Effectiveness Evaluations – A primer for making them truly effective – Poster Presentation

Bryce Bancroft[1], Ken Zielke[1], Laurie Kremsater[2], Peter Bradford[3], Frank Barber[3] and Richard Thompson[4]

[1]Symmetree Consulting Group (http://symmetree.ca.), 6301 Rodolph Road., Victoria, BC V8Z 5V9 Ph: (250) 652-6509, Email bbancroft@symmetree.ca or: kzielke@symmetree.ca

[2]University of British Columbia, The Centre for Applied Conservation Research, 2424 Main Mall Vancouver, BC V6T 1Z4, Ph: (604) 822-0953, Email laurie.kremsater@ubc.ca

[3]British Columbia Ministry of Forests FRPA Resource Evaluation Program., 8th Floor, 727 Fisgard Street, Victoria BC V8W 1R8, Email Peter.Bradford@gems1.gov.bc.ca Frank.Barber@gems6.gov.bc.ca

[4]Ministry of Water Land and Air Protection. 4th Floor, 2975 Jutland Rd., Victoria BC V8T 5J9 Ph: (250) 356-5467, Email Richard.Thompson@gems2.gov.bc.ca

ABSTRACT

The poster will describe the workshop flow and contents using examples from the presentation materials. The one-day workshop has been created to provide background and useful steps in designing true Effectiveness Evaluations, and differentiating them from other types of evaluations or monitoring. The workshop focuses on a process to develop effective indicators. Case studies are used to highlight successful approaches.
The workshop is made up of modules that cover the following.

- Why monitor or evaluate? The initial module provides an introduction on why we monitor or evaluate and how important framing the initial question is. That is what is it we want to know? The question drives the approach.
- The monitoring continuum. This module covers how the various types of monitoring: Compliance, Implementation, Effectiveness and Validation are related to one another forming a continuum.
- Designing good indicators. This is a key component of any truly EFFECTIVE monitoring or evaluation program. The critical factors in choosing good indicators are covered with examples.
- Case studies of Effectiveness Evaluations that include:
  - Weyerhaeuser Forest Strategy
  - Fuel treatments on wildfire severity
  - Habitat restoration – a full scale effectiveness evaluation program
  - Routine evaluations for Stand Level Biodiversity and Proper Riparian Function in BC

Keywords: Effectiveness Evaluation, Monitoring, Indicators, Case studies, Workshop

1 BACKGROUND

The workshop and associated poster is a joint initiative of the BC Ministry of Forests, Forest Practices Branch (MOF), Ministry of Lands, Water & Air Protection (MWLAP) and the Centre of Applied Conservation Research, University of British Columbia (UBC). With the advent of the Forest and Range Practices Act (FRPA) and regulations there will be a greater emphasis on outcomes and results versus procedure and policy. The new reliance on results brings with it an obligation for assessment and evaluation, and the ability to use the subsequent data to learn and adapt procedures or policy.

To address this challenge, a joint steering committee was established (organizations mentioned above) consisting of: Peter Bradford, MoF, Richard Thompson, MWLAP, Laurie Kremsater, UBC, Shawn Morford, FORREX, Craig Sutherland, MoF, Wayne Martin MoF, and Eric Lofroth, MWLAP. The steering committee was tasked with organizing a process to facilitate active participation in understanding and implementing Effectiveness Evaluations. The process is ongoing. This paper outlines a training session 'Effectiveness Evaluations – A primer for making them truly effective' one part of the process of making evaluations effective and part of the new forest stewardship model.

2 WHY MONITOR/EVALUATE – MODULE 2

Monitoring or evaluations are based on the desire to know the answer to a question. When a practice or treatment is chosen there is a need to determine first if it was done correctly (Implementation Evaluation), and secondly, if it achieved the objective that it was designed for (Effectiveness Evaluation). The workshop promotes the need to spend time up front clearly defining the question you are interested in answering. This step is essential in focusing future actions.

The workshop uses the example question "Are WTPs (Wildlife Tree Patches) working?" This question promotes discussion on linking data, analysis and the question at hand. Often a monitoring program will be rich in data, but poor in answers. Care must be taken when collecting information that it has a role in answering the specific question. There are five key aspects in the exploration process presented.

1. What is the ultimate goal? – Often referred to as the monitoring starting point or the impetus for the monitoring.
2. What is the underlying concern? - Monitoring endpoint?
3. What are the key issues or barriers for addressing the monitoring endpoint?
4. How easy or difficult is it to get to the ultimate monitoring endpoint?
5. Other constraints?

The module then explores each of these five points in relationship to maintaining stand level biodiversity with respect to the maintenance of WTPs.

3 EVALUATION CONTINUUM – MODULE 3

Evaluation can take many forms and intensities. This module highlights the range of evaluation approaches and nomenclature. The four types of evaluations presented are:

- Compliance - Does it meet the legal requirements?
- Implementation - Did you do what was intended?

- Effectiveness – Are the desired outcomes being met?
- Validation – Is our hypothesis correct?

These are further subdivided into monitoring intensities. The levels are:

- Routine – relatively simple using yes/no questions
- Extensive – more detail is used, for example categories are used such as good, fair and poor.
- Intensive – is more detailed yet and requires quantitative data collection.
- Applied research – is where a controlled replicated experimental design is used.

Each of the four types of evaluation are explored with respect to intensity to show the continuum of type and intensity as they relate to a varying array of questions.

4 DESIGNING GOOD INDICATORS FOR EFFECTIVENESS EVALUATIONS – MODULE 4

Choice of indicators is a key element in creating"Effective" effectiveness evaluations. Where there are many options, choosing the right indicator can be confusing. This module provides a structured protocol for assessing indicators and ensuring that those chosen will answer the question that has been posed.

The choice of indicators is presented within the Monitoring/Evaluation Framework. The framework is as follows:

1. Clearly define the question (s) / objective (s)
2. Build indicators
3. Design the data collection approach
4. Plan the monitoring program
5. Implement
6. Check results against performance criteria
7. Make recommendations – i.e., feedback to management.

It is stressed that the process of monitoring and learning is ongoing. New answers may promote new questions and with that, new indicators. To ensure this process is effective requires a concerted effort in quality assurance at all steps and attention to detail with respect to information management.

Building Indicators

Four steps are presented: choosing or building the indicator to answer the question; test the initial indicator- specifically assess are they representative, reliable and feasible; replace adjust or add more indicators – retest; design performance criteria and indices.

The module describes what constitutes an indicator; that is something we can measure.

It is known that we can measure many things. A key to choosing the right indicator is looking deeper into the question to see what the underlying social concern is. For example; when asking the question," Are my vegetation management treatments effective?", we ask, "effective for what?" The actual question that derives the choice of indicator is; "Are my vegetation

management investments worthwhile?" This statement provides a monitoring endpoint from which to choose indicators. The key transition to the "actual question" is the underlying concern based on a true societal value or benefit. By itself effective vegetation management treatments pose no clear benefit to society. However, worthwhile investments clearly do. This question prompts further exploration of what makes an investment worthwhile (Noon, 2003)

This leads to the discussion on key issues, such as complex endpoints, types of indicators – function, structure or species based. Some practical considerations for indicator development are reviewed such as, are you comparing alternatives, are there accepted targets or thresholds in the literature, what is the time scale and area to be assessed by the indicator. A choice from equally representative and reliable indicators will come down to a question of practicality and cost.

Steps – an example using vegetation management is used, the following steps are described:

1. Choose initial indicators – e.g., brainstorming.
2. Test to see if they are representative, reliable and feasible. Specifically:

    - Representative – Does the indicator address the scope of the question? How well does it cover the key aspects of the monitoring endpoint? How well does is show differences between geographic units (if required)? How well does it show trends over time (if required)?

    - Reliable – Does the indicator directly affect the monitoring endpoint? Is the link well founded in science? Is it responsive to the actions we are concerned about – e.g., treatments, management practices? Is the response persistent? Can it be measured in a scientifically credible manner? Will the results have acceptable variability?

    - Feasible – Is the indicator practical? Are the data readily available? If not can the data be obtained at a reasonable cost and time frame?

IF THE INDICATOR FAILS ONE OR MORE TESTS - the following is recommended: either drop the indicator and replace with another, adjust the indicator to better address the question or objective, or add additional indicators to more thoroughly address the question or objective.

Once indicators are chosen one needs to determine when to change management practices based on that indicator? Performance criteria can help provide context for indicators by creating categories of 'goodness' or 'badness'. These categories can then be used to provide feedback to managers. Examples are provided.

5 CASE STUDIES – MODULE 5

A suite of case studies has been created to allow participants to observe how various groups have approached effectiveness evaluations. The case studies chosen cover a range of detail and completeness. Some have results; others are in the earlier stages. All case studies are presented using the 7 step Monitoring / Evaluation framework described above.

Four examples have been chosen to highlight what goes into making an 'effective' effectiveness evaluation. The four case studies are:

Weyerhaeuser BC Coast Forest Strategy
(http://www.forestry.ubc.ca/conservation/forest_strategy/)

The Coast Forest Strategy uses stand level variable retention and landscape zoning, to maintain biological diversity and ecological processes on Weyerhaeuser Coastal Timberlands. To assess

whether the approach is indeed meeting its goals an aggressive monitoring and adaptive management program was implemented. The module covers the process as it relates to the 7 steps. The Forest Strategy case study allows participants to see the level of commitment and detail that is required when a full-scale adaptive management program is put into place.

Effect of Fuels Treatment on Wildlife Severity
(http://www.cnr.colostate.edu/frws/research/westfire/FinalReport.pdf)

An evaluation of fuels treatment on wildlife severity was undertaken by Philip Omi and Erik Martinson (2002) from Colorado State University. Their study looked at areas where fuel treatments had occurred with subsequent wildfires. The final report is found on the web (address above). The report outlines the steps taken, from identifying the question to the results and recommendations. It is an instructive example on how to put together a doable evaluation that can provide results in a timely fashion.

Monitoring and Evaluation Strategies for Habitat Restoration and Acquisition, Washington State Salmon Recovery Funding Board (2003)
(http://www.iac.wa.gov/Documents/SRFB/Monitoring/SRFB_Monitoring_Strategy.pdf)

The Washington State Salmon Recovery Funding Board as a follow-up from recommendations stemming from an Assessment of Monitoring Methods and Benefits for Salmon Recovery Funding Board Projects and Activities a full scale monitoring strategy was created. At this time 9 protocols were created for a range of issues relating to habitat restoration (found at, (http://www.iac.wa.gov/srfb/docs.htm) including: Fish Passage Projects, Instream Habitat Projects, Riparian Plantings, Livestock Exclusions, Constrained Channels, Channel Connectivity, Spawning Gravel, Instream Diversions, and Habitat Protection. Each of these protocols contains a fully described set of steps to provide for an 'effective' evaluation. An example protocol is used to show the level of detail that the protocol requires. For additional information and specifics, the participant's are directed to the above web address.

Routine Evaluations for Stand Level Biodiversity and Proper Riparian Functioning in BC.

(http://www.for.gov.bc.ca/eefinder/)

The objective of the Ministry of Forests Evaluation Program is to determine if forest and range policies and practices in British Columbia are achieving government's objectives for FRPA resource values, with a priority on environmental parameters and consideration for social and economic parameters, where appropriate. This will be accomplished by:

- Evaluating the status or trends of resource and ecosystem values and determining causal factors;
- Determining whether resource values are being managed in a sustainable manner through proven or alternative forest practices; and
- Recommending options for changes to forest and range policies, practices and legislation, where required.

Presently, three sets of values have pilot-level projects underway to test the chosen indicators. Two of these pilot projects, Stand Level Biodiversity and Proper Riparian Functioning, are included in this module to highlight the steps taken along the 7-step pathway. It is instructive to note that these pilot projects will be reassessed after the field season (assessing for whether their indicators are Representative, Reliable and Feasible). Province-wide monitoring will follow based on the results of assessments.

References:

British Columbia Ministry of Forests, FRPA Resource Evaluation Program Website http://www.for.gov.bc.ca/eefinder/

Noon, B.R. 2003. Conceptual issues in monitoring ecological resources. IN: D.E. Busch, J.C. Trexler (eds). Monitoring ecosystems: interdisciplinary approaches for evaluating ecoregional initiatives. Pp. 27-71. Island Press.

Omi, P and E. Martinson. 2002. Effect of fuels treatment on wildfire severity, final report. Submitted to the Joint Fires Science Program Governing Board. Western Forest Fire Research Center Colorado State University. (http://www.cnr.colostate.edu/frws/research/westfire/FinalReport.pdf)

Taylor Associates Inc, Cascadia Consulting Group, R2 Resource Consultants. 2003. Monitoring and evaluation strategies for habitat restoration and acquisition. Washington State Salmon Recovery Funding Board. http://www.iac.wa.gov/Documents/SRFB/Monitoring/SRFB_Final_Report_Complete-June-2003.pdf

Washington Salmon Recovery Funding Board. 2003. Monitoring and evaluation strategy for habitat restoration and acquisition projects. Draft 5/23/2003 http://www.iac.wa.gov/Documents/SRFB/Monitoring/SRFB_Monitoring_Strategy.pdf

Weyerhaeuser BC Coastal Forest Strategy (http://www.forestry.ubc.ca/conservation/forest_strategy/)

Correspondence to:

Peter Bradford, British Columbia Ministry of Forests FRPA Resource Evaluation Program., 8th Floor, 727 Fisgard Street, Victoria BC V8W 1R8, Email Peter.Bradford@gems1.gov.bc.ca

Bryce Bancroft, Symmetree Consulting Group (http://symmetree.ca.), 6301 Rodolph Road., Victoria, BC V8Z 5V9 Ph: (250) 652-6509, Email bbancroft@symmetree.ca