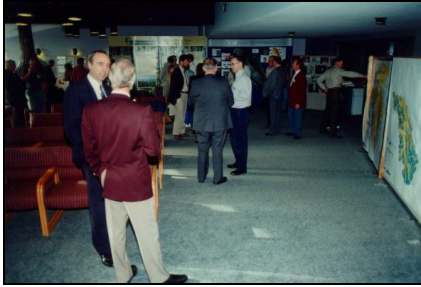


Measuring the Achievement of Sustainable Forest Management: Local Level Indicators



foothills
MODEL FOREST

*research growing
into practice.*



*Foothills Model Forest
Annual General Meeting, Edmonton, AB
November 21-22, 2006*

*Mark Storie/
Debbie Mucha*

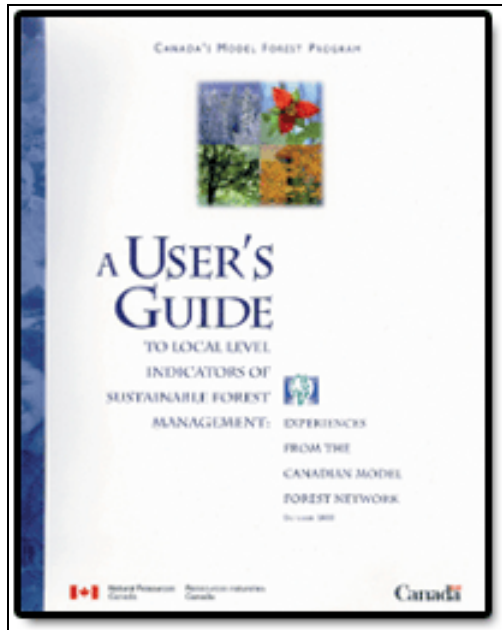
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Outline

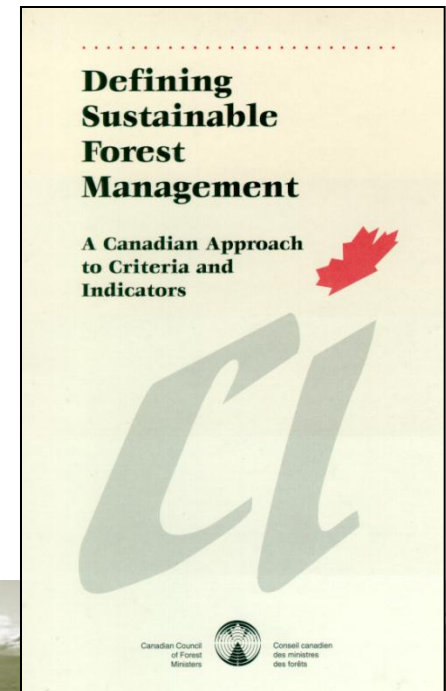
- ◆ **LLI Program Background**
- ◆ **Initial Status Report & LLI Team Follow-up**
- ◆ **Program Schedule**
- ◆ **LLI and the Future – the Next Five Years**
- ◆ **Questions**

LLI Program Background

CCFM Criteria and Indicators



- ◆ **Phase II CMFN Strategic Initiative**
- ◆ **All Model Forests required to develop and produce LLI Report**

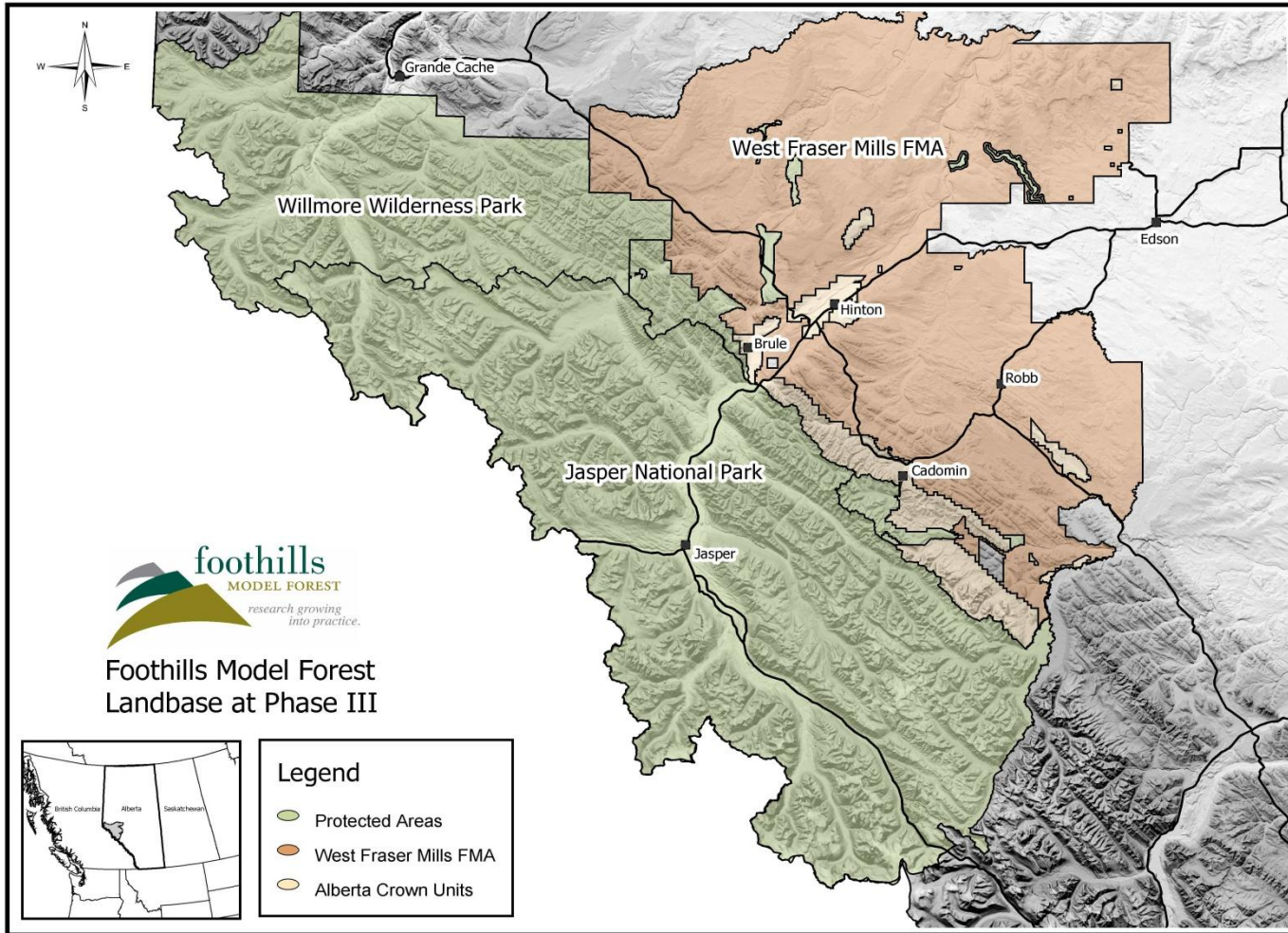


What is the FtMF LLI Project?

- ◆ **The FtMF LLI Activity Team is charged with reporting Indicators of Sustainable Forest Management at five year intervals for the FtMF Landscape**
- ◆ **Next report to be delivered March, 2007**



LLI Program Background – Partnership



Criteria, Goals, Indicators - Defined

- **Criteria** - *...essential components of the sustainable management of forests. They include vital functions and attributes, socio-economic benefits, and the laws and regulations that constitute the forest policy framework (Montreal Process)*
- **Goal** - *A broad statement describing a desired state or condition. Goals are mandated by legislation and-or agreed to through a process of stakeholder input and participation.*
- **Indicator** - *Provides ways to assess or describe the criterion. All indicators provide information about the present conditions of forests and their use and, over time, will establish the direction of change in these variables.*

Criteria, Goals, Indicators - Examples

Criteria - *Conservation of biological diversity*

- **Goal - 1.4)** *Maintain natural diversity, pattern and stages of forest ecosystems over time*
- **Indicator - 1.4.1)** *Makeup of forest by age class*
- **Data -** *Area in hectares by age class*

- **Goal - 1.1)** *Maintain viable populations of all currently occurring native species*
- **Indicator - 1.1.2)** *Grizzly Bear population status*
- **Data -** *Number of bears per 1000km²*



LLI Program Background



Phase III Proposal

“The FMF will continue to work on Local Level Indicators in Phase III. Reporting on LLI brings together, in a common document, highlights of much of the research and activities undertaken at the FMF. It brings focus to the fact that many SFM issues cross jurisdictional boundaries and allow land / resource management partners a neutral forum for reporting on continuous improvement and progress towards SFM.”



Phase III Proposal

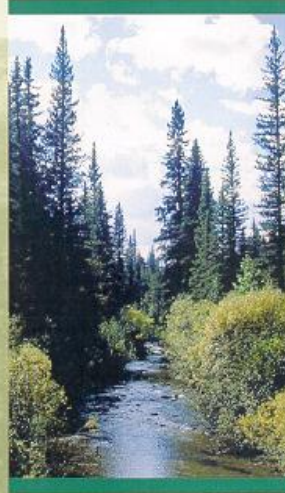
Phase III LLI Objectives

- 1 Finalize Initial State of the Forest Report for release early in Phase III.
- 2 Maintain and, as new research and information becomes available, improve upon and / or enhance the indicator set.
- 3 Provide Yearly updates to the Initial Status Report
- 4 Produce a full, follow-up State of the Forest Report at the end of Year 5 of Phase III



FMF Initial Status Report Released - June 2003

Local Level Indicators of Sustainable Forest Management for the Foothills Model Forest










INITIAL STATUS REPORT

FMF Board Review of LLI Program



- 1 **Confirmation of shared goals**
- 2 **Confirmation of Shared Priorities**
 - Advice on selection and application of indicators
 - Collection data to prepare follow up
- 3 **Research to fill SFM Indicator gaps**

Phase III - LLI Program Direction

-  **Activity Team to rationalize the goals. Develop a recommended revision of goals, pending the outcome of rationalization, and report to the Board (Executive Committee) for endorsement for use in further development of indicators.**
-  **FtMF to promote a CMF Network LLI process document/guide that is a follow-up to “User’s Guide to LLI”. Mark Storie to broach with Executive Committee when presenting rationalized goals.**
-  **Activity Team to host a workshop on gaps/alignment with distribution of a follow-up Report – January 16-17, 2004**
-  **Activity Team to identify indicators or indicator groups that should be cooperatively worked on (data standards, procurement and reporting).**
-  **Complete Workshop to help determine indicators to fill gaps and provide insight on requirements and level of effort.**
-  **Activity Team to complete assessment and rationalization of indicator set from LLI Workshop, as well as research recommendations to the FtMF Board of Directors**
-  **Follow up Indicator Report - End of Phase III.**

FtMF LLI Workshop

January 15-16, 2004

-  **34 Participants**
-  **Scientific and Technical
reps**
-  **Partnership Reps**
-  **FtMF Board Members**
-  **Facilitated by Dr. Keith
McClain**
-  **64 Recommended
Indicators**



LLI Workshop Objectives



🌲 Develop a revised, enhanced and workable list of indicators for assessing performance relative to the shared goals of the FtMF partners.

🌲 Ensure selected indicators provide the basis for a comprehensive *State of the Forest Report* for the Foothills Model Forest.

🌲 Ensure indicators are useful to, and used by, the principal partners in reporting the results of their forest management.

🌲 Ensure indicators, together with the shared knowledge of their development and application provided by workshop participants, assist managers of other local forest areas in monitoring forest management.

🌲 Research and development requirements are identified for filling gaps in the workable indicator list.

Workshop Evaluation Criteria / Assessment

Clearly stated?	Is the indicator statement unambiguous?
Easily understood?	Does the indicator make sense relative to the goal?
Data available / where?	Are data available to support this indicator and from whom?
Supported by science?	Does scientific understanding support the indicator?
Measurement variable	What variable will be measured to represent the indicator?
Frequency of measurement	How often must data be collected or otherwise obtained?
Cost effective	Does the utility of the variable merit the cost of collecting data?
Ease of interpretation	Is the indicator easy to interpreted or is special skill / knowledge required?
Breadth of application	How broadly can the indicator be applied?



Workshop Evaluation Criteria / Assessment

Timely?	Is the information available for decision making?
Measurable?	Is the variable selected for the indicator measurable?
Predictable?	Can the indicator be predicted over time (and space)?
Reliable?	Is the indicator (variable) reliable? Does it always measure what you think?
Sensitive?	Is the indicator sensitive over time and space?
Independent?	Is the indicator confounded or otherwise influenced by other indicators?
Scale	At what scale will the indicator be applied?
Responsibility	Who is responsible for this indicator? Who already is collecting the data?

Opportunities and Priorities for Collaborative Development of Indicators

- ◆ 10 areas of opportunity for collaboration
- ◆ LLI Team members to develop task teams to look into collaborative development of previous indicators
- ◆ LLI Team seeking commitment and interest from identified partners for what will largely be in-kind contributions by task teams.
- ◆ Many of the collaborative opportunities may not have R&D cost associated with them.

LLI Team Workshop Follow-up and Indicator Rationalization

◆ LLI Team Activities - assessment and rationalization of indicator recommendations from workshop

- ◆ September 14, 2004 (LLI & Exec)
- ◆ October 12, 2004 (FtMF Board)
- ◆ November 18, 2005 (Exec Approves Funding)
- ◆ November 29, 2004 (LLI Team Mtg.)
- ◆ April 6, 2005 (Task Teams / Charter)



Local Level Indicators of Sustainable Forest Management for the Foothills Model Forest

Report

on the

Local Level Indicators (LLI) Workshop

(January 15-16, 2004, Jasper)

and

Recommendations by the LLI Activity Team

June 2004

Prepared by:

W.R. Dempster Ph.D., R.P.F.

Indicator Development / Refinements

Task Teams

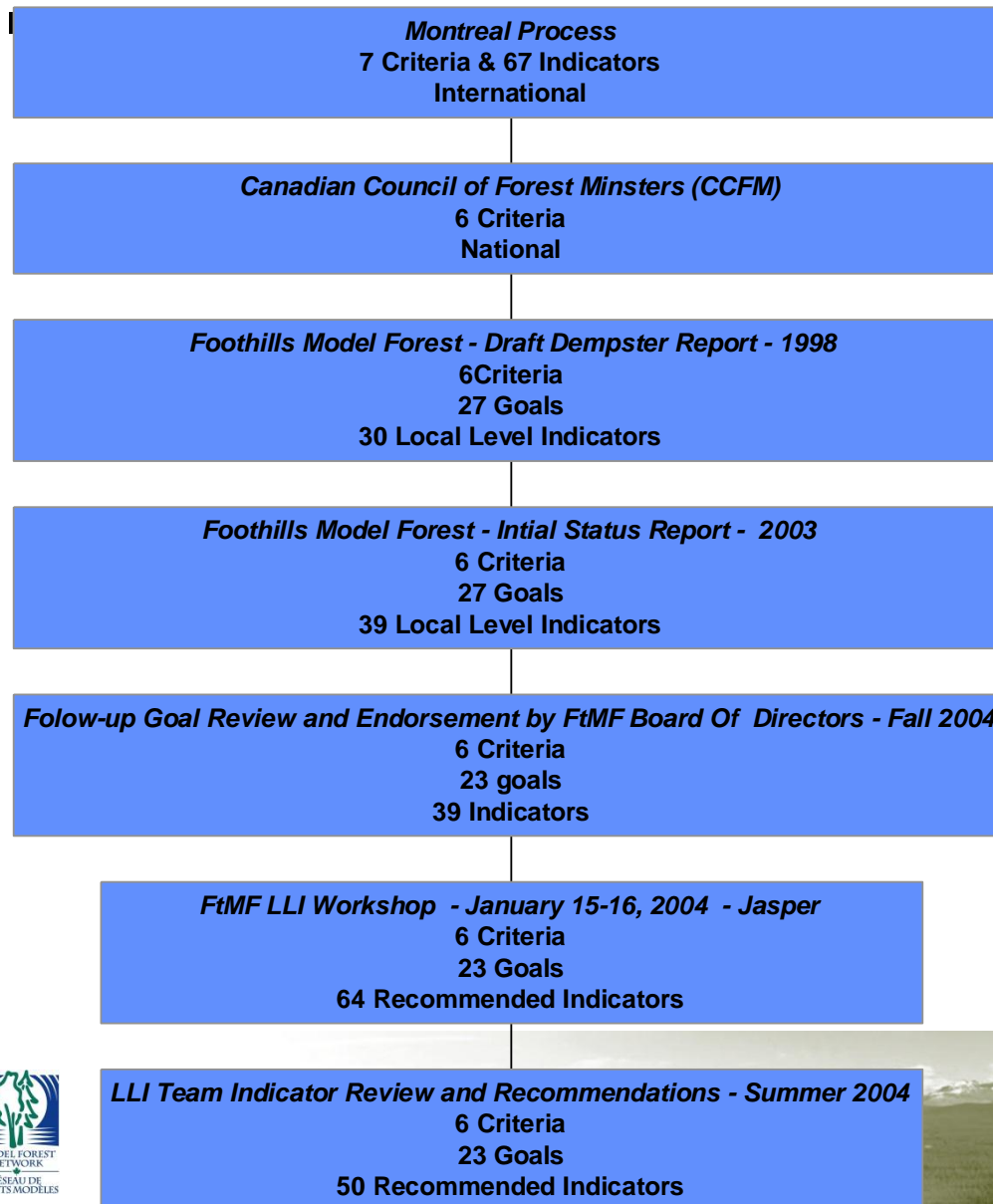
- ◆ Best management practices - stream crossings
- ◆ Carbon fixation
- ◆ Genetic diversity of managed vs. wild stands
- ◆ Integration of lineal infrastructure
- ◆ Makeup of forest area by age class and leading species
- ◆ Occurrence and severity of wildfire
- ◆ Occurrence of insects and disease pathogens



Indicator Development / Refinements Task Teams

- ◆ Percent of new disturbances reclaimed by native species
- ◆ Post disturbance vegetation response
- ◆ Rare or unique sites
- ◆ Recreational by recreation type
- ◆ Type and extent of disturbance
- ◆ Vegetation productivity
- ◆ Water yield based on vegetative disturbance

FtMF Criteria and Indicators Program - Progress



LLI Program Schedule

Task	Critical Dates
Acceptance of plan by FtMF Executive Committee	November 2004
Identification and development of task teams	April 2005
Data acquisition and indicator development	January – December 2005
Cut-off for data submission	December 2005
Data compilation, analysis and draft report writing	December 2005- October 2006
Board and peer review of draft report	October – Mid-November 2006
Report finalization	Mid-November 2006 – January 2007
Approval of Report FtMF Board	January 2007
Release of LLI Follow-up Report	April 2007



LLI Program Schedule

Task	2005										2006		
	A	M	J	J	A	S	O	N	D	J	F	M	
Annual Progress Report												X	
Data acquisition and indicator development	X	X	X	X	X	X	X	X	X	X	X	X	
Data compilation, analysis, and draft report writing										X	X	X	



FtMF LLI Team

- ◆ Harry Archibald (Alberta Environment)
- ◆ Shawn Cardiff (Parks Canada)
- ◆ Margarete Hee (Alberta Sustainable Resource Development)
- ◆ Aaron Jones (West Fraser – Hinton Wood Products)
- ◆ Rich McCleary (Foothills Model Forest)
- ◆ John Parkins (Canadian Forest Service)
- ◆ Jeff Kneteman (Alberta Sustainable Resource Development)
- ◆ Don Podlubny (Foothills Model Forest)
- ◆ Rob Staniland (Talisman Energy Inc.)
- ◆ Mark Storie (Alberta Sustainable Resource Development)
- ◆ Debbie Mucha (Foothills Model Forest)
- ◆ Stan Kavalinas (Sustainable Resource Development)



Findings and Tools (Benefits to Partners)...

- ◆ **FtMF has no land management mandate**
- ◆ **Provides testing and guidance to partners for indicator selection, data gathering and reporting**
- ◆ **Provides a model for reporting across jurisdictional boundaries**
- ◆ **Provides indicators for potential adaptation at broader scales (i.e. regional, provincial)**
- ◆ **Provides a venue for relationship building to address issues spanning jurisdictional boundaries**



Current Status

- ◆ **Challenge to coordinate task teams**
- ◆ **Staff turnover**
- ◆ **Change in LLI Coordinator position**
- ◆ **Task Teams continuing on forming indicators, data collection will begin shortly**
- ◆ **Report to be completed for Spring 2007**

LLI and the Future – the Next Five Years

- ◆ Board has reconfirmed the importance of LLI
- ◆ Continue reporting on LLI on an annual basis
- ◆ Develop a protocol/processes for the annual updating of indicators
- ◆ Monitor indicator group trends and make recommendations
- ◆ Indicators will reveal questions for future areas of research



Questions?

