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Aboriginal Community-based Criteria & Indicators: A localised approach

Based on research by David Natcher and Cliff Hickey

Highlights

- Criteria and indicators can be used to define and measure sustainable forest management objectives at international, national and local levels.
- Local criteria and indicators are most relevant and informative when they are developed by the local communities, residents and stakeholders.
- Adaptable community-based frameworks are necessary for developing local level criteria and indicators.
- Local C&I approaches may be a particularly effective way of incorporating Aboriginal peoples in, and addressing their concerns about, sustainable forest management.

In 1995, the Canadian Council of Forest Ministers (CCFM) developed a national reporting framework for sustainable forest management based on a set of criteria and indicators (C&I) for forest management. The C&I framework reflects values associated with the ecological, social and economic aspects of current and future forests. Specific to Aboriginal peoples, the sixth CCFM criterion addresses the need to recognize the rights of Aboriginal peoples in the planning process (Criterion 6.1) as well as the need to directly involve Aboriginal peoples in forest management (Criterion 6.2).

The CCFM C&I are based largely on scientific (quantitative) information, and were developed through a consultative process involving experts and scientists from across Canada. Since 1995, the C&I approach has been adopted

by many forest companies and government agencies within Canada as a reporting framework to assess sustainability at a variety of scales. Local-level indicators have been developed in many regions since they are thought to be more specific to local conditions and do a better job of providing precise and relevant measures of the effects of forest management on local populations and lands.

Recognizing the potential contributions of locally-developed C&I to sustainable forest management, and aiming to put into practice the CCFM's sixth criterion, a Sustainable Forest Management Network (SFMN) project was undertaken to develop a set of community-identified C&I. The objective was to develop a set of C&I that were specific to a land base subject to a cooperative management planning agreement between the Province of Alberta and the Little Red River Cree Nation in northern Alberta. This project took a "bottom-up" approach to the development of C&I—an approach that can be useful for determining factors that are deemed valuable and necessary by diverse voices within communities. Several findings from this project can serve as useful guides for other Aboriginal communities, forest managers and planners across Canada trying to develop similar sets of criteria at local levels of management.

Why are Aboriginal-derived indicators important?

Aboriginal peoples have traditionally relied upon various ways of knowing and relating to the forest in order to sustain their well being and that of the forest. This includes not only valuing such things as numerous species of plants and animals, but the natural forces that give them life. It also includes valuing “cultural landscapes” through which peoples, lands and resources are intimately interconnected by stories, resource use and sharing practices. Many Aboriginal peoples do not compartmentalize specific aspects of the environment and tend to view the forest as a “living system”. They believe Aboriginal peoples have a fundamental role and responsibility for managing their traditional use practices in order to maintain balance within these landscapes.

For many Aboriginal communities, forests are seen for values other than those pertaining to timber production. Other uses, and the social, economic, and cultural values that they sustain, are often considered of equal—if not greater—importance. This is not to suggest that Aboriginal peoples reject commercial forestry. Properly conceived and implemented, and undertaken with the full participation of Aboriginal peoples, forestry and other industrial developments within the forest can contribute to the natural, social, cultural and economic capitals of Aboriginal communities. This, from the perspective of many Aboriginal communities, is the essence of sustainable forest management.

The primary objective of the SFMN project described in this research note was to derive local C&I that: (1) reflected the values, practices and relationships deemed important by the Little Red River Cree Nation peoples, and (2) could be used in land use management and planning processes. This project provided an opportunity to address the sixth CCFM criterion on increased Aboriginal access to planning and land management.

Project background

Between 1996-2001, the Little Red River Cree Nation had a cooperative resource management planning agreement with the Province of Alberta for a 30,000 km² (3 million hectare) Special Management

Area (SMA) in northern Alberta (Figure 1). The Agreement provided for development of a sub-regional integrated landscape management strategy for a 10,000 km² forest management area within the SMA where the Little Red River Cree Nation has a commercial timber permit for annual harvest of 600,000 m³. While some First Nation members in the community see this as an excellent opportunity for improving economic conditions, others have expressed concern that commercial timber harvesting is in conflict with the values and long-term interests of the Nation. This conflict was one of the driving factors behind the development of the community-derived C&I. It was felt that if local C&I were representative of the range of values voiced within the community, then a greater portion of the community would support their use as a management tool and tensions between sub-groups within the Nation would be alleviated.

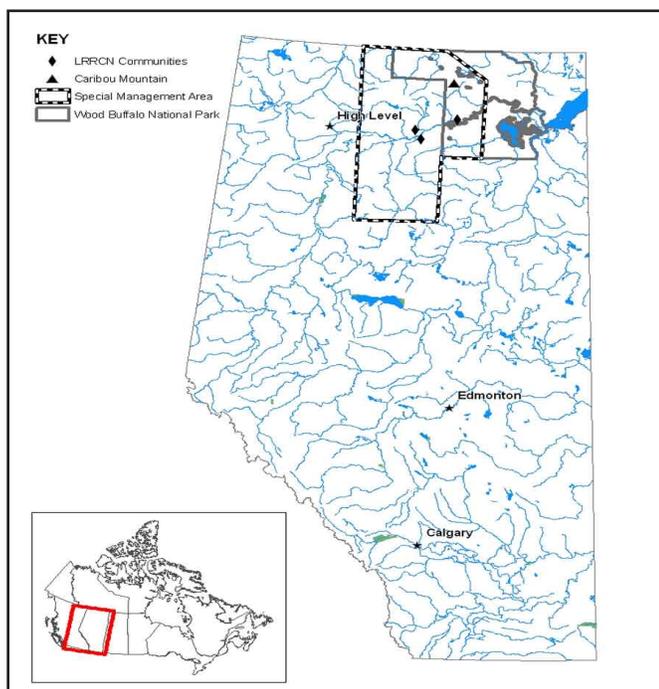


Figure 1: Map of the Little Red River Cree First Nation Special Management Area in northern Alberta.



Identifying local values

Previous SFMN research conducted with the Little Red River Cree Nation identified that C&I frameworks need to be flexible and allow for adaptive learning, adjustment and improvement to incorporate changing community values and preferences over time.

Interviews were conducted throughout the community using semi-directed and open-ended queries, a format which respects Aboriginal ways of sharing information and knowledge through stories rather than direct questioning. Interviews were conducted by six community researchers. Three questions were asked of male and female community members between the ages of 16 and 72:

- (1) What is it about this area that you value?
- (2) What needs to be maintained or protected for you to retain your relationship with the land?
- (3) What needs fixing or improving upon for the community to be healthy (socially, culturally, economically, environmentally)?

Once interviews were conducted, the community research team designed “sustainability matrices” (e.g., Table 1) that allowed community members to easily determine whether or not individual needs

Criterion I. Modify forest management operations to reduce negative impacts to wildlife species				
A) Critical Element	B) Local Value	C) Goal	D) Indicator	E) Action
1. Species diversity and availability	1. Healthy population of bison in the Caribou Mt. lowlands and drainages	1. Limit clear-cut activity along the Caribou Mt. slope to ensure turbidity of drainage is not adversely affected by erosion and sedimentation	1. Reduce timber harvesting along the Caribou Mts. slope to maintain lowland bison habitat	1. Reduce harvesting along the Caribou Mt. Slope and increase streamside buffers to no less than 300 meters in order to offset increased runoff caused by clear-cuts
2. Species diversity and availability	2. Healthy population of woodland caribou	2. Enhance critical habitat for woodland caribou	2. Protection of critical habitat blocks of old growth conifer along the Caribou Mt. slope	2. Long-term harvest rotation of critical conifer habitat along the Caribou Mt. slope, specifically in deviations between 1500-2000 feet
3. Species diversity and availability	3. Availability of bison throughout the management area	3. Protect and enhance bison range throughout the management area	3. Protect bison migration routes	3. Placement of protective zones along bison migration routes that run north-south between Fox Lake and Tall Cree
4. Species diversity and availability	4. Healthy population of fox, coyote, mink, fisher, and lynx	4. Maintain critical habitat for primary prey species (squirrels)	4. Protection of critical habitat of blocks of spruce (availability of cones) necessary for squirrel habitat	4. Long-term harvesting rotation and staggering of cut-blocks to ensure the continued availability of spruce cones for squirrels and, thus, predator species
5. Species diversity and availability	5. Healthy population of moose	5. Enhance critical habitat for moose ranging throughout the management area	5. Limit the harvesting of white spruce along river drainages	5. Limit harvesting operations along the Mikkwa River and expand stream-side buffers to no less than 300 meters from each shoreline

Table 1. Example of the six sustainability matrices developed through community consultation.



were being addressed. Six matrices were developed, each corresponding to one of the six criteria that arose out of the community consultation process. Each matrix was further divided into five levels of management concern:

- (1) **a critical element**, which was seen as an environmental feature or process that needed to be maintained, changed, or added in order to obtain the goal of the criterion,
- (2) **a local value**, which was identified by community members as needing protection or improvement through management,
- (3) **a goal**, which was the main strategy for achieving local value protection, maintenance, or improvement,
- (4) **an indicator**, which was an easily measurable attribute to ensure that goals were being met and
- (5) **an action**, which was the plan for activities that would ensure the achievement of the stated indicator.

These sustainability matrices allow both community members and local managers to evaluate management and policy strategies to determine whether or not actions are resulting in the desired outcomes for each criterion. In this sense, the process is not only adaptive from a management perspective, but it is also adaptive from a community perspective.

The sixth local criterion (Table 2), for example, describes ways to increase the involvement of community members in decision making. This criterion has five critical elements, each with corresponding actions that aim to allow for adaptive management through public participation. Increased public participation is anticipated due to increased education of and knowledge exchange between people within the communities themselves.

Criterion VI. Increase the Involvement of Community Members in Decision-Making				
A) Critical Element	B) Local Value	C) Goal	D) Indicator	E) Action
1. Inter/Intra community information exchange	1. Equitable participation of community members in policy and decision-making	1. Direct communication between industry and community members	1. Recognized point of contact is established between industry and each of the three LRR communities	1. Community-industry information liaison representing each of the three LRR communities should be appointed.
2. Inter/Intra community information exchange	2. Equitable participation of community members in policy and decision-making	2. Industry goals and management plans are communicated to each of the three LRR communities.	2. Information is disseminated in a format accessible to community members.	2. Posters and newsletters for information dissemination.
3. Inter/Intra community information exchange	3. Equitable participation of community members in policy and decision-making	3. Pluralistic participation on management board	3. Community representation on the SMA management board is diversified	3. Youth (3), Women (3), and Elder (3) involvement on SMA management board (rotated involvement)
4. Inter/Intra community information exchange	4. Equitable participation of community members in policy and decision-making	4. SMA management objectives are made more accessible to community members	4. Forums to facilitate community participation in the management of the SMA are created	4. Community steering committees should be created and comprised of family representatives.
5. Inter/Intra community information exchange	5. Equitable participation of community members in policy and decision-making	5. Local ecological knowledge is given an equitable role in management and planning decisions	5. Traditional ecological knowledge is used to inform management and planning objectives	5. Implement a consultation program with community trapline holders

Table 2. Sustainability matrix for the sixth criterion developed in this project. This matrix demonstrates an adaptive approach to sustainable forest management.



Conclusion

This process for developing local C&I in Aboriginal communities takes into consideration environmental, social, economic, cultural and other features identified by community members themselves. Likewise, the process described here provides a good example of how managers can address the CCFM Criterion 6 (Aboriginal involvement in planning and management). The resultant framework provides direction to land-use planning and management processes, while allowing for changes over time as values evolve within the community.

An adaptive framework is an important feature of the process. The changes experienced by the Little Red River Cree Nation—due to increased access to timber resources and increased management responsibilities over their traditional lands—are similar to those of other Aboriginal communities across the country. These changes often exacerbate, rather than mend, rifts between those who support traditional ways of using the forest and those who see commercial forestry as a solution to the poverty found in many forest-dependent Aboriginal communities. A management framework that allows for changes to be made as lessons are learned, experiences gained, and adjustments made to management processes, is a prerequisite for the sustainability of these communities.

The process outlined in this note may encounter challenges in communities facing different management scenarios. In many ways, the Little Red River Cree Nation management planning agreement, which gave the community some measure of control over its lands, is more the exception

Management Recommendations

There were several challenges with this process that should be recognized by those interested in applying it in other communities.

- **Community diversity:** The word “community” does not necessarily imply a spatially bounded or socially, culturally or economically homogenous group. Aboriginal communities, like most communities, often demonstrate a wide variety of personal opinions, needs and competing interests. Recognizing this fact is important when undertaking any “community-driven” project and highlights the need to obtain input from as many people as possible in the community to reflect the full range of values present. This recognition ensures the process is transparent and fair, and the results are credible.
- **Seasonal activities:** During this project, on-reserve living patterns had to be taken into account, as did seasonal residence. Research team members participated in community activities, accompanied elders on trapping transects or bush walks and visited seasonal camps in order to increase the number of people interviewed and minimize biases due to geographical proximity (i.e., interviewing only those most accessible).
- **Interview biases:** Potential biases in the research results were controlled in a number of ways. Community members conducted the interviews, which allowed for an increased level of trust and understanding between interviewer and interviewee. The perspective of the community researchers was invaluable to the final analysis for it resulted in the identification of critical elements, values, goals, indicators and actions. In addition, community researchers were the only ones capable of speaking both Cree and English satisfactorily, which significantly decreased the chance of language bias or misinterpretation. Potential gender bias was compensated for through interview teams that consisted of one female and one male.
- **Baseline data:** A common concern in any C&I system, including the CCFM national C&I, is that of establishing baseline ecological data. Often, such data are lacking, making monitoring, even with the best formulated criteria and indicators, difficult at best. By engaging all ages of the community in the development of these C&I, this project has been successful in increasing the “base” of ecological data for the Little Red River Cree Nation, both in terms of temporal data (i.e., generational experiences) and spatial data (i.e., knowledge of the functioning land area).
- **On-going monitoring:** Monitoring is an important consideration that needs further attention. The question of who monitors, how often, and where funds will come from for monitoring are considerations that are prevalent throughout most, if not all, C&I systems (including CCFM).



than the rule for Aboriginal communities across Canada. Nevertheless, this adaptive learning process provides a starting point from which sustainable forest management plans that attempt to engage and accommodate Aboriginal communities can be designed, implemented and adjusted.

Further reading

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The views, conclusions and recommendations contained in this publication are those of the authors and should not be construed as endorsement by the Sustainable Forest Management Network.

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