Bear WHAs (Les Gyng); 3) Hold SI UWR objectives workshop; Hold NI UWR workshop; Hold Coastal UWR workshop; regional support (Steve Wilson); 4) Complete standard for inventory/identification of WHFs for FIA audits and FRPA; complete BMP; develop extension and training materials (Todd Manning, Louise); 5) Release Version 2 IWMS; production of SAR field guide; 6) MAMU - Complete radar survey-based population estimates for Marbled Murrelet for QCI land use planning; 7) MAMU - Conduct training (Irene Manly); complete conservation assessment (Alan Burger); 7) Complete various surveys in prep for WHA establishment (grouse inventory, Ken Parson Aviation; SPOW surveys; Western screech owl inventory, Jacob Deluisse; grouse lek aerial surveys; Williamson's Sapsucker, Les Gyng).	0	Stewart Guy; Alvin Cober for #6		Husby for #6		Stewart Guy sal/ben; Jared Hobbs sal/ben; Louise Blight sal/ben; travel

FIA #	S.L.	RC/Spending Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allocation	Partners	Leveraged funds	Comments
29	31224	Ethier, Tom 296LF	FIA Conservation Standards and Objectives	1) Coordinate the consolidation and organization of information that has been, and is being, gathered for the development and establishment of White-headed woodpecker; flammulated owl; coastal tailed frog; mountain beaver; Lewis woodpecker; and Williamson sapsucker WHAs. (\$30K). 2) Track radio-collared mule deer to verify winter range habitat. (\$15K). 3) Field check potential WHAs for identified wildlife bird species, Lewis Woodpecker (\$5K); 4) Bird demography project to identify WHAs, CWS partnership (\$5K).	8	Tom Ethier		2. Pope & Talbot; 4. CWS	2. \$45K; 3. \$15K	1. Auxiliary hire; 2. P&T Project #4215017. 4. CWS partner
29	31224	Larden, Troy 296UN	FIA Conservation Standards and Objectives	1. Confirm presence and distribution on Graham and Moresby Islands; identify roost sites in prep for WHA designations for Keans' Myotis bats; 2. Continue development of QCI Goshawk standards; provide newly formed recovery team with high priority information; partnership with Weyco; 3. Complete UWR in Morice TSA in partnership with IFPA.	6	Alvin Cober, Anne Hetherington		2. Weyco; Council of Haida Nations	\$120K	1. Students are doing work and funding covers expenses; MWLAP are loaning telemetry equipment. 2. Weyco projects #6224019, 6224020
29	31224	Lirette, Maurice 296RF	FIA Conservation Standards and Objectives	Establish Wildlife Habitat Areas [Species, where?]	5	Maurice Lirette				

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
29	31224	Ritchie, Chris 296WN	FIA Conservation Standards and Objectives	A) 1) Produce a prioritized list of species in the Omineca eligible for WHA and GWM development (IWMS, RIS) (internal); 2) Consolidate species accounts for at least top 50% of species on prioritized list, including input of local information (eg results of Canfor SAR workshop), Peace-Williston Fish & Wildlife Program reports, Chase Caribou Model project (contract); 3) Review and refine provincial methodology to reflect conditions (eg information availability, development pressure) in Omineca (contract); 4) Consodidate the above into a package suitable for distribution to and use by potential partners (contract); 5) Develop WHA proposals following the regional package to use as examples and learning tool for licensees (contract); 6) Present package and priorities to licensees in late fall for their use in FIA proposals for next fiscal (internal). B) 1) Complete assessments of bull trout spawning distribution in high value (Goat River) watershed, redd distribution and counts, coupled with adult spawner enumeration; 2) Identify, rank	7	A) Chris Ritchie; B) Ray Pillipow; C) Leslie Yaremko; partner- ship with Canfor				

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
				<p>and map key bull trout spawning habitat which will drive the WHA application and consultation process; 3) Develop redd to spawner ratios for long term index monitoring; 4) Assess the Upper Goat and McLeod River sub-basins to determine the overall extent of bull trout spawning in each sub-basin; 5) Complete ground surveys and where applicable snorkel counts; 6) Assess frequency and concentration of bull trout redds (will allow for the determination of high, med and lower use sites). All redd locations will be geo-referenced and mapped using desktop GIS tools. _ The spatial distribution of spawning areas and preliminary WHA designations will likely be completed by the end of October. _ All data collected will be summarized in a data report to support the WHA application and consultation process. C) Monitoring contribution of UWR in Protected Areas to sfm - 1) Ground truth / validate UWR - confirm and quantify required habitat attributes (canopy closure, species composition, tree age, slope, browse species, snow interception / snow depth information etc.)</p>						

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
				necessary for UWR via field validation. 2) Assess/monitor the trends of use of UWR by ungulates (repeat surveys i.e. 1-5 yrs) 3) Collect data along transects via pellet counts, ungulate track crossings, browse utilization, and snow depth. This information shall form a benchmark for trend/use analysis of polygons by targeted ungulate species. 4) Confirm the relative value of designated UWRs via comparison with adjacent forest stands with differing structural and topographic characteristics.						
29	31224	Soobotin, AI 296PN	FIA Conservation Standards and Objectives	Establish ungulate winter range - to be confirmed by July 31	4	Mike Knapik		MSRM		

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
29	31224	Teskey, Judy 296A5	FIA Conservation Standards and Objectives	A) 1) Inventory critical habitat for selected Identified Wildlife species (red-listed plant communities); delineate, develop resource objectives and document 5 WHAs for submission to Victoria. B) 1) Test and implement HQ process for wildlife habitat feature identification; 2) List features to be included in licensee Sustainable Forest Management plans and standards for Licence submissions; 3) Develop standard BMPs; C) Finalize UWR maps, objectives and rationale for grandparented UWRs in 3 Timber Supply Areas (Arrowsmith, Strathcona and Kingcome) and 12 TFLs (6, 19, 25, 37, 39, 43, 44, 45, 46, 47, 54, 57).	1	A) Mary Jo Hamey; B) Kevin Telfer; C) Ron Diederichs				
29	31226	Van Hove, John 296E7	FIA Conservation Standards and Objectives	Collect preliminary info on the habitat suitability for Marbled Murrelets in the Chilliwack and Squamish Forest Districts, based upon forest cover data. It is anticipated that these areas will be re-evaluted via air photo interpretation, prior to field verification via low level air reconnaissance. Results will be digitized and assessed for Recovery Team targets.	2	Dave Dunbar				

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
29	31224	Youds, John 296RN	FIA Conservation Standards and Objectives	Identify and verify boundaries of UWR [in what TSAs?].	5					
29	31224	Younie, Mike 296E7	FIA Conservation Standards and Objectives	1) Identify 15 WHAs for Grizzly Bear, MAMU, Tall Bugbane and others complete GIS; 2) Submit UWR Plans for Mountain Goat: Fraser TSA, Sunshine Coast TSA, Soo TSA, TFL 38; Deer: TFL 38, Soo TSA, Fraser TSA; Moose: TFL 38.	2	Mike Younie				
Dollars and % Allocation - Information Gathering and Management - Resources Inventories - Biodiversity, Wildlife and Wildlife Habitat Mapping							36.5			
Information Gathering and Management - Monitoring Values for SFM - Water quality/quantity; Terrestrial/Aquatic Biological and Physical Monitoring										
51	31242	Jones, Greg 2961J	FIA Monitoring Partnerships	1) Develop partnership with licensees through Transfer Agreements with universities; 2) Develop biodiversity monitoring standards; 3) Provide input to the "design teams"	10	Greg Jones, Nick Baccante		UBC, SFU		
52	31242	Jones, Greg 2961J	FIA Biodiversity Indicators	1) Develop FIA audit and effectiveness standards for monitoring sfm values for water, fish, wildlife, biodiversity	0	Richard Thomp- son				
56	31226	Jones, Greg 2961J	FIA Stream Crossing	Test and validate the 2002/03 Stream Crossing Monitoring Protocol, including testing of objectives and methods; involve licensees.	0	Richard Thomp- son		SFU, MoF, Canfor		
58	31242	Jones, Greg 2961J	FIA Monitoring Database	Develop strategy and template for consistent reporting of monitoring (compliance and effectiveness) results; design data repository	0	Richard Thomp- son		MSRM, UBC, MoF		

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
60	31242	Jones, Greg 2961J	FIA Wildlife Tree Monitoring	1) Identify/collect/gaps in baseline data for use in stand structure effectiveness evaluations. 2) Further refine monitoring methodologies including developing electronic data collection techniques.	0	Richard Thomp- son		MoF		
45	30543	Kriwoken, Lynn 2941R	WQO Monitoring	1) Evaluate an IBI or "Reference-Condition Approach" calibrated for the Kootenay region (similar to system used in USA); 2) Conclude development of an IBI approach for the Skeena Region; 3) Evaluate an IBI or "Reference-Condition Approach" calibrated for the Okanagan region (similar to system used in USA); 4) Collect and make WQ sampling equipment available to licensees.	10	Narender Nagpal				
51	31242	Soobotin, Al 296PN	FIA Monitoring Partnerships	1) Develop partnership with licensees through Transfer Agreements with universities; 2) Develop biodiversity monitoring standards; 3) Provide input to the "design teams"	10	Al Soobotin, Greg Jones		UBC and SFU		
		Teskey, Judy	Monitoring of VI east coast red listed plant communities	1. Complete phase 1 of multi year project; 2. Develop a red listed forest plant community monitoring protocol for crown lands on Nanaimo lowlands; 3. Pilot test protocol and design sampling plan.	1	Margaret Henig- man/ Mary Jo Hamey				If BCTS takes on FIA work, revisit partnership in 3rd quarter

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
51	31242	Teskey, Judy 296A5	FIA Monitoring Partnerships	1) Develop partnership with licensees through Transfer Agreements with universities; 2) Develop biodiversity monitoring standards; 3) Provide input to the "design teams"	10	Randy Dolighan, Greg Jones		UBC and SFU		
52	31242	Teskey, Judy 296A5	FIA Biodiversity Indicators	Pilot project to evaluate aquatic ecosystem baseline assessment criteria relating to stream condition, habitat availability and quality.	10	Warren Cooper				
51	31242	Younie, Mike 296E7	FIA Monitoring Partnerships	1) Develop partnership with licensees through Transfer Agreements with universities; 2) Develop biodiversity monitoring standards; 3) Provide input to the "design teams"	10	Mike Younie, Greg Jones				
Dollars and % Allocation - Information Gathering and Management - Monitoring Values for SFM - Water quality/quantity; Terrestrial/Aquatic Biological and Physical Monitoring Communications							13.9			
39	31226	Alley, Jamie 2961L	WR Communications	Produce two issues of Streamlines to communicate science, policies and priorities	0	Jamie Alley				Need to get licensees to contribute
		Davis, Rod	FIA SFM Planning Partnerships	One day workshop in certain regions with licensees, to communicate WLAP Service & Business Plan priorities to licensees & identify linkages with SFM priorities.	10	Colene Wood, regions				
Dollars and % Allocation - Communications							0.7			

FIA #	S.L.	RC/Spend- ing Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allo- cation	Part- ners	Lever- aged funds	Comments
Program Management										
1	31226	Davis, Rod 2961G	FIA Program Management	1) Manage and coordinate FIA, develop strategy, refine performance measures, report, assist managers and specialists. 2) Evaluate benefits from FIA funding to MWLAP; finalize performance measures; evaluate licensee results and MWLAP accomplishments; report to Exec. 3) Maintain FIA website; manage documents; communications; accessible reports.	0	Colene Wood		MoF		Auxiliary hire/coop for library;
Dollars and % Allocation - Program Management							6.3			
FRPA Resource Objectives										
41	31243	Down, Ted 2961D	FIA Temp. Sensitive Streams	1) Develop interim policy; 2) Develop stream temp. model for BC; 3) Define threshold temperatures where major shifts in fish communities occur (with Regions 3, 7); 4) Define measurable temperature changes related to clearcuts, recovery under canopy and expected changes to fish bearing waters.	0	Eric Parkin- son (#1- 3); Tom Johnson (#4)				Salary, benefits
43	31243	Down, Ted 2961D	FIA Sig. Fish. Values	1) Develop interim policy; 2) Develop BC fish distribution model as GIS application; 3) Criteria development and testing (with Region 1 and ?).	0	Eric Parkin- son (#2); auxiliary hire (#1)				Some salary, benefits
Dollars and % Allocation - FRPA Resource Objectives							13.6			

FIA #	S.L.	RC/Spending Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allocation	Partners	Leveraged funds	Comments
Training										
20	31224	Feick, Jenny 2961A	FIA SAR Training	Develop and pilot training module (Guide to Recovery Planning in BC).	0	Kari Nelson, Brenda Costanzo		CWS		Seeking licensee sponsors
59	31242	Jones, Greg 2961J	FIA Monitoring Training	Complete development of the Effectiveness Evaluation Training Program; Deliver pilot regional session.	0	Led by Richard Thompson, UBC contract		MoF		
Dollars and % Allocation - Training							0.7			
Activity not yet confirmed										
		Baccante, Nick 296YN		Regional Partnerships	9					Funds to leverage licensee LBIP dollars
		Ritchie, Chris	Data access	To be confirmed by Sept 1/03. Work in partnership with Ministry of Sustainable Forest Management (MSRM) to make information on Ungulate Winter Range (UWR) available through their "Plan-Link" strategic planning website.	7	Bill Arthur				Work with Byron and HQ
		Ritchie, Chris	UWR establishment	To be confirmed by Sept 1/03. Field validate proposed and declared UWRs; report on habitat and site conditions in UWR in Omineca Region. (A benchmark is needed to begin trend monitoring or adaptive management in the system of UWR in the Omineca).	7	Bill Arthur				Work with Stewart

FIA #	S.L.	RC/Spending Authority	Chart of Accounts Project Title	Target Deliverables - Outputs	Scope	Lead Contact	% Allocation	Partners	Leveraged funds	Comments
		Ritchie, Chris		Regional Partnerships - to be confirmed by Aug 31	7					Funds to leverage licensee LBIP dollars
		Soobotin, Al 296PN		Regional Partnerships - to be confirmed by July 31	4					
		Younie, Mike 296E7		Regional Partnerships - to be confirmed by July 31	2	Mike Younie				Funds to leverage licensee LBIP dollars
Dollars and % Allocation - Activity not yet confirmed							1.8			
TOTAL %							100.0			

APPENDIX 2: 2003/04 MWALP FIA SUMMARIZED ALLOCATION

Table Appendix 2: Summary of MWLAP 2003/04 FIA deliverables by general area

General Area	Deliverables
<i>Standards</i>	<ul style="list-style-type: none"> • Species account for Williston Arctic Grayling; • Initiate species account for Dolly Varden; • Species accounts for 2 forest snails and Dromedary Jumping Slug, 2 plant communities, and 5 bat species; • FIA technical audit standards for stand establishment and treatments for non-timber objectives; • FIA technical audit standards for riparian restoration; • FIA technical audit standards for herbicide use, consistent with Integrated Pest Management Act; • Identifying Wildlife Habitat Features; and • FIA technical audit standards and FRPA standards, including effectiveness, for monitoring biodiversity in partnership with licensees through academic institutions.
<i>BMPs</i>	<ul style="list-style-type: none"> • Complete and extend coarse woody debris BMP; • BMP for Wildlife Habitat Features and training materials; • Test Wildlife Habitat Features BMP in Vancouver Island Region 1; and • Test and validate the Stream Crossing Monitoring protocol.
<i>Guidelines/Methods</i>	<ul style="list-style-type: none"> • Survey procedure, rating system and methods for evaluating grasslands affected by forest encroachment; • Review and refine provincial method for selection of WHAs in Omineca Region 7; • Template for consistent reporting of monitoring (compliance and effectiveness); • Fill gaps in baseline database and refine methods for monitoring effectiveness of wildlife tree patches; • Evaluate an IBI or “reference-condition approach” calibrated for the Kootenay Region 4 and the Okanagan Region 8 for water quality; • Conclude IBI approach for Skeena Region 6; • Develop a monitoring protocol for Crown lands to monitor red-listed plant species communities in Nanaimo lowlands, Vancouver Island Region 1; and • Evaluate baseline assessment criteria for aquatic ecosystems in Vancouver Island

General Area	Deliverables
	Region 1.
<i>Strategies/ Recovery Plans (RPs)</i>	<ul style="list-style-type: none"> • Conduct 2 pilot Watershed-based Fish Sustainability Plans with licensees; • Recovery Action Plan for Texada Island stickleback • Recovery Strategy and Action Plan for Scouler's corydalis, Rocky Mnt. Tailed Frog, Dromedary Jumping Slug; • Surveys for Recovery Strategy for Oregonian Forestsnail and Puget Oregonian Forestsnail; • Recovery Strategy for Boreal Caribou; • BC Provincial SAR Strategy; • Support various recovery teams; • Co-chair Scouler's corydalis and Spotted Owl Recovery Teams; • Chair invertebrate Recovery Group; • Recovery Strategy, Recovery Plan for Spotted Owl; • Chair national Recovery Team for the QCI Goshawk, Recovery Strategy, engage licensees; • Recovery Strategy and Recovery Plan for Haida Ermine; • Support Recovery Team for Northern Goshawk; • Recovery Action Plan for Hear Range N. Mnt. Caribou herd; • Support Recovery Team for Selkirk herd Caribou; • Chair and prepare Recovery Strategy and Recovery Plan for Pacific Giant Salamander, Pacific Water Shrew and Tall Bugbane; • Monitor overwintered Spotted Owl, complete trend analysis, monitor sites, and relocate individuals; and • Radar survey estimates for Marbled Murrelet populations.
<i>Policies</i>	<ul style="list-style-type: none"> • Temperature sensitive streams; and • Significant fisheries values.
<i>Resource Objectives</i>	<ul style="list-style-type: none"> • Inventory critical habitat for selected Identified Wildlife species for WHAs in Peace Region 9; • Delineate WHAs for Graham River Caribou; • Partnership to complete Wells Gray South Caribou census Thompson Region 3; • Identify WHA candidates for priority Volume 1 and 2 species and establish top priority WHAs in Thompson Region 3;

General Area	Deliverables
	<ul style="list-style-type: none"> • Finalize UWR maps and objectives for Merritt TSA (Deer, Elk, Moose, Goats, Sheep); • Establish Grizzly Bear WHAs; • Three workshops for UWR management; • Surveys for WHAs for Grouse, Spotted Owls, Western Screech Owl; • Information for WHAs for White-headed Woodpeckers, Flammulated Owl, Coastal Tailed Frog, Mountain Beaver, Lewis Woodpecker, Williamson Sapsucker in Region 8; • Track radio-collared Mule Deer to verify winter range habitat in Okanagan Region 8; • Confirm presence of Myotis bats for WHAs in Skeena Region 6; • UWR in Morice TSA in partnership with the IFPA; • Establish WHAs in Cariboo Region 5; • Prioritized list of WHA eligible species in Omineca Region 7; • Assessment of Bull Trout spawning; • Establish UWR in Kootenay Region 4; • Establish 5 WHAs for red-listed plant species in Vancouver Island Region 1; • Finalize UWR maps, objectives and rationales for Arrowsmith, Strathcona and Kingcome TSAs and 12 TFLs; • Identify and verify boundaries of UWR in Lower Mainland Region 2; • Identify 15 WHAs for Grizzly Bear, Marbled Murrelets, Tall Bugbane and others in Lower Mainland Region 2; • Submit UWR Plans for Mnt. Goat for Soo, Fraser, Sunshine Coast, for Deer in TFL 38, Soo and Fraser TSAs, and for Moose in TFL 38; • Threshold temperatures for fish communities in Thompson and Omineca Regions 3, 7; and • Measurable temperature changes related to clearcuts.
<i>Agreements MOUs</i>	<ul style="list-style-type: none"> • Partnership agreements with 5-6 licensees at SFMP level; • Project partnerships with 10+ licensees; and • Monitoring partnerships through SFU, UNBC and UBC, with 3-4 licensees each.
<i>Tools</i>	<ul style="list-style-type: none"> • Training module and pilot delivered, Guide to Recovery Planning in BC; • Print Field Guide to SAR (coast); • Two issues of Streamlines (watershed restoration); • Evaluation of benefits of FIA funded projects, to direct MWLAP; • FIA website maintained to communicate to licensees and others;

General Area	Deliverables
	<ul style="list-style-type: none"> • Fish distribution model related to significant fisheries values; and • Effectiveness monitoring training module pilot delivered.

APPENDIX 3: FIA 2002/03 MWLAP DETAILED ACCOMPLISHMENTS by FIA ACTIVITY

2002- 2003 MWLAP FIA Detailed Accomplishments -- Summary by FIA Activity, July 31, 2003					
Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
Strategic Resource Planning - Developing MU or Watershed Level Strategies - S&EAR Recovery Planning & WFSPS					
2981014	SAR - Mountain Caribou Recovery	Peace Region - Conducted inventory of Graham Caribou herd, March 16-17.	15,326	Ackerman, Andy - 296Y1	
2981016	SAR - Marbled Murrelet Recovery	1) Conducted radar inventories of Marbled Murrelets to provide preliminary breeding population estimates for selected watersheds in the Squamish and Chilliwack FDs; recommended strategies for future inventory and management based on preliminary surveys. Technical and administrative support to the MAMU Recovery Team; 2) Completed the MAMU Conservation Assessment Parts A&B; rewrote the IWMS account; developed draft guidelines and standards for helicopter overviews of suitable MAMU habitat that has been identified through air photo interpretation.	49,962	Davis, Rod - 2961G	Contractors - 1) Irene Manly; 2) Alan Burger.
2981023	SAR - Forest Encroachment	Wrote the badger & Northern Leopard IW accounts.	4,000	Davis, Rod - 2961G	
2981025	IW Field Cards	Partnership with Interfor and other licensees, to produce Species at Risk field cards for forest workers to identify and make decisions for managing IW and SAR. Completed species accounts.	24,240	Davis, Rod - 2961G	Need to publish in 2003/04

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981018	SAR - Fish Species Recovery	The Recovery Team had not completed their work in time to establish an Action Group. Completed deliverables included: 1) Acquired and analysed air photos of the Vananda watershed relative to changes in vegetation coverage (to be used by Action Group to help establish objectives and WHAs for these populations; 2) Completed IWMS species account for bull trout as an alternate deliverable under this account.	11,025	Down, Ted - 2961D	
2981040	WR - Aquatic Species Recovery	Provincial/regional delivered project (base funding used) - 1) Report identifying the major elements needed to better influence forest company FIA/private expenditures on watershed stewardship projects (emphasis will be on instream fish habitat restoration techniques consistent with the Keogh and San Juan models, and emerging Englishman and Nimpkish PSEF recovery initiatives; economics (i.e., costs and benefits) of these types of investments and implications for eco-certification and market access should be highlighted); 2) Presentations given at five industry meetings where the GGBSR Action Plan was distributed, and a similar, but scaled-down, presentation emphasizing habitat restoration as the primary GGBSR strategy was given at four public meetings (these provided a message that Greater Georgia Basin steelhead stocks need active forest industry support for restoration efforts to be successful); 3) Report on action points and observations from scheduled meetings with forest companies.	22,543	Down, Ted - 2961D	VI Region \$10K Craig Whiteman direct contract/partner with licensees; LM Region \$10K; Pacific Steelhead Foundation \$28K for GB Steelhead recovery.

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981020	SAR - Recovery Planning	Okanagan Region - 1) Completed draft recovery plan for Pallid Bat; 2) Completed draft RP and inventory strategy for Gopher Snake; 3) Set up RT, draft RP and inventory strategy for Western Screech-owl; 4) Completed RP for Lyall's Mariposa Lily; 5) Completed assessment of spatial data needs for White-headed Woodpecker (RAG); 6) worked on WHA backlog implementation and planning.	28,935	Tom Ethier - 296LF	
2981011	SAR - Grizzly Bear Recovery	Development of management strategies for transborder populations. Revised GRBE account for IW. Analysed and located 100 ha of WHAs (10-20 WHAs) in N. Cascades, to be completed end May 2003.	29,303	Feick, Jenny - 2961A	Intend to do field visits in 2003/04.
2981013	SAR - Species at Risk Management	Established RTs for Haida Ermine, Rocky Mtn. Tailed Frog, Scouler's corydalis, Spotted Owl. Continues support for previously established Boreal, Mountain and Northern Caribou TACs. Produced draft strategies for new RTs. Input information on Scouler's corydalis and SPOW to IWMS spp accounts. Developed FIA standards for planning.	137,877	Feick, Jenny - 2961A	Need to continue 03/04, and develop further partnerships.
2981014	SAR - Mountain Caribou Recovery	Southern Mnt and Central Mnt Caribou RAG - formed committees; RAG meetings held; progress to developing plans; Hart and Cariboo Mnts. RAG - committee formed; RAG meetings held; summary document of the state of knowledge completed and summary maps prepared.	54,674	Feick, Jenny - 2961A	Partner with Arrow IFPA \$25K; Mountain Caribou TAC Oct 15 \$5K; Northern Mt RAG Nov 20, 21 Dale Seip JV \$20K; see also #13.
2981020	SAR - Recovery Planning	Developed BC SAR Strategy; FIA policy and methods for licensee participation in recovery planning	15,567	Feick, Jenny - 2961A	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981021	SAR - Recovery Planning Expenses	Developed BC SAR Strategy; FIA policy and methods for licensee participation in recovery planning	6,282	Feick, Jenny - 2961A	Expenses for #20.
2981022	SAR - Recovery Planning Secretariat	Provided Secretariat services for recovery teams; Developed FIA policy and methods for licensee-led recovery planning, "BC Guide to Recovery Planning".	51,185	Feick, Jenny - 2961A	Brenda Costanzo's salary/benefits and expenses for recovery teams
2981017	SAR - Goshawk Standards	Skeena Region - Developed report on Part A - Biological, Population and Habitat Needs in Haida Gwaii for QCI Goshawk, and Part B - Conservation and Management Objectives and Risks. The scope is Landscape Unit and lower. (Further work in 03/04 to review Part B and develop Part C - Developing Best Management Practices and Conservation Options).	19,100	Larden, Troy - 296UN	
2981014	SAR - Mountain Caribou Recovery	Kootenay Region - Southern Kootenay Recovery Action Group - identified stakeholders; reviewed existing South Purcell Caribou Recovery Plan; held 4 meetings for RAG; reviewed draft Recovery Action Plan. North Kootenay Recovery Action Group - identified stakeholders; held RAG meeting; prepared for second and third meeting of RAG.	20,753	Stetski, Wayne -296PF	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981015	SAR - Spotted Owl Recovery	<p>Lower Mainland Region - A. Spotted Owl Population Assessment - 1) Monitor presence/absence of Spotted Owls (minimum 25 surveys) at study areas; 2) Quality assured digital database in Arc Info of owl detections; 3) Population Trend (1992 - 2002) draft report used in COSEWIC Status report and in SPOW Recovery Strategy. B) Influence/impacts of Barred Owls on Spotted Owl Populations in BC - 1) Scientific report (draft) comparing trends in populations of Barred Owls and Spotted Owls to assess whether Barred Owls are leading cause of Spotted Owl population decline and failure of the Spotted Owl Management Plan. C) Influence/impacts of Habitat Loss and Fragmentation on the Spotted Owl Populations in BC - 1) GIS based spatial habitat model to assess habitat quantity and fragmentation within a 32 km² area (could not assess patch size); 2) Analysis of the influence of habitat quality, patch size and fragmentation, as it relates to SRMZs and species range, as the leading cause for the observed Spotted Owl population decline and failure of the Spotted Owl Management Plan (report forthcoming). 3) Draft model and report on past, present and future availability of suitable habitat for the Northern SPOW in BC.</p>	70,000	Van Hove, John - 296DK	Jointly funded project: total \$115,000. A) Spotted Owl Population Assessment - \$30K; B) Influence/impacts of Barred Owls on Spotted Owl Populations in BC - \$20K; C) Influence/impacts of Habitat Loss and Fragmentation on the Spotted Owl Populations in BC - \$20K

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981020	SAR - Recovery Planning	Lower Mainland Region - Assisted project #13 in establishing recovery teams for Pacific Giant Salamander, Pacific Water Shrew and Tall Bugbane; facilitated 2 or more meetings for each Recovery Team; completed draft Recovery Strategies for all 3 spp; completed IWMS species accounts where needed; and assisted with other IWMS related tasks where needed - Georgia depression.	31,741	Van Hove, John - 296DK	
Subtotal - Strategic Resource Planning - Developing MU or Watershed Level Strategies - S&EAR Recovery Planning & WFSPS			592,513		
Stand Establishment and Treatments					
2981047	Herbicide Use Standards	Created draft provincial and regional standards for use of forest herbicides to provide protection of biodiversity, habitat and water that will be applied to guide development of PMPs.	29,626	Davis, Rod - 2961G	Needs further review before posting; needs alignment with revisions to Integrated Pest Management Act.
2981062	PCA Statutory Responsibility	Provided Statutory services for herbicide use for FIA funded activities; 1) Prince George Office - developed regional pesticide use standards, and participated in developing provincial standards; provide inventory and habitat information to clients; 2) Penticton Office - inspected and reviewed all PMPs Region and worked with clients to switch to PMPs from Permits; 3) Surrey Office - Conducted evaluation of selected basal bark Release applications to assess target application doses and application requirements.	76,430	McGuire, Jennifer - 294VR	Need to continue Statutory services. Work with forest industry to test Release application rates, and develop audit protocols.
Subtotal - Stand Establishment and Treatments			106,056		

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
Restoration and Rehabilitation - Aquatic, Riparian & Terrestrial					
2981035	WR - Priorities	This project was cancelled and funding reallocated among other FIA priorities. \$1,460 was spent determining the feasibility of the project, meeting with proponents and scoping out a terms of reference. Unfortunately a lack of staff time/capacity prevented the project from proceeding.	1,460	Alley, Jamie - 2961L	Project is viable, has value to MWLAP and to forest companies and will advance aquatic restoration and rehabilitation. However, additional staff resources would be required to deliver if it is done in 03/04.
2981036	WR - In-stream Standards	Contact Andrew Wilson or Colene Wood for copies of the deliverables. Alternatively, the standards have already been posted on the FIA web page (http://wlapwww.gov.bc.ca/wld/fia/instream.html).	46,396	Alley, Jamie - 2961L	
2981039	WR - Communications	Two editions of the new Streamline were developed and delivered in electronic and hardcopy format. Past issues were migrated to the FORREX web site and an on-line search tool developed to query past issues. Please see the FORREX web site to view deliverables (http://www.forrex.org/streamline/).	35,000	Alley, Jamie - 2961L	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981037	WR - In-stream Adaptive Management	Completed science-based research into effectiveness of habitat rehabilitation standards - report on compared smolt yield and juvenile abundance in treated and control reaches from the treated Keogh River and in comparison to the untreated and neighbouring Waukwaas River. Produced two peer-reviewed symposium proceedings followed last summer (Oregon and Scotland).	46,694	Down, Ted - 2961D	
2981038	WR - Nutrient Enrichment	Developed standards for lake and stream fertilization - 1) A scientific paper was written and published outlining the "protocol" for lake and stream enrichment; 2) Five public presentations were given on the stream enrichment portion of the Georgia Basin Steelhead Recovery Plan, in effect "consultation" on developing guidelines for stream enrichment; 3) Several prototypes of slow release fertilizer were reviewed on paper to determine their suitability for stream enrichment.	20,776	Down, Ted - 2961D	In conjunction with #40 below.
2981019	SAR - Fire Management	Support regional efforts for fire management - exchange of ideas and field visits.	919	Feick, Jenny - 2961A	Working with Kootenay Region, see same project under "Soobotin" RC.
2981019	SAR - Fire Management	Kootenay Region - Developed standards for a fire effectiveness rating/evaluation system, to help determine how effective completed burns are for vegetation response and forage values, wildlife habitat and value, and other criteria. Results presented at conference in June 2003.	9,000	Soobotin, Al - 296PN	Also see Feick #19.
Subtotal - Restoration and Rehabilitation - Aquatic, Riparian & Terrestrial			160,245		

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
Information Gathering and Management - Resource Inventories - Wildlife and Wildlife Habitat Mapping - UWR, WHA, WHFs					
2981027	UWR - Establishment	Peace Region - We flew extensively in the Dawson Creek Forest District and the southern portion of the Fort St. John Forest District and identified/confirmed approximately 65 sites that have potential for the establishment of Ungulate Winter Ranges. There are at least 26 Mule Deer sites, 22 Mountain Goat sites, 11 elk/bison sites, 5 Stones Sheep sites and 3 Bighorn Sheep sites.	26,654	Ackerman, Andy - 296Y1	All of these sites, plus numerous elk sites identified by Louisiana Pacific will go on to the next level of review and refinement in 03/04.
2981027	UWR - Establishment	Lower Mainland Region - 1) Completed GWR mapping and plans for Sunshine Coast, Chilliwack and Squamish Forest Districts. Fraser GWR plan submitted to Deputy Minister. Squamish Plan to be submitted shortly, Sun Coast to be submitted later on depending on how Squamish and Fraser plans are received. GWR in TFL 38 agreed to by licensee & WLAP, plan just needs writing up. TFL 39 Block 1 was submitted to Deputy; 2) Completed DWR mapping for Fraser TSA and will be put forward depending on upcoming decisions made by JMC. Soo TSA deer plan was discussed with licensees and will be finalized this year. Mapping is complete and just needs to be written up. TFL 38 DWR has been agreed to in principle and plan just needs to be written up. Sun Coast DWR was not initiated due to lack of capacity by industry partners. (Plan is to try and contract this work out 03/04). Lack of industry capacity was recognized late in the year and therefore two-thirds of the funds were used to carry out a project that quantified DWR attributes in	29,555	Carlson, Glen -296DN	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
		known DWR within specific biogeoclimatic zones in the Fraser TSA. These attributes will assist development of management objectives for future DWR plans and are necessary to allow for harvesting opportunities within DWR.			
2981007	FIA Data Management	Related to UWR and SAR - managed data, conducted database needs analyses, linked with SRM. GIS support enabled the Biodiversity Branch to complete digital maps of Wildlife Habitat Areas for signature by the Deputy Minister, GIS mapping enabled map products for inventory of new WHAs and produced map coverage of Ungulate winter maps for signoff by the SDMs WHA.	129,083	Davis, Rod - 2961G	
2981008	FIA Data Expenses	Related to UWR and SAR - managed data, conducted database needs analyses, linked with SRM	11,759	Davis, Rod - 2961G	
2981026	UWR - Template	Created UWR template & approval policy as standards; provincial procedures. Assisted in developing UWR desired conditions for the writing of objectives set by government.	10,125	Davis, Rod - 2961G	Contractor - Steve Wilson (direct)
2981031	WHA - Establishment	Completed field evaluation of a SPOW habitat suitability algorithm at selected sites in the Lillooet FD; conducted surveys to locate active territories and WHAs for the Western Screech Owl.	28,138	Davis, Rod - 2961G	Janice Anderson \$5.5K; Tania Tripp \$5K; UNBC \$5K
2981032	WHA - Marbled Murrelet	1) Completed heli recce in 4 LUs for MAMU in the Sunshine Coast Forest District - to establish WHAs; 2) MAMU - VI Region, developed standards for photo interp for MAMU work; interpreted selected landscape units to rank and identify potential habitat; 3) MAMU - identified suitable habitat within Jervis Landscape Unit through air photo interp, field checks and local knowledge.	114,037	Davis, Rod - 2961G	Contractors - 1) Goldwing Helicopters; 2) Sterling Wood Group (direct); 3) Coast Spatial (direct)

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981033	WHF - Policy	Developed draft policy and methods and list of designated WHFs.	56,745	Davis, Rod - 2961G	Need external review before posting.
2981034	WHF - Expenses	Supported above project.	3,959	Davis, Rod - 2961G	As above #33.
2981027	UWR - Establishment	Okanagan Region - 1) Completed Ungulate Winter Range Mapping and Rationale for Moose, Elk, Sheep (Boundary FD), and Mountain Goat. GIS product and written methodology; 2) Completed field verification of moose winter range units in Boundary FD; 3) Developed workplan for partnership with Pope and Talbot to assess identification and suitability of strategies and objectives for mule deer winter range; negotiated partnership with P&T to monitor Mule Deer winter habitat requirements using radio-collared deer.	32,838	Tom Ethier - 296LF	Workplan with P&T being developed for 03/04.
2981031	WHA - Establishment	Okanagan Region - Develop strategic plan for WHA delivery for next 3 years.	10,731	Tom Ethier - 296LF	
2981027	UWR - Establishment	Vancouver Island Region - complete all UWR mapping. Confirm UWR objectives & polygons. Ensure UWR covered in SFMPs. Complete TSR committed UWR and obj's for LRMP UWR. One MU has confirmation completed. Will deliver 6 management units to SDM by May 31, 2003. (Targets not met primarily because FN consultation took longer than anticipated.)	30,000	Janz, Doug - 296A3	Eight MUs to be completed by end June 2003. Some additional work required.

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981031	WHA - Establishment	Vancouver Island Region - contractor support for IWMS establishment of 60-75 WHAs. \$50K for partnership with Canfor for NoGo and MaMu WHAs - 10 at stage 4. \$40K for contracts - 10 at stage 4, and 40-50 in progress, including 8 for Tailed Frog. 69 WHAs worked on - 19 established, 40 in step 3, 10 in step 2. CFP NoGo WHAs approved.	102,120	Janz, Doug - 296A3	
2981027	UWR - Establishment	Thompson Region - 1) Completed deer winter range assessment unit coverage; deer winter range shelter coverage; draft moose, elk, sheep and goat coverages; and PEM wildlife interpretation update for Merritt TSA; 2) Completed caribou telemetry location information for Kamloops TSA; 3) Completed goat winter range flights; goat winter range coverage; draft deer winter range model; and ungulate winter range rationale report for Thompson Region.	30,000	Jones, David - 296GN	
2981031	WHA - Establishment	Thompson Region - Completed a sharp-tailed grouse inventory flight and a tailed frog WHA.	11,250	Jones, David - 296GN	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981027	UWR - Establishment	Skeena Region - 1) Designation of type 3 UWR for the Dease-Liard Caribou Herd - base mapping completed, based on model with verification based on telemetry data. Negotiations with MSRM ongoing through Dease-Liard SRMP. Management objectives developed and submitted to MSRM. 2) Complete Biological level mapping for the Morice Goats (winter habitat mapping completed and report received; additional field truthing required), Bell II goats (winter inventory flight to verify model; preparing formal UWR submission), Taku Goats (base mapping completed, model verification with telemetry data completed; results being used to guide BMP development for CBR and submitted to LWBC for inclusion of avoidance criteria in heli-ski tenure management plans), and the Atlin caribou herd (model applied, shape files generated; management options not completed).	44,999	Larden, Troy - 296UN	
2981032	WHA - Marbled Murrelet	Skeena Region - Developed a new partnership agreement with Council of the Haida Nation; assessed the remaining 14% (about \$4,000 ha) of the first-growth Skidegate Plateau ecosection, for habitat suitability for red-listed species, important goshawk prey species, and rare plant communities. Report completed titled, "Landscape scale mapping and stewardship planning of habitat critical to the presence of COSEWIC and Provincially listed species, where habitats are most at risk" (Doyle and Forest Guardians 2003), and related Marbled Murrelet surveys and species at risk habitat assessments have been documented.	24,000	Larden, Troy - 296UN	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981027	UWR - Establishment	<p>Omineca Region - 1) Completed report outlining land management objectives to conserve winter range areas for 5 species of ungulates (elk, mule deer, moose, mountain goats, mountain sheep) resident to the Omineca Region - used report to produce UWR packages. 2) Completed report and accompanying map(s) (digital versions of the maps to be produced by MSRM) outlining approximately 500ha of candidate UWR for mule deer in the Robson Valley, and is the basis for the MD UWR proposal for the RV going through final FN consultations prior to submission. Partnership with MSRM was fairly successful. 3) Completed an Arcview shape file (or ArcInfo coverage .E00 format) of the proposed Ungulate Winter Range areas for the Northern Caribou in the Mackenzie FD for the following herds; Wolverine, Chase, Akie/Finlay and Scott including the Manson Peninsula (Target Herds). Completed a report that describes in detail the assessment methodology and that provides detailed information on each target herd, including a biological justification, and it is being used in Mackenzie (the original target area) and Ft. St. James and Vanderhoor to support UWR proposals for N. Caribou.</p>	24,712	Ritchie, Chris - 296WN	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981027	UWR - Establishment	Kootenay Region - Developed penultimate maps and draft objectives for both east and west Kootenays. (We need to coordinate with adjoining regions and possibly modify objectives as a result). The map for west is completed, subject to lining up boundaries with east. We finished initial timber impact assessment for west and will have to rerun it due to some changes we made as a result of the initial assessment. The east still needs an initial timber assessment.	27,394	Soobotin, AI - 296PN	
2981024	Lignum pilot - Wildlife Management	Cariboo Region - Partner with Lignum; use contractors to 1) complete preliminary badger burrow surveys; 2) coordinate long billed curlew survey design, set up survey routes and coordinate volunteers, complete spreadsheet with contacts and routes, complete consultation with private landowners; 3) conduct great blue heron nest site survey, map (GPS) known sites and complete summary report, identifying candidate WHAs; 5) develop a regional operational procedure for forest licensees to use when they discover Northern Goshawk (atricapillus) nest sites in proposed forest harvest areas.	30,379	John Youds - 296RN	
2981027	UWR - Establishment	Cariboo Region - Complete TSR committed UWR on mid-coast; develop detailed UWR management plans for deer winter ranges in the Bella Coola valley; complete mapping and objectives for moose, goat and sheep UWR's in the interior for inclusion in SRMP's (partially done - draft maps completed).	14,537	John Youds - 296RN	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981031	WHA - Establishment	Cariboo Region - Completion of up to one week of survey work for MAMU in the mid-coast district (aerial flights) and completion of project report; completion of grizzly bear WHA mapping on the mid-coast.	30,000	John Youds - 296RN	
Subtotal - Information Gathering and Management - Resource Inventories - Wildlife and Wildlife Habitat Mapping - UWR, WHA, WHFs			823,015		
Information Gathering and Management - Monitoring Values for SFM - Terrestrial and Aquatic					
2981041	TSS - Temperature Sensitive Streams Policy	1) FPC Definitions and Methods Workshop held that brought together two groups: a) knowledgeable experts in the fields of fish data bases, forestry impacts on aquatic systems and fisheries, and quantitative methods; and b) experienced WLAP regional staff from representative regions who work with the forest industry; 2) Developed a draft set of criteria to be applied to designate "temperature sensitive streams", including consideration of the spatial scales of interest, the relative sensitivity of different watersheds and streams to forestry impacts, and the relative importance of different fish communities; 3) Candidate methods for applying these criteria were designed, including the application of existing databases (e.g. Watershed Atlas); 4) Work plan designed for developing, evaluating and implementing these methods.	11,796	Down, Ted - 2961D	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981042	SDF - Significant Downstream Fisheries Values	1) FPC Definitions and Methods Workshop held that brought together two groups: a) knowledgeable experts in the fields of fish data bases, forestry impacts on aquatic systems and fisheries, and quantitative methods; and b) experienced WLAP regional staff from representative regions who work with the forest industry; 2) Developed a draft set of criteria to be applied to designate "significant fisheries watersheds", including consideration of the spatial scales of interest, the relative sensitivity of different watersheds and streams to forestry impacts, and the relative importance of different fish communities; 3) Candidate methods for applying these criteria were designed, including the application of existing databases (e.g. Watershed Atlas); 4) Work plan designed for developing, evaluating and implementing these methods.	11,756	Down, Ted - 2961D	
2981043	SDF - Significant Downstream Fisheries Establishment	Progress in developing a fish distribution modelling tool. The objective is to map presence/absence of all species in each of the 1:50000 macroreaches and 3rd order polygons. For macroreaches and polygons where the species has not been observed, an estimate of the probability that a species is present at densities above a threshold. This work will be completed in partnership with MSRM.	37,842	Down, Ted - 2961D	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981044	SDF - Standards	This project is co-funded by WLAP and MSRM. 1) Produced peer reviewed flow standards that will be appropriate for most BC streams. The standards reflect stream (watershed) size, species (and life-history stage) presence and channel morphology. Standards will be finalized through a series of expert workshops and literature review and will include science-based rationale; 2) Produced a draft "Instream flow Methodologies Manual". This is a guidelines document setting out the appropriate methodologies for assessing stream hydrology and fish-flow related issues.	29,593	Down, Ted - 2961D	JV from SRM for their competitive bid contract (we cover 50% with half from FIA and half from base).
2981051	Biodiversity Monitoring	1) Partnered with Centre for Applied Conservation Research at UBC (CACR), Tembec, Slocan Forest Products, World Wildlife Fund (WWF), Forest Stewardship Council (FSC), MSRM, MoF, and National Parks; 2) Developed potential priorities for conservation and monitoring of biodiversity (CACR will ensure that scientifically-credible statements are available by March 31, 2003, providing specific information regarding terrestrial, riparian and wetland ecosystem types relevant to the Study Area in the East Kootenay region). Draft report needs to go through technical review.	35,000	Jones, Greg - 2961J	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981052	Biodiversity Indicators	1) Developed partnership with UBC, Weyco, Canfor; 2) Developed detailed conservation objectives, action plan, and funding needs for field level projects to address monitoring priorities and associated research needs for the next 5 years, including identification of the plan for publishing of results in science literature; 3) Developed common indicators based on methods developed by CACR projects in other regions of the province; 4) developed method for extending habitat mapping and monitoring in Parks and Protected Areas, consistent with the objective of determining methods for monitoring and reporting on the status of biodiversity in complete ecosystems defined by natural watershed boundaries; 5) trained 2 WLAP staff in effectiveness monitoring of habitat structure. Draft reports need technical review.	50,000	Jones, Greg - 2961J	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981053	Monitoring Protocols	1) Prepared a partnership agreement with International Forest Products to participate within a coastal operating area in delivery of this MOU; 2) Completed a Problem Analysis related to coastal forest ecosystems similar to the Interfor area that examines the state of existing knowledge regarding monitoring and biodiversity, identifies priorities for monitoring of biodiversity, prioritizes gaps in knowledge which need research to further the science and practice of monitoring of biodiversity, and designs methods to monitor and report on complete ecosystems determined by natural boundaries rather than administrative or tenure lines; 3) Drafted an outline for a field project covering a priority aspect of monitoring in the Interfor area; 4) Completed a 3 to 5 year statement of detailed objectives, action plan, and funding needs for field level projects to address monitoring priorities and associated research needs (including a plan for publishing of results in science literature); 5) Initiated a science committee to provide current scientific knowledge to the project. Draft report needs review.	10,000	Jones, Greg - 2961J	
2981056	Monitoring Protocols - Stream Crossings	Completed a protocol for stream crossings for significant fisheries watersheds. (To be tested in 03/04).	15,000	Jones, Greg - 2961J	
2981059	Effectiveness Monitoring - Training	Developed a two day, modular, competency-based course that will provide an introduction to the theory and practice of effectiveness evaluations (EE) and describe the main stages of an effectiveness evaluation project. Pilot session held. (Implementation/delivery in 03/04).	20,000	Jones, Greg - 2961J	

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981060	Monitoring Wildlife Tree Evaluation	Wildlife tree monitoring -- Completed overview of various stand level retention strategies/methods & gap analysis (part of existing contract with MoF)	37,239	Jones, Greg - 2961J	
2981045	WQO - Water Quality Objectives Strategy	Developed strategy for cumulative hydrologic impacts that considers future of WAP, including pilot project analysis of existing assessments.	34,565	Kriwoken, Lynn - 2941R	
2981046	WQO - Expenses	Developed a prioritized list for development of WQOs (Kootenay); WQO identification (Kootenay, Southern Interior, Lower Mainland).	69,579	Kriwoken, Lynn - 2941R	
2981057	Monitoring SFM	Omenica Region - 1) Reviewed the parks biodiversity values and develop a monitoring program that will measure change in the status of resources/biodiversity values over time through repeated measurements and assessments of selected monitoring indicators; 2) developed a set of recommendations that provide for the long term implementation and sustainability of the monitoring plan; 3) reviewed and modified the draft design procedures for monitoring projects; 4) evaluated the effectiveness of the Protected Area Conservation Risk Assessment (CRA) procedure.	10,000	Ritchie, Chris - 296WN	Plus \$1K from base.

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981055	WQO - Monitoring	Skeena Region - Completed 1) standards for bio-monitoring (Index of Biological Integrity) for water quality; 2) a biomonitoring and objectives setting guidelines document to be used as a RIC Standard for the province; 3) included a metadata analysis, including over 100 sites in at least 5 Forest Districts in Skeena Region, as well as sites from 2 or 3 other WLAP Regions. Report being peer reviewed and will be submitted to George Butcher, MSRM in June 2003.	29,639	Sharpe - 294RC	Contractor - Biologic Consulting (Shauna Bennett).
2981054	Biodiversity Monitoring In Protected Areas	Vancouver Island Region - Developed and assessed methods of evaluating proportion of forest in the parks and protected areas for 3 BEC variants on VI; developed a rationale and design for selecting benchmarks for monitoring habitat structure; trained 20 MWLAP staff in design and implementation of habitat structure monitoring.	50,900	Teskey, Judy - 296A5	Plus \$5K from base.
Subtotal - Information Gathering and Management - Monitoring Values for SFM - Terrestrial and Aquatic			452,909		
Program Management					
2981002	FIA Management	Ongoing effective FIA management and coordination; developed and implemented strategy; designed program performance measures; liaised with MoF, MSRM, PwC, and licensees; tracked accomplishments related to Business Plan; reported to BB managers, EPD, ADM and DM; covered overtime for CSD staff to process contracts, invoices and JVs.	92,638	Davis, Rod - 2961G	Need to continue in 03/04.

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
2981003	FIA Management Expenses	Expenses associated with above #2; no need to cover expenses for Research Program Technical Advisory Committee (Art Tautz)	8,871	Davis, Rod - 2961G	Need to continue in 03/04. Cover related expenses for staff who do not have specific projects.
2981004	FIA Audit	Developed program evaluation related to contributions from the licensee activities and the MWLAP activities that meet government's objectives. (Evaluation to be conducted once all submissions/reporting for 02/03 completed).	23,760	Davis, Rod - 2961G	Will need funds to conduct evaluation in 03/04.
2981005	FIA Communications	Completed edits and review of Version 2 IW to make it web-ready.	7,000	Davis, Rod - 2961G	In conjunction with #6 below.
2981006	FIA Website	1) Managed and coordinated MWLAP contribution to the MoF FIA website; 2) Prepared documents for website publishing, eg, .pdf work, formatting, etc., number of documents TBD on an ongoing basis (documents are primarily standards, best management practices, guidelines and documents to support planning). Under spent owing to lateness of some documents, that were done in May under 03/04 funding.	24,872	Davis, Rod - 2961G	Will need funds to conduct evaluation in 03/04.
2981009	FIA Habitat Modeling	1) Summarize habitat models listed in the Habitat Modeling Strategy and post on a website; 2) analysis of stand level information to improve the UBC Atlas Simfor modeling assumptions by tying these to better stand level data. Full implementation of habitat modeling strategy postponed to 03/04, to be led outside ministries by 04/05.	39,272	Davis, Rod - 2961G	
Subtotal - Program Management			196,413		

Project Number	Title	Accomplishments	Final Spent \$	Responsibility Centre	Comments
Miscellaneous					
2981012	SAR - Haida Gwaii LRMP	Skeena Region - SAR and Haida Gwaii LRMP implementation: 1) Provided a collated summary of the existing information on seabird nesting islands and the species which nest on them in Haida Gwaii/Queen Charlotte Islands to Land Use Planning Table as proposed background report for eventual public release (currently awaiting Process Team agreement for same); 2) Completed an island-wide 2-year radar survey plan with land and water-based (boat) survey stations mapped, a review of current radar projects and co-ordination with other on-island radar proposals, currently being used to leverage licensee FIA funding.	21,328	Larden, Troy - 296UN	
2981028	CWD - Coarse Woody Debris	Completed BMPs on amount, quality and distribution by ecosystem; monitoring standards; considerations on how to balance retention with other objectives and values	5,983	Davis, Rod - 2961G	JV from MoF who are handling the contract
2981061	SFM Planning	Developed options for partnerships; developed FIA audit standards for Riparian Restoration planning, treatments & effectiveness evaluations; developed FIA audit standards for Terrestrial Restoration planning, treatments & effectiveness evaluations; developed FIA audit standards and guidelines for Using Native Seed; reviewed all 2001-02 TERP projects to ready them for posting.	71,297	Davis, Rod - 2961G	
Subtotal - Miscellaneous			98,608		
Total			2,429,759		

APPENDIX 4: FIA 2002/03 MWLAP SUMMARIZED ACCOMPLISHMENTS

Table Appendix 4: Summary of FIA accomplishments for MWLAP FIA 2002/03 projects by general area

General Area	Accomplishments
<i>Standards</i>	<ul style="list-style-type: none"> • FIA audit standards for in-stream restoration, fish passage restoration, terrestrial restoration activities, using native species seed for restoration, watershed restoration planning, recovery planning, UWR/WHA establishment; • Habitat for QCI Goshawk in Skeena (in progress); • Conserving fish flows (in progress); • Conserving channel integrity (in progress); • Grizzly bear conservation and management (some aspects completed); • Helicopter overviews of MAMU habitat (draft); • Species accounts for badger, Northern Leopard frog, bull trout, Spotted owl, Scouler's corydalis, Pacific Giant Salamander, Pacific Water Shrew, Tall Bugbane; • Effectiveness of fish habitat rehabilitation standards; • Lake and stream fertilization; • UWR template; • Index of biological integrity (in progress) for measuring water quality; • Draft preliminary forest herbicide use under the IPMA; and • Regional standards for herbicide use.
<i>BMPs</i>	<ul style="list-style-type: none"> • Using fire for managing biodiversity; • Protocol for stream crossing (amount, quality, distribution by ecosystem); • Coarse woody debris (to be tested 2003/04); and • Field card version of identification of coastal SAR (to be printed 2003/04).
<i>Guidelines/Methods</i>	<ul style="list-style-type: none"> • Template for SFMPs (completed by MoF); • Protocols for baseline monitoring for biodiversity in the THLB and in PAs (completed methods for 3 BEC variants on Vancouver Island); • Effectiveness of the Protected Area Conservation Risk Assessment;

General Area	Accomplishments
	<ul style="list-style-type: none"> •Methods to monitor biodiversity; •Method to monitor wildlife trees; • Managing QCI Goshawk in Skeena (biological, population and habitat needs); • Criteria and models for defining and locating temperature sensitive streams; • Criteria and models for defining and significant sensitive watersheds; • Instream flow methodologies manual (draft); • Major considerations to influence licensee expenditures on watershed stewardship projects • Methods for effectiveness monitoring of in-stream restoration, and other restoration activities; • Guidelines for helicopter overviews of MAMU habitat (draft); • Common biodiversity indicators for monitoring; • Method for extending habitat mapping and monitoring in Parks and Protected Areas;
<i>Strategies/ Recovery Plans (RPs)</i>	<ul style="list-style-type: none"> • Priorities for conservation and monitoring of biodiversity; • Monitoring program for Parks and Protected Areas; • Inventory for Graham Caribou herd RP; • MAMU Conservation Assessments; • Radar inventory of MAMU for selected watersheds in Squamish and Chilliwack FDs; • RP for Pallid bat; • RP and inventory strategy for Gopher snake (draft); • RP and inventory for Western Screech-owl (draft); • RP for Lyall's Mariposa lily; • RP for Haida Ermine, Rocky Mnt. Tailed frog, Scouler's corydalis, Spotted Owl, Pacific Giant Salamander, Pacific Water Shrew, Tall Bugbane; • Recovery Action Groups for Southern Mnt., Central Mnt., Hart, South Purcell and Cariboo Caribou herds; • Habitat suitability for red-listed species, important Goshawk prey species and rare plant communities on QCI;

General Area	Accomplishments
	<ul style="list-style-type: none"> • BC Species at Risk Strategy (draft); • Managing Georgia basin steelhead; • Managing Texada Island Stickleback (Recovery Action Group); • Spotted Owl conservation assessment; • Influence of Barred Owls on Spotted Owls; • Influence of forest fragmentation on Spotted Owls; • Strategy for cumulative hydrological impacts; • Prioritized list for development of water quality objectives identification (Kootenay, Southern Interior, Lower Mainland Regions); • Recommended approach to developing FIA licensee partnerships;
<i>Policies</i>	<ul style="list-style-type: none"> • WHA establishment for licensees; • Wildlife Habitat Features; • Licensee participation in recovery planning; and • UWR approvals process.
<i>Resource Objectives</i>	<ul style="list-style-type: none"> • Winter Range for Mule Deer, Moose, Mountain Goats, Mountain Sheep in Omenica Region; • UWR for east and west Kootenays; • 65 sites for UWR in the Peace Region (Mule Deer, Mountain Goats, Elk/Bison, Stones Sheep, Bighorn Sheep); • Goat Winter Range mapping for Sunshine Coast, Chilliwack, Squamish FDs; • Deer Winter Range mapping for Fraser TSA, Soo TSA; • TSR committed UWR in Mid-coast TSA; • UWR management plans for Deer Winter Ranges in Bella Coola valley; • Moose, Goat and Sheep UWRs in the Cariboo Region interior; • UWR mapping for Moose, Elk, Sheep and Mountain Goat for Okanagan Region; • UWR mapping for Vancouver Island Region; • Deer Winter Range assessment unit coverage; Deer Winter Range shelter coverage; draft Moose, Elk, Sheep and Goat coverage for Merritt TSA;

General Area	Accomplishments
	<ul style="list-style-type: none"> • Type 3 UWR for Dease-Liard Caribou herd, mapping for the Morice Goats Winter Range; • Field examination of Spotted Owl habitat suitability algorithm for Lillooet FD; • Sharp-tailed Grouse inventory and Tailed Frog WHAs in Thompson Region; • Badger burrow surveys, Great Blue Heron nest sites survey for WHAs; • Strategic Plan for WHA delivery for 2003/04 in Okanagan Region; • Heli recce for Marbled Murrelett WHAs in 4 LUs in Sunshine Coast TSA, Jervis Inlet; • 100 ha of Grizzly Bear WHAs located in N. Cascades; • 60-75 WHAs for Vancouver Island Region; • Grizzly Bear WHA mapping in Mid-Coast TSA; and • Seabird nesting sites (for input to LUP table).
<i>Agreements MOUs</i>	<ul style="list-style-type: none"> • Partnership agreements with 5-6 licensees at SFMP level; • Project partnerships with 10+ licensees; and • Monitoring partnerships through SFU and UBC, with 3-4 licensees.
<i>Tools</i>	<ul style="list-style-type: none"> • Biodiversity Branch website and linked information flow; • Fish distribution probability modeling tool (in progress); • Biodiversity effectiveness monitoring training module; • Produced 2 editions of Streamlines; and • Updated list of habitat modeling tools.