

2005/2006 YEAR IN REVIEW

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INTRODUCTION

In its third year, British Columbia's Forest and Range Evaluation Program (FREP) continued to ramp up monitoring and evaluation activities. The provincial Treasury Board approved long-term funding for the program of \$12 million and 20 FTEs (staff) over the next three years (2006/07–2008/09). After 2008/09, funding for FREP will become part of the Ministry of Forests and Range's base budget.

A major focus for 2005/06 was district-led implementation of resource stewardship monitoring for two resource values – riparian-fish and stand-level biodiversity, and piloting the monitoring checklists of two other resource values – soils and water quality. In addition, intensive evaluations were conducted for range-soils, range-forage, and free-growing stands, and draft evaluation reports were completed for timber-genetic diversity, timber-tree species diversity, and recreation sites.

Indicator and protocol development/revisions continued for all 11 FRPA resource values. A quality assurance strategy and work plan for FREP was completed and a number of draft quality control protocols for ensuring the quality of various aspects of resource stewardship monitoring (RSM) were developed and tested.



The FREP Mission:

To ensure British Columbia is a world leader in sustainable forest management by providing the high quality, science-based information we need for decision-making and continuous improvement of our forest practices, policies and legislation.

<http://www.for.gov.bc.ca/hfp/frep/index.htm>

CONTENTS

Accomplishments in 2005/06	2
RSM implementation – riparian-fish and stand-level biodiversity	2
RSM pilot testing – soils and water quality	2
Indicator and monitoring protocol development	2
RSM continuous improvement workshop	2
District recognition	3
FREP funding	3
Quality assurance	3
Information management system	3
Training	3
FREP program development initiatives	3
Evaluation question update	4
Effectiveness evaluations	4
Stakeholder communication	5
Current status of resource value checklists/indicators	5
Expenditures for 2004/05	7
FREP initiatives for 2006/07	7
Acknowledgements	7
More Information	7
FREWG Membership List	8



BRITISH COLUMBIA

Ministry of Forests and Range
Ministry of Environment
Ministry of Agriculture and Lands

Stakeholder communication continued through regular conference calls, district meetings, e-mail, extension notes, evaluation reports, and the FREP website. The list of priority evaluation questions was updated for 2006/07 based on input from district, regional and branch staff. The revised list now contains 41 evaluation questions, with the top 19 priorities identified. A new question and answer webpage was created to provide real-time responses to operational questions from RSM field staff. A comprehensive, province-wide FREP data management and reporting business needs/requirements assessment was also completed.

On February 28/March 1, 2006, a two-day resource stewardship monitoring (RSM) continuous improvement workshop was held in Victoria to review the 2005 implementation of RSM, present preliminary results, and identify opportunities for continuous improvement. This workshop built on the overall FREP focus on continuous improvement for all aspects of the program.

ACCOMPLISHMENTS IN 2005/06

RSM Implementation – Riparian-fish and Stand-level Biodiversity

Nineteen forest districts participated in implementing riparian-fish RSM in 2005. A total of 250 streams were evaluated. Eighteen forest districts participated in implementing stand-level biodiversity RSM. A total of 201 cutblocks located in 10 different biogeoclimatic zones was assessed.

Overall, the field assessments were completed thoroughly and accurately by field staff. Implementation results will be made available once final analyses are completed, anticipated by early summer 2006. District field staff provided excellent feedback throughout the year, which was used to improve training, the checklists, field protocols, and other aspects of RSM.

RSM Pilot Testing – Soils and Water Quality

The RSM checklist for water quality was pilot tested in the Southern Interior Forest Region in 2005. The Forest Practices Board also field tested some of the procedures in the Southern Interior and provided feedback to improve the checklist. For 2006, the pilot testing will be expanded to all three forest regions, with a target of 10 sites per district in at least three districts per region.

RSM indicators and protocols for soils were pilot tested at both the cutblock and landscape levels. Cutblock-level pilot testing occurred at eight sites in the Prince George Forest District in 2005. Pilot testing will continue into the

2006 field season until data collection is completed at all sites. Full implementation of cutblock-level soils RSM is scheduled for 2007. Landscape-level pilot testing occurred at one site in 2005 – Hellroaring Creek near Cranbrook. Additional pilots (two to three) are planned for 2006 in the Coast, Northern Interior, and/or Southern Interior forest regions.

Indicator and Monitoring Protocol Development

During 2005, work continued on the development and refinement of indicators and protocols for all 11 FRPA resource values. Preliminary field testing was conducted on the draft indicators and protocols for karst resource features and wildlife (gopher snake and tailed frog).

RSM Continuous Improvement Workshop

In February/March 2006, a two-day RSM continuous improvement workshop was held in Victoria. The workshop reviewed the 2005 implementation of riparian-fish and stand-level biodiversity checklists, presented preliminary implementation results, and identified opportunities for continuous improvement of RSM. Workshop participants included the Chief Forester; the ADM Operations; branch, regional and district staff from the Ministry of Forests and Range; representatives from the Ministry of Environment and the Ministry of Tourism, Sport and the Arts; and consultants participating in RSM.

The purpose of the workshop was to:

- communicate executive support for RSM;
- present the preliminary results of the 2005 RSM field data analysis;
- review the implementation of RSM to identify opportunities for continuous improvement; and
- promote communication, participation and support between all organizational levels and agencies associated with RSM and FREP.

The continuous improvement workshop was well attended (over 60 participants) and extremely well received. Participants rated the event an average of 4.5 out of 5.0.

District Recognition

To recognize and acknowledge RSM successes, the Chief Forester announced the “Award of Excellence for Stewardship Monitoring” to be presented to one forest district each year for excellence in RSM. The first award will be presented after the 2006 field season. The winner of the 2005 “Loon Tale Challenge Award” for the best field story went to the Nadina Forest District.

FREP Funding

Long-term funding for FREP was approved by Treasury Board in 2005/06. Funding will be approximately \$4.0 million annually over the next three years. For 2006, FREP will receive an additional 15 FTEs, with a further five FTEs to be added by 2008. District costs associated with implementing RSM (e.g., training, travel, remote access, seasonal employees) will be covered through the FREP budget. After 2008/09, funding for FREP will become part of the Ministry of Forest and Range's base budget.

Quality Assurance

In 2005, a quality assurance implementation and work plan for FREP was completed. Quality control indicators and protocols were drafted for most aspects of RSM, including checklist design, training, data collection, data entry, data validation and cleaning, data analysis, and interpretation and reporting. Additional information will be provided in the FREP 2005/06 Quality Assurance and Quality Control Annual Report to be completed and posted on the FREP website by June 2006.

The focus for quality assurance in 2006 will be on training, site visits (re-sampling field sites for quality assurance), completion of quality control indicators and protocols, and investigation of third-party certification of FREP and its data quality. For 2006, the FREP Quality Assurance Working Group is being renamed the FREP Quality Management Team, and will implement quality management at the program level, monitor quality assurance, and establish standards for quality control.

Information Management System (IMS)

A business requirements report outlining FREP's data management and reporting needs for both resource stewardship monitoring and intensive evaluations was completed in 2005. The FREP IMS Working Group developed an IMS prototype, which was presented at the RSM Continuous Improvement Workshop in February/March 2006. Workshop participants were asked to provide feedback on the prototype to help further refine the proposed format and identify additional system requirements. For 2006, field staff will continue to submit checklist results to headquarters for data entry as further refinements to the system are made.

The IMS prototype will undergo further development and testing in 2006. The first stage of the system was based on data collected for the riparian-fish and stand-level biodiversity checklists during the 2005 field season. System development for 2006 will focus on data quality management, which will include management of data

suppliers, data quality analysis and reporting, and data quality improvement initiatives developed by the Information Management Group (IMG) within the Ministry of Forests and Range.

A GIS needs assessment was also initiated during 2005 to determine if a GIS mapping component is required for RSM and intensive evaluations. Key areas where GIS capabilities could be incorporated include operational field maps, data presentation and reporting, and special analysis.

Training

Training for the riparian-fish and stand-level biodiversity RSM checklists was delivered in a four-day course across the province in June/July 2005. Approximately 80 staff were trained in the use of the two checklists. The 2005 training was discussed at the RSM Continuous Workshop to incorporate feedback and improvements for 2006. Training in 2006 will include full and refresher sessions for riparian-fish and stand-level biodiversity, mentorship site visits, and QA site visits.

FREP Program Development Initiatives

The FRPA Resource Evaluation Program (FREP) *Monitoring and Evaluation Strategy* and FRPA Resource Stewardship Monitoring *Framework* reports were completed and posted on the FREP website. The focus of FREP over the last three years has been program development (i.e., program structure, roles and responsibilities, determining how the information collected will be used to improve forest and range management practices, policy and legislation), monitoring/evaluation tool development (developing and testing indicators and protocols), skill development (training and QA), and building program awareness among stakeholders.

In 2006, work will continue on all of these initiatives. In addition, there will be a comprehensive review of the program by the Forest Practices Board and an assessment of program quality for eventual national certification, both of which will contribute to the FREP long-term strategy to be developed in the fall of 2006.

Evaluation Question Update

In 2005/06, stakeholders, including First Nations, academics, resource agency staff, range and forest industry representatives, and environmental groups, were asked to assist in setting FREP priorities for 2006/07 by reviewing the evaluation questions from 2004/05 to provide suggestions for additional questions and identify their top five priority questions. Based on this

feedback, the list of 41 evaluation questions was updated for 2006/07, and a list of the top-ranked 19 priority evaluation questions was produced. These questions are used to guide FREP priorities. The evaluation questions for 2006/07 can be viewed at <http://www.for.gov.bc.ca/hfp/frep/about/questions.htm>.

Effectiveness Evaluations

Six effectiveness evaluation projects were undertaken and/or completed in 2005/06:

Range – Forage and Soils

In 2004, an evaluation of forage was initiated to determine if range practices are leading to reduced quality and quantity of forage. Sites were sampled in six different ecosystems in the Southern Interior Forest Region – grasslands, yellow pine forest, dry Douglas-fir forest, moist Douglas-fir forest, lodgepole pine forest, and open sub-alpine.

Clippings of grass and flower species were collected and analyzed for digestibility and nutritive content in 2004 and 2005, and will be repeated again during the 2006 field season. A draft interim report on the first year of the forage clipping study has been completed. In 2005, the soils at each sample site were collected to be analyzed for carbon and nitrogen content (indicators of change in productive capacity). The soils analysis is expected to be completed in 2006.

Timber – Genetic Diversity and Tree Species Diversity

The objective of these two intensive evaluations is to establish benchmarks for practices, policies, standards and legislation, and their effect on genetic diversity and tree species diversity prior to and during the time the Forest Practices Code (FPC) was in effect. These benchmarks will be used as baseline data to measure the impact of FRPA on genetic and tree species diversity.

Data compilation and analysis for the genetic diversity evaluation began in 2004/05 and was completed in 2005/06. The draft report provides an historic perspective of changes over time by genetic seed source, species, and the genetic worth of commercial tree species in BC. The report also identifies changes by genetic seed source and BEC zone, changes in genetic diversity by natural and planted regeneration, and the number and frequency of seedlots by genetic seed source, species and orchards over time.

Data compilation and analysis for the tree species diversity evaluation was completed in the summer and fall of

2005. The report was reviewed and finalized in the spring of 2006. The evaluation compares pre-harvest species composition with post-harvest species composition to determine the impact of harvesting and regeneration (natural or planted) on stand species diversity for three distinct reporting periods: pre-1987, post-1987, and FPC. These three different periods provide a baseline trend for species diversity prior to the implementation of FRPA.

Free Growing

This project was initiated to assess whether stands that are declared free growing are meeting expectations for future stand productivity from a timber yield perspective.

Sixty randomly sampled stands declared free growing from 1987–2001 were evaluated in the Lakes Timber Supply Area (TSA) in central BC. All stands sampled were greater than 15 ha in size.

Data from the original free-growing survey for the stands were compared to a follow-up survey conducted in 2005 to compare projected volumes to current measured volumes, look for differences in leading species composition and site index values, and identify any changes in forest pest incidence. Overall, the evaluation found that free-growing stands in the Lakes TSA appear to be meeting timber productivity expectations, despite significant increases in forest pest incidences since the time of the free-growing declarations.

In light of the current mountain pine beetle epidemic and other forest health issues related to climate change, the study recommends that the existing short-term nature of free-growing policy needs to be revisited to address the uncertainty associated with climate change and its impact on BC ecosystems.

Recreation

To collect baseline information on the current state of Forest Service recreation sites in British Columbia, an evaluation of 120 randomly selected sites across the province was conducted in 2004. During 2005, this information was analyzed to determine the effectiveness of forest recreation site management policies and practices.

The evaluation attempted to answer the following question: Are Forest Service recreation sites across British Columbia meeting baseline standards for facilities and maintenance, and able to provide safe, sanitary and environmentally sound recreation experiences?

Overall, the study results suggest that Forest Service recreation sites are generally meeting the objectives of the recreation program; however, at the individual site level, a number of issues related to safety, sanitation, facilities and maintenance, environmental quality and site design were identified as requiring future attention.

Stakeholder Communication

Stakeholder communication took the form of working group conference calls, e-mails, the FREP website, presentations, workshops, and a variety of publications. These efforts will continue in 2006, along with a revamping of the program website and an update of the FREP communications plan.

Two FREP Extension Notes and five FREP Reports were produced in 2005/06.

Extension Notes

- Extension Note #10 – *2004/2005 Year in Review*. http://www.for.gov.bc.ca/hfp/frep/site_files/extension/FRPA_Evaluator_Extension_Note_10.pdf
- Extension Note #11 – *Quality Assurance for Resource Stewardship Monitoring*. http://www.for.gov.bc.ca/hfp/frep/site_files/extension/FRPA_Evaluator_Extension_Note_11.pdf

Reports

- FREP Report #3 – *Evaluation of Cutblock Sizes Harvested under the Forest Practices Code: 1996–2002*. http://www.for.gov.bc.ca/hfp/frep/site_files/reports/FREP_Report_03.pdf
- Draft *Recreation Evaluation Report*
- Draft *Free Growing Evaluation Report*
- Draft *Species Diversity Evaluation Report*
- Draft *GIS Needs Assessment Report*

CURRENT STATUS OF RESOURCE VALUE CHECKLISTS/INDICATORS

Resource Value	Specific Checklist/Indicators	Primary Contact/Lead(s)	Status
Biodiversity	Stand-level	Nancy Densmore (MoFR) Richard Thompson (MOE)	201 cutblocks assessed in 18 forest districts. A small study on large blocks (>100 ha) also conducted in 2005. Development of risk ranking system for cutblocks. Results available in summer 2006. Implementation in all forest districts scheduled for 2006.
	Landscape-level	Nancy Densmore (MoFR) Richard Thompson (MOE)	In development – will be pilot tested in 2006. Phased-in implementation planned for 2007.
Cultural Heritage Resources		Diane Goode (MoFR)	Developing models and approaches for evaluating cultural heritage resources.
Fish-Riparian	Cutblock (routine)	Peter Tschaplinski (MoFR)	250 streams evaluated in 19 forest districts. Results available in summer 2006. Implementation in all forest districts scheduled for 2006.
	Cutblock (extensive)	Peter Tschaplinski (MoFR)	In development, will be field tested in 2006.
Range	Forage	Rick Tucker (MoFR)	Preliminary report on first year data completed. Data collection to continue in 2006.
	Soils	Rick Tucker (MoFR)	Data collection completed in 2005. Analysis to be completed in 2006.

2005/2006 YEAR IN REVIEW

Resource Value	Specific Checklist/Indicators	Primary Contact/Lead(s)	Status
Recreation	Recreation Sites	John Crooks (MTSA)	Analyzed baseline data from 2004 pilot project. Draft report completed in 2005. Final report by June 2006.
Resource Features	Karst	Peter Bradford (MoFR)	Preliminary field testing completed. Checklist revisions. Pilot testing in QCI District in 2006.
	Remaining resource features	Ian Miller (MoFR)	No work to date.
Soils	Cutblock	Sandy Currie (MoFR)	Pilots conducted at eight sites in the Prince George district in 2005. Pilot testing to continue in 2006. Implementation scheduled for 2007.
	Landscape	Tom Millard (MoFR)	Pilot underway in SIFR. Additional pilots planned for CFR, NIFR and/or SIFR for 2006.
Timber	Genetic diversity	Frank Barber (MoFR)	Draft report completed in 2005. Final report by June 2006.
	Tree species diversity	Frank Barber (MoFR)	Draft report completed in 2005. Final report by June 2006.
	Free growing	Alex Woods (MoFR)	Intensive evaluation of free-growing policy and draft report completed. Final report by June 2006.
Visual Quality	Evaluation of VQM	Jacques Marc (MoFR)	Checklist and protocol complete. Implementation planned for future.
Water Quality	Cutblock	Dave Maloney (MoFR) Steve Chatwin (MoFR) Martin Carver (MoE) Brian Carson	Pilot tested in the SIFR in 2005. Pilot testing to continue in all three forest regions in 2006. Implementation planned for 2007.
	Watershed		No work to date.
Wildlife	Gopher snake	Wayne Erickson (MoFR) Kathy Paige (MoE)	Field testing indicators and protocol. Pilot testing in 2006.
	Rocky Mountain and Coastal tailed frog	Wayne Erickson (MoFR) Kathy Paige (MoE)	Field testing indicators and protocol. Development of baseline data.
	Marbled murrelet	Wayne Erickson (MoFR) Kathy Paige (MoE)	Initial development of indicators.
	Badger	Wayne Erickson (MoFR) Kathy Paige (MoE)	Initial development of indicators.

Resource Value	Specific Checklist/Indicators	Primary Contact/Lead(s)	Status
	Mountain goat	Wayne Erickson (MoFR) Kathy Paige (MoE)	Development of indicators, protocol and baseline data. Pilot tested in 2005.
	Mule deer and caribou winter range	Wayne Erickson (MoFR) Kathy Paige (MoE)	Initial development of indicators.
	White headed woodpecker	Wayne Erickson (MoFR) Kathy Paige (MoE)	Draft indicators – on hold.

EXPENDITURES FOR 2004/05

The following table is an approximate breakdown of FREP expenditures for 2005/06:

Project	Expenditure
Program Management	\$112,000
Data System	\$100,000
Quality Assurance Framework and Protocols	\$30,000
RSM Implementation (training, access, equipment, etc.)	\$250,000
RSM Pilot Testing	\$70,000
Resource Value Checklist Development	\$120,000
Intensive Evaluations	\$140,000
Total	\$822,000

FREP INITIATIVES FOR 2006/07

Indicator and protocol development/refinements will continue for all 11 FRPA resource values for 2006/07. RSM for riparian-fish and stand-level biodiversity is targeted to be implemented in all forest districts. The RSM checklists for soils and water quality will continue to be pilot tested. The karst resource feature checklist is scheduled to be pilot tested in the Queen Charlotte Islands Forest District. An estimated four to five intensive evaluations will be completed. Ongoing program development will proceed in a number of important areas, including quality assurance, information management and training. A complete listing of initiatives planned for 2006/07 will be posted on the FREP website by June 2006.

ACKNOWLEDGEMENTS

The FREP Working Group would like to express its sincere appreciation for all the dedication and hard work by field staff, Resource Value Team Leaders, and many others during 2005. The efforts of all participating agencies and staff allowed for many significant achievements, making 2005/06 the most successful year yet for the program.

Through increased funding and the hard work of many dedicated professionals, FREP was able to implement RSM for riparian-fish and stand-level biodiversity, pilot test the checklists for soils and water quality, continue indicator and protocol development on a number of other FRPA resource values, and move forward on several important program initiatives (e.g., training, quality assurance, information management, etc.). Thank you very much to everyone involved in the program.

Thanks are also extended to:

- Ministry of Forests and Range (Forest Regions, Forest Districts, Research Branch, Forest Practices Branch);
- Ministry of Environment (Standards, Monitoring and Reporting Section);
- Forest Practices Board; and
- University of British Columbia.

MORE INFORMATION

For additional information on FREP, please refer to our website at <http://www.for.gov.bc.ca/hfp/frep/index.htm>.

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*The FREP Year in Review is a regular publication of the **Forest and Range Evaluation Program** designed to inform stakeholders on program development and implementation, and report on the results of evaluation projects.*