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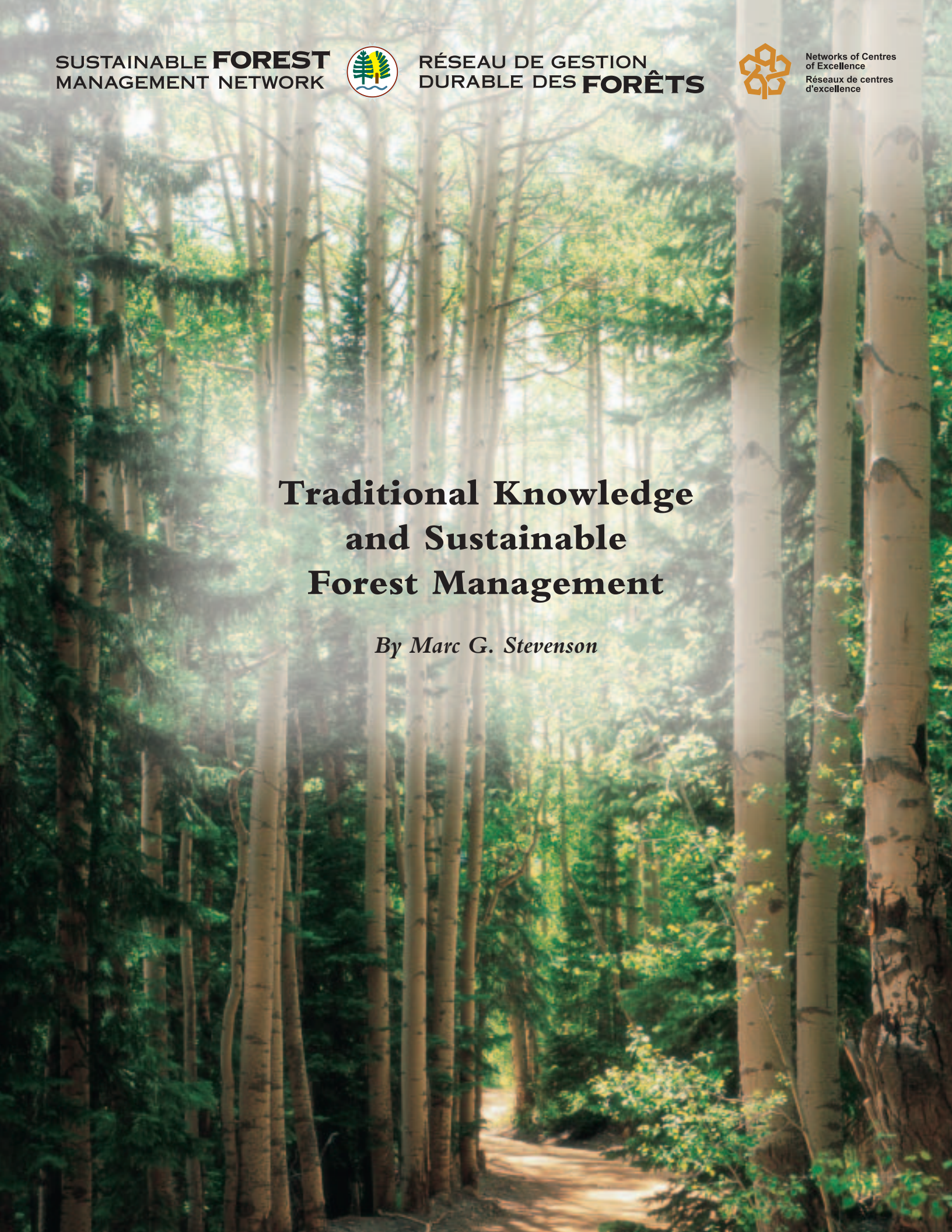

Traditional Knowledge and Sustainable Forest Management

By Marc G. Stevenson

THE SUSTAINABLE FOREST MANAGEMENT NETWORK

Established in 1995, the Sustainable Forest Management Network (SFM Network) is an incorporated, non-profit research organization based at the University of Alberta in Edmonton, Alberta, Canada.

The SFM Network's mission is to:
- Deliver an internationally-recognized, interdisciplinary program that undertakes relevant university-based research;
- Develop networks of researchers, industry, government, Aboriginal, and non-government organization partners;
- Offer innovative approaches to knowledge transfer; and
- Train scientists and advanced practitioners to meet the challenges of natural resource management.

The SFM Network receives about 60% of its $7 million annual budget from the Networks of Centres of Excellence (NCE) Program, a Canadian initiative sponsored by the NSERC, SSHRC, and CIHR research granting councils. Other funding partners include the University of Alberta, governments, forest industries, Aboriginal groups, non-governmental organizations, and the BIOCAP Canada Foundation (through the Sustainable Forest Management Network/BIOCAP Canada Foundation Joint Venture Agreement).

KNOWLEDGE EXCHANGE AND TECHNOLOGY EXTENSION PROGRAM

The SFM Network completed approximately 300 research projects from 1995 – 2004. These projects enhanced the knowledge and understanding of many aspects of the boreal forest ecosystem, provided unique training opportunities for both graduate and undergraduate students and established a network of partnerships across Canada between researchers, government, forest companies and Aboriginal communities.

The SFM Network's research program was designed to contribute to the transition of the forestry sector from sustained yield forestry to sustainable forest management. Two key elements in this transition include:
- Development of strategies and tools to promote ecological, economic and social sustainability, and
- Transfer of knowledge and technology to inform policy makers and affect forest management practices.

In order to accomplish this transfer of knowledge, the research completed by the Network must be provided to the Network Partners in a variety of forms. The KETE Program is developing a series of tools to facilitate knowledge transfer to their Partners. The Partners' needs are highly variable, ranging from differences in institutional arrangements or corporate philosophies to the capacity to interpret and implement highly technical information. An assortment of strategies and tools is required to facilitate the exchange of information across scales and to a variety of audiences.

The KETE documents represent one element of the knowledge transfer process, and attempt to synthesize research results, from research conducted by the Network and elsewhere in Canada, into a SFM systems approach to assist foresters, planners and biologists with the development of alternative approaches to forest management planning and operational practices.

Knowledge Exchange and Technology Extension Program (KETE)
Sustainable Forest Management Network

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What is Traditional Knowledge?

Various terms have been advanced in the context of environmental resource management (ERM) to describe the "relevant" traditional knowledge (TK) of Aboriginal and Indigenous peoples, the most common of which are traditional ecological knowledge (TEK), traditional environmental knowledge, indigenous knowledge and indigenous science. None of them, even the oft-cited Dene Cultural Institute's definition below (cited in Stevenson 1996), are particularly empowering to those who have this knowledge or useful to those who wish to access and apply it.

Such definitions, without consideration of the holistic context in which the knowledge of Aboriginal peoples are often embedded, tend to limit or "pigeon-hole" the contributions that Aboriginal peoples can make to decisions required to achieve ecological, social, cultural and economic sustainability. This is especially so, if knowledge not directly related to environmental or ecological issues is excluded from consideration. For this reason, TK is used with reservation throughout this paper.

Attempts to characterize "traditional knowledge" (TK) are not particularly useful, and limit the contributions of Aboriginal peoples to sustainable forest management (SFM).

> Traditional environmental knowledge is a body of knowledge and beliefs transmitted through oral tradition and first-hand observation. It includes a system of classification, a set of empirical observations about the local environment and a system of self-management that governs resource use. Ecological aspects are closely tied to social and spiritual aspects of the knowledge system… With its roots firmly in the past, TEK is both cumulative and dynamic, building upon the experience of earlier generations and adapting to the new technological and socio-economic changes of the present. (Dene Cultural Institute 1995, cited in Stevenson 1996)

The articulated knowledge system of Aboriginal peoples, unlike the supposedly value-free, raw data and information used to construct universal scientific knowledge, relies heavily on its social/cultural context for meaning and value. However, it must acknowledge that both systems of knowledge are culturally constructed and may have much to offer in our attempts to develop sustainable relationships with the natural world.

Why Traditional Knowledge?

The inclusion of the knowledge of Aboriginal peoples in ERM is now receiving considerable attention. For example, Canada is a signatory to a number of international agreements that promote the use of TK in resource management (e.g., Biodiversity Convention), and the Canadian Environmental Assessment Act may soon be amended to incorporate TK into the environmental impact assessment requirements. At the same time, government policy in the Northwest Territories and Nunavut mandate the use of TK in territorial government processes and initiatives.

There are a variety of reasons for the elevated status of TK among non-Aboriginal Canadians, companies, agencies and institutions that advocate sustainable forest management (SFM). The current limitations of western science and ERM to deal effectively with environmental issues of increasing in magnitude and complexity (e.g., global warming, multiple and cumulative impacts, biodiversity conservation) has opened the door to the acceptance of alternative sources of knowledge. At the same time, Aboriginal peoples and their governments are seeking greater equity from natural resource allocations and developments, and are becoming more assertive of their rights. In dispute resolution or other negotiated situations, political concessions are now being made in which TK is incorporated into environmental decision-making. Not surprisingly, Aboriginal peoples champion the use of TK in order to promote their active involvement in ERM and SFM, often by creating some form of cooperative management regime. Therefore, TK is becoming a nexus around which industry and government frame their dialogues with Aboriginal peoples.

TK frequently frames Aboriginal-government-industry dialogue about natural resource development.

> …Lifestyles of tribal and Indigenous peoples… can offer modern societies many lessons in the management of complex …ecosystems. Their disappearance is a loss for the greater society, which could learn a great deal from their traditional skills in sustainably managing very complex ecological systems. (from Brundtland 1987:12, 114-115)

The Context of Traditional Knowledge

TK should not be separated from the context in which it originated, and derives its full meaning and value.

The traditional and ecological knowledge of Aboriginal peoples often are part of a broad, articulated system of contemporary meaning and understanding that most Aboriginal peoples use to mediate their relationships with the natural world. But the knowledge systems of many Aboriginal peoples also include contemporary non-traditional and non-ecological knowledge, all of which are intricately related. Although many Aboriginal peoples continue to attach great value to land and resource-based knowledge from previous generations, this knowledge is re-cast and its utility re-evaluated in the light of contemporary experiences, needs and values.

> Many Aboriginal people feel that requests to access their traditional knowledge represent another form of exploitation, because this knowledge can easily be taken out of context and misinterpreted. Moreover, viewing the knowledge that Aboriginal people possess as essentially traditional invites denial of the relevance and efficacy of applying their knowledge to present-day issues and problems. (Stevenson 1996:280)

Applying Traditional Knowledge in ERM

The practice in ERM today, for the most part, and with rare exception, has been to "cherry-pick" certain elements of TK of practical utility to resource managers. Most notably, specific bits of environmental knowledge held by Aboriginal peoples are

merged, with SCIENTIFIC KNOWLEDGE to inform existing management practices without consideration of their value or meaning within their own cultural context. So far, the end result, despite all the recent attention and rhetoric, has not allowed Aboriginal peoples nor their knowledge to make a significant contribution to the way resources are managed; a process that is as frustrating to those who possess this knowledge as those wishing or required to use it.

There are at least two systemic reasons why this frustration exists. The first has to do with the fact that TK did not evolve to inform scientific knowledge, or even ERM. Certainly, many TK holders have developed extensive knowledge about the spatial and temporal distributions, composition, health, conditions, and behaviours of many natural species, and the factors that influence them. This knowledge, which arises from both personal life experience and knowledge passed down from previous generations, may reveal much about natural variation over time and space of valued ecosystem components (VECs). At the same time, forest-dependent Aboriginal peoples have witnessed both specific and combined impacts and consequences of natural and human disturbances to forest resources over broad temporal and spatial scales. Such knowledge can provide additional information to assist forest managers and planners implement existing practices. However, to use TK in such a way limits the contributions of Aboriginal peoples and the knowledge that they hold for achieving ecological, social, economic and cultural sustainability in Canada's forests. Moreover, it invites a plethora of problems that inevitably follow for both Aboriginal owners and non-Aboriginal users of this knowledge.

The second reason TK has made little impact on ERM is because TK is almost always taken out of context. The current process, which is familiar to many researchers and Aboriginal research participants, goes something like this:

- The research issues or problems are usually (but not always) identified by non-Aboriginals (e.g., government or company managers, consulting scientists, independent researchers).
- The research questions are framed by those trained or cultured in the western scientific knowledge tradition and resource management thinking.
- The knowledge sought to answer such questions requires that it be compatible with scientific knowledge, and is usually rendered into a form to which non-Aboriginals do not have ready access (see below).
- Even where TK is sought out, elders and other TK holders are interviewed using information gathering techniques that ignore the context, richness and complexity of Aboriginal narratives (e.g., **Natcher and Hickey 2002**[1]).
- Language barriers often mean local interpreters must filter and translate complex concepts and issues originating in one culture into the language of another, sometimes with questionable success.

The common practice has been to "cherry-pick" specific elements of TK to inform established scientific data bases and environmental resource management (ERM).

Traditional knowledge did not evolve to inform western science or ERM, even though Aboriginal peoples may possess knowledge of utility to both.

The process of extracting TK from its broader context is often done with good intentions, but frequently has negative impacts on vulnerable Aboriginal peoples.

[1] References in bold type are those funded by the Sustainable Forest Management Network.

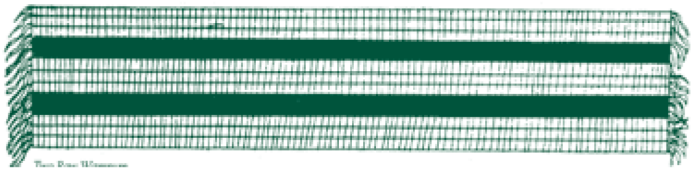
- Interviews are recorded or video-taped, and then transcribed, in whole or in part, onto paper and/or maps resulting in a further loss of context and knowledge.
- These research "artifacts" are then relied upon to produce analyses that single out specific elements in an effort to contribute new information to established scientific knowledge and resource management procedures.
- This de-contextualized "information" then becomes an authoritative reference upon which decisions are made.

The progressive de-contextualization of TK in ERM strengthens existing Aboriginal-state relations, while marginalizing Aboriginal peoples.

Many research projects, including those undertaken by the Sustainable Forest Management Network (SFMN), have demonstrated that the methods to document TK as mentioned above have methodological and ethical pitfalls. In each of the steps described above, there is a progressive loss of knowledge and context. Not only is the selected TK increasingly divorced from the social/cultural context where it was properly embedded, its original users are increasingly separated from knowledge that they once owned and controlled, effectively excluding them from decision-making. So far, the common scenario is that TK is valued primarily for its contribution to scientific knowledge and ERM. The methods and intent seem to sanitize, or "dumb-down" TK to the role of "hand-maiden" to scientific knowledge. Alternative ways of knowing, seeing and relating to the natural world are de-valued, diminished and sometimes dismissed. The process reflects the predominant positions of scientific knowledge and ERM practice in environmental decision-making, and strengthens the existing institutional arrangements and power relationships that support them. There is potential that by doing things this way, in the end, everybody loses. An alternative approach to effectively integrate Aboriginal peoples and their knowledge into SFM is proposed below.

The Two Row Wampum Approach: A Proposed Alternative

The Two Row Wampum, pictured below, was given by First Nations peoples to Europeans, and is based on a nation-to-nation relationship that respects the autonomy, authority and jurisdiction of each nation. The two rows symbolize two paths or two vessels travelling down the same river of life together. One, a birch bark canoe, represents the Original peoples, their laws, their customs and their ways. The other, a ship, is for the European peoples, their laws, their customs and their ways. They travel down the river together, side by side, each in their own boat, neither trying to steer the other's vessel (**Stevenson and Webb 2003**).



TK evolved to inform ways and philosophies of life very different from those in which scientific knowledge and resource management emerged. Scientific knowledge is heavily imbued with Western European religious, social, cultural and economic thought and tradition, whereby specific resources or arbitrarily defined units, are managed using the best available science and information. Aboriginal peoples, and most Indigenous peoples worldwide, traditionally did not manage resources, but their relationships to/with resources (**Stevenson and Webb 2003**). Control or dominance over nature was a foreign concept, whereas maintaining reciprocity between human beings and the natural world was humankind's responsibility.

TK, like western scientific knowledge, is a culturally constructed framework of thought about the natural world.

Not until after contact with Europeans did Indigenous peoples become familiar with the concepts and practices of scientific knowledge and ERM. It is relationships with the natural world, not resources that Aboriginal peoples managed. In this light, and contrary to the claims of many researchers, environmental managers and even Aboriginal peoples, TK may have little to offer conventional scientific knowledge or ERM, and even SFM as currently practised. However, TK may have much to contribute to understanding and developing sustainable relationships with the natural world. The effective contributions of Aboriginal peoples, and their knowledge and management systems, to ERM will not be realized until environmental policy makers and resource managers consider them equally with those of scientific researchers, scientific knowledge and resource management in forest decision-making (Figure 1.)

Aboriginal peoples traditionally managed their relationships with the natural world.

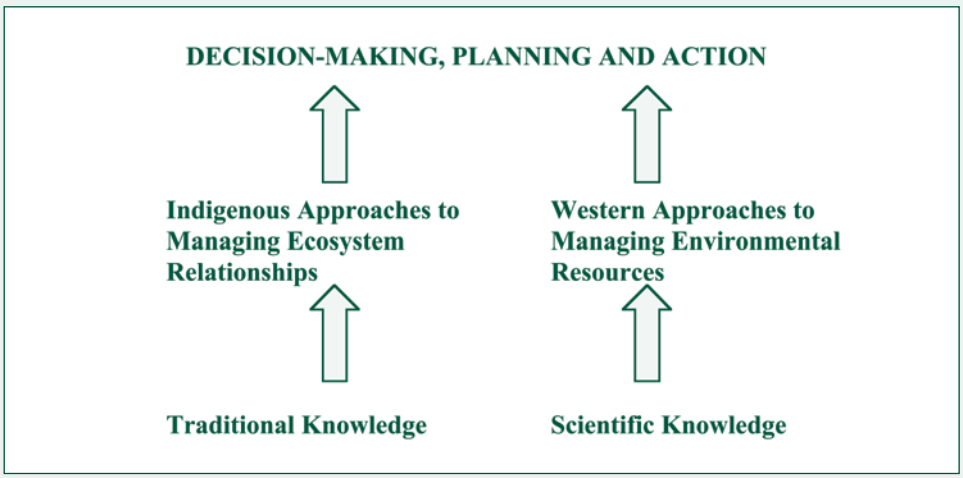


Figure 1. An alternative approach to incorporating Aboriginal peoples and their TK in SFM (modelled after the *Two Row Wampum*).

In the Two Row Wampum approach, TK is not merged with scientific knowledge, or used primarily in the service of ERM. Rather, it is used to inform Indigenous management approaches, which focus on managing valued ecosystem relationships. In this model, the two management approaches are not mutually antagonistic, but complementary — one contributing knowledge and wisdom relevant to managing valued ecosystem relationships (VERs), the other information and knowledge relevant to managing resources or valued ecosystem components (VECs).

Both TK and western science are required to achieve SFM.

Theoretically, VECs could include VERs, and in some environmental assessments Aboriginal values and relationships with key species have been identified as VECs. Nevertheless, management considerations almost always focus on information about the resource to the exclusion of knowledge of the relationship. At a minimum, both should be considered equally in decision-making. In reality, however, each should be accorded consideration commensurate with their respective contributions to achieving ecological, social, cultural and economic sustainability in Canada's forests. This does not mean that TK and scientific knowledge contributors should not talk to, or share their knowledge with, each other. On the contrary, the process of learning from one another should start at the beginning of the relationship and build from there in order to facilitate discussions at the planning and decision-making stages (Figure 2).

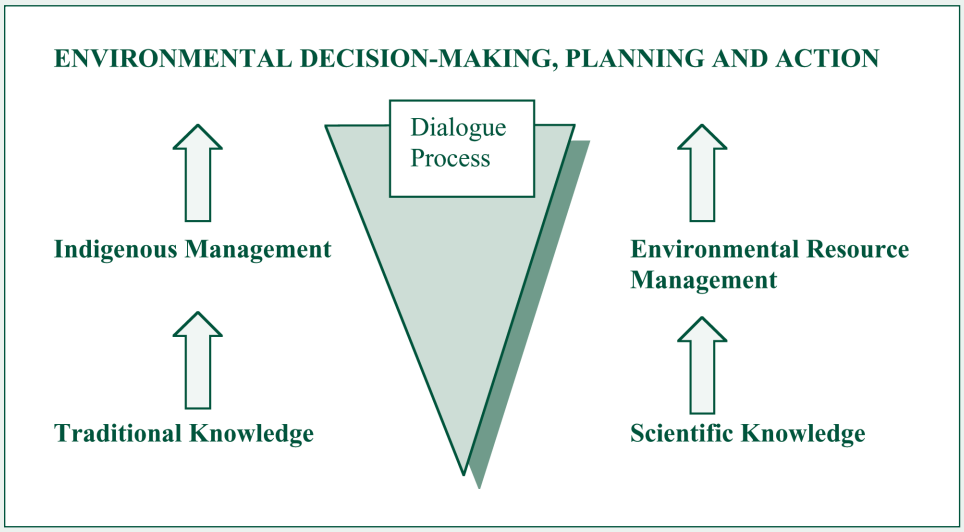


Figure 2. Dialogue process built into Aboriginal and non-Aboriginal knowledge and management systems incorporation model.

SFM requires consideration of socio-cultural, economic and political information, not just ecological information grounded in TK and western science.

In theory, this model provides an attractive knowledge base and framework upon which to achieve sustainable use of Canada's forests. In reality, however, decisions affecting the use of natural resources are rarely made in the absence of political and economic considerations. Indeed, some would argue that, to date, the latter have enjoyed a much larger role than "science" in environmental decision-making. The fact of the matter is, that in order to achieve ecological integrity, political certainty, social stability and economic viability in Canada's forests, serious consideration must be given not just to the environment or ecology, but to political, economic, social and other factors, all of which are interrelated (Figure 3). At the same time, decision-making models for achieving sustainability in Canada's forests must allow for the contributions that Aboriginal peoples and their knowledge will make on all these fronts (Figure 4). In this model, TK is not forced into the western scientific paradigm, ERM or SFM, but re-contextualized to become part of a larger comprehensive strategy to achieve ecological, social, cultural and economic sustainability in Canada's forests.

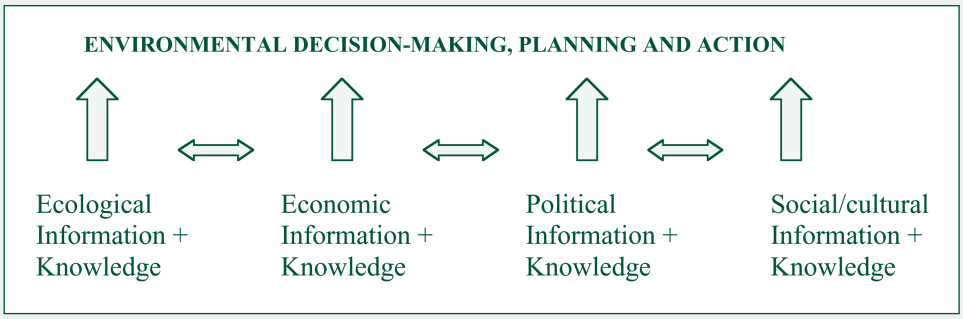


Figure 3. Factors influencing decision-making in SFM.

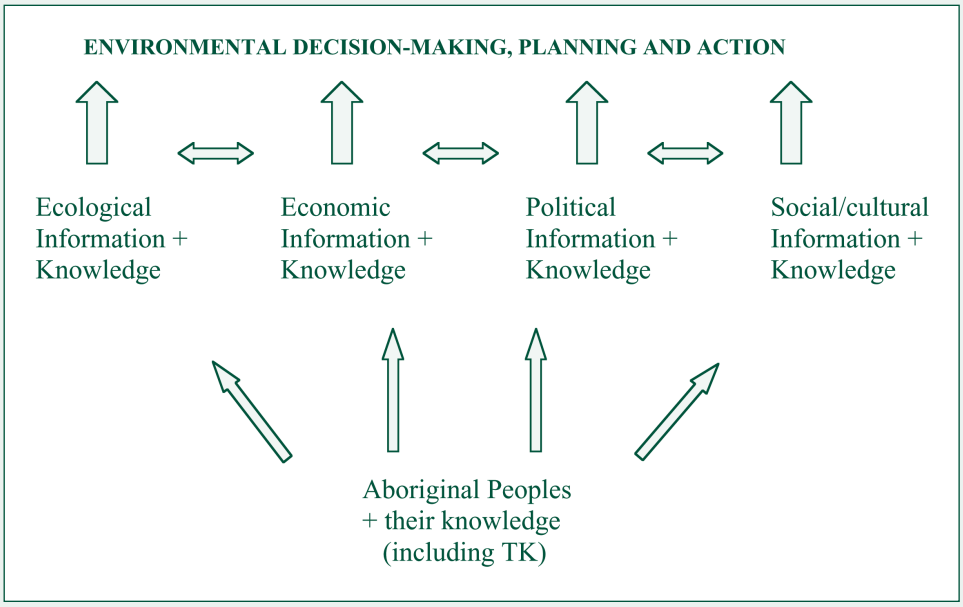


Figure 4. An alternative approach to enhance the contributions of Aboriginal peoples and their knowledge to decision-making in SFM.

Steps Towards Sustainability

Many resource managers, because of existing regulatory requirements, operational momentum or commitments made in forest management plans, may, even if willing, be unable to adopt the approach advocated above. However, there are steps that can be taken right now that may eventually lead to the implementation of models such as that illustrated in Figure 4:

1. Consult with Aboriginal peoples about traditional resource uses and critical habitats (e.g., trap lines, cabins, hunting grounds, trails, berry-picking sites, etc.) within their respective management areas in an effort to incorporate this knowledge into forest planning. This is perhaps the first thing that resource managers consider when they think of TK.

The more Aboriginal peoples and their knowledge are involved in decision-making, the greater their potential contribution to SFM.

2. Incorporate Aboriginal peoples' knowledge about natural variation and anthropogenic changes in valued ecosystem components to develop alternative forest management practices.
3. Apply Aboriginal knowledge of valued ecosystem relationships (VERs) to forest management planning. However, without involving the "knowers" into planning and decision-making processes, these steps may cause problems for both parties relating to the ownership and use of intellectual property (Figure 5).
4. Including Aboriginal peoples into forest planning and the monitoring of valued ecosystem components and valued ecosystem relationships would go a long way towards mitigating problems associated with taking the "knowledge without the knower".
5. Incorporate Aboriginal peoples into the decision-making processes, commensurate with their needs, rights and interests.

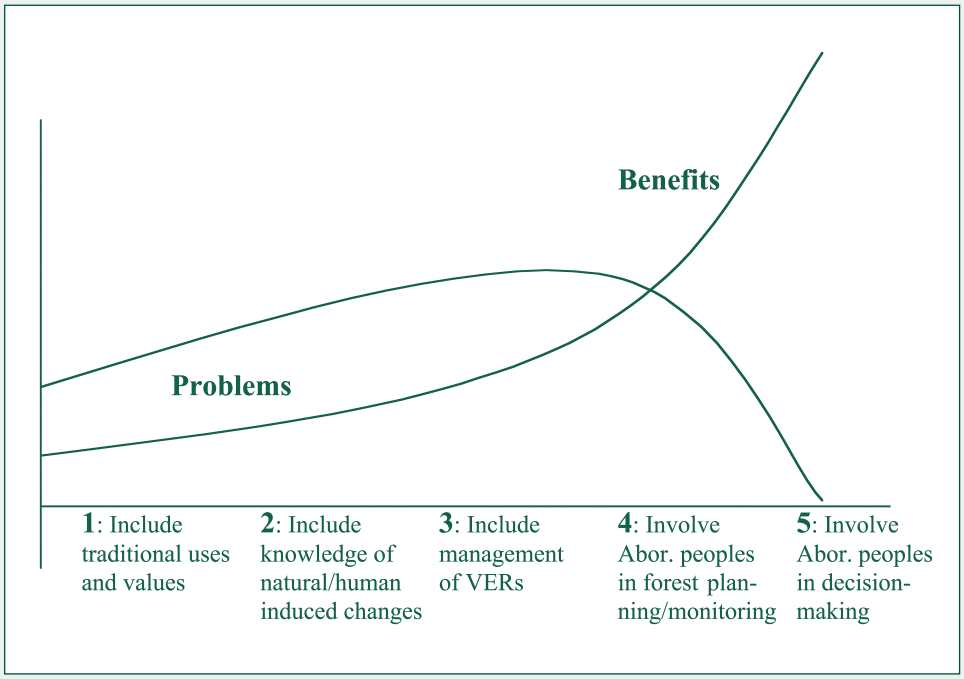


Figure 5. Predicted extent of problems and benefits associated with various approaches to incorporating Aboriginal peoples and their knowledge into SFM. (Note: This assumes that each step builds on the one before)

Sustainable Forest Management Network Research on Traditional Knowledge

A challenge for the SFMN research program has been integrating the contributions of Aboriginal peoples and their knowledge into SFM. This may be a result of earlier research projects employing models where TK was incorporated largely for the purpose of informing scientific data sets. In addition, current provincial regulatory frameworks do not recognize or accommodate Aboriginal rights, values or knowledge into forestry policy and practice.

Early SFMN research attempting to incorporate Aboriginal peoples and apply their TK has not produced the desired outcomes.

Early SFMN research unintentionally applied and imposed on Aboriginal peoples concepts, terms and procedures originating in the cultural paradigms of scientific knowledge and ERM, thus undermining their potential contributions to SFM. However, recent research projects have improved the approach **(Korber *et al.* 2002)**. **Pyc's (1999)** research with mentor SFMN partner, the Little Red River Tall Cree Nation (LRRTC) of northern Alberta, began to highlight the importance of social and cultural considerations in the documentation of traditional ecological knowledge. In southeast Manitoba, **Berkes *et al.* (2002)** have conducted research with the people of Shoal Lake for application in the development of habitat restoration plans that protect the social, ecological and economic relationships required to sustain Aboriginal forest values and cultural landscapes. Pelletier's research with the Waswanipi Cree of Quebec **(Pelletier 2002)** began to facilitate the contributions of Cree trappers and their knowledge to the management and design of forest operations in order to protect Cree ecological, social, economic and other values.

In their research with the LRRTC, Hickey, Natcher and Nelson, have documented Cree forest values and knowledge, and have evaluated the roles of forest resources in achieving community sustainability **(Hickey 2001, Natcher and Hickey 2002, Nelson 2002)**. Moreover, against the backdrop of expanding forest operations and other industrial impacts, **Natcher and Hickey (2002)** developed a community-based management approach, using local level criteria and indicators. This will assist the LRRTC to 1) assess existing and future management practices against their needs, rights and values, 2) implement a monitoring and evaluation framework as a basis for improved management, and 3) manage conflict by articulating and weighting the diversity of values within their communities. Also with the LRRTC, **Krogman and Schramm (2001)** documented Cree uses, values and knowledge of moose, bison, caribou and their habitats in order to assist these First Nations to protect and better manage their relationships with these species.

Existing decision-making processes in which Aboriginal peoples participate have also been examined by SFMN researchers. **Krogman and Tresder (2000)** undertook a multi-stakeholder evaluation of the Caribou Mountains-Lower Peace Planning Board and found that the needs and values of the LRRTC are not adequately addressed in the forest management model currently used by the Board in land-use planning. **Kant and Smith (2000)** assessed the values of multiple forest stakeholders (Aboriginal, industry, environmental groups) in

northwest Ontario, documenting existing institutions of forest management and the relationships between the two to design effective co-operative management institutions that incorporate all forest user rights and interests. In their synthesis document for the SFMN, **Ross and Smith (2002)** found that Aboriginal involvement in forest decision-making is constrained by provincial forest policy which serves as a structural and systemic barrier to the recognition and protection of Aboriginal rights, values and interests. In particular, the determination of annual allowable cuts, the allocation of long-term forest tenures, and the requirement to operate mills as a condition of tenure allocation all serve to further reinforce the exclusion of Aboriginal peoples and their knowledge from forest decision-making.

Despite the completion of SFMN research relevant to incorporating Aboriginal peoples and their knowledge into forest planning and decision-making, the implementation of research results into new policy, practices and institutions has not be realized. To facilitate the transition to SFM and the development of new policy SFMN partners should commit to creating a future that opens the door for Aboriginal peoples and their knowledge, while truly balancing the needs, rights and interests of all forest users. Some alternative approaches are suggested below.

Recommendations

1. Develop Professional Literacy of Culture

Representatives from government, industry, environmental non-governmental organizations (ENGO) and research communities should develop greater capacity to deconstruct their own knowledge claims and cultural assumptions. They should also develop an appreciation of knowledge and management systems different than their own (i.e., ones that focus on sustaining relationships integral to the entire forest ecosystem).

2. "Get up to speed" on Aboriginal and Treaty Rights

Aboriginal and treaty rights are protected under law. The exercise of these rights is critical to sustaining Aboriginal valued ecosystem relationships, knowledge contributions to forest management, and forest biodiversity **(Stevenson and Webb 2002)**. SFMN partners should familiarize themselves with Aboriginal and treaty rights in order to create the political certainty and economic conditions necessary for sustainability in Canada's forests.

3. Support Aboriginal and First Nations Efforts

Elevating the status of Aboriginal knowledge and management systems in forest decision-making makes both good political and ecological sense. SFMN partners should endeavor to support Aboriginal efforts to find a greater voice in SFM planning. This includes Aboriginal efforts to:

1. document, assess and prioritize their uses, values and needs of forest resources,
2. develop resource and land use plans for the future based on these, and
3. support activities and practices that promote Aboriginal values and their transmission from one generation to the next.

4. Support Policy Reform and the Creation of New Institutional Arrangements

In order to create the political certainty, and ecological, social/cultural and economic formulae for sustainability, government, Aboriginal, industrial, public and ENGO proponents of SFM must work together to reform existing policies, practices, regulations and institutions. Only through the design of new tenure regimes and institutional arrangements will the needs, rights, interests and knowledge contributions of Aboriginal peoples and other forest users be given a fair hearing and weighted accordingly in forest decision-making. For this to occur, government must not just accept its fiduciary obligations to Aboriginal peoples, but endeavor to develop and administer policies that accommodate Aboriginal and treaty rights into SFM. Industry partners not wishing to sit on the sidelines may, in addition to lobbying governments for policy reform, enter into agreements with Aboriginal groups which share management authority over and the economic benefits from forestry and the development of forest resources, including non-timber and value-added products.

5. Supporting Research

In addition to supporting Aboriginal efforts to develop forest and land-use plans, SFMN industry partners, in their shift from sustained yield to SFM, may wish to entertain variable retention, innovative zoning and other approaches that might meaningful involve Aboriginal peoples and their knowledge in forest decision-making, and in the management and monitoring of VERs and VECs specifically. Once a forest company moves away from the traditional sustained yield forest management model, the questions become what values and resources to retain, and why. Industry partners may also wish to work with Aboriginal communities to become certified through certification schemes that support Aboriginal involvement, and to support Aboriginal research efforts to develop plans that sustain their values and needs of forest resources. Finally, employing

the perspectives advanced in this primer, SFMN researchers must continue to undertake research with Aboriginal peoples and their industry partners to investigate and refine their roles and contributions to SFM.

Some Guiding Principles for Incorporating Aboriginal Peoples and Their Knowledge in SFM

- TK cannot be incorporated into SFM without its rightful owners.
- TK and western science are not value-neutral, but culturally constructed, knowledge systems.
- TK evolved to inform Indigenous ways of knowing and doing, or management systems, not scientific knowledge or ERM.
- Both TK and scientific knowledge are required to achieve SFM.
- Aboriginal peoples possess not only traditional and/or ecological knowledge, but other knowledge required for sustainability in Canada's forests.

A Process to Incorporate Aboriginal Peoples and their Knowledge into SFM: An Example for SFMN Partners

- Forest company commits to SFM, exploring alternative approaches to sustained yield and clear-cutting (e.g., variable retention, TRIAD, carbon sequestration, non-timber product development, etc.);
- Forest company consults with affected Aboriginal/First Nation parties regarding their needs, rights and interests in an effort to substantially address their concerns;
- Forest company negotiates information/knowledge sharing protocols, management authority and economic benefit agreements with Aboriginal/First Nations;
- Forest company and Aboriginal party implement agreements taking an adaptive management approach;
- Forest company, with Aboriginal support, lobbies provincial government for policy and institutional reform;

Suggested Readings

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- Networks of Centres of Excellence (NCE) Program
  - Natural Sciences and Engineering Research Council of Canada (NSERC)
  - Social Sciences and Humanities Research Council of Canada (SSHRC)

SPECIAL FUNDING AGREEMENTS

- Sustainable Forest Management Network/BIOCAP Canada Foundation Joint Venture Agreement

FUNDING PARTNERS

GOVERNMENTS

- Canadian Forest Service
- Environment Canada
- Parks Canada
  Ecological Integrity Branch
- Government of Alberta
  Alberta Sustainable Resource Development
- Government of British Columbia
  Ministry of Forests
- Government of Manitoba
  Manitoba Conservation
- Government of Newfoundland and Labrador
  Department of Forest Resources and Agrifoods
- Government of Ontario
  Ministry of Natural Resources
- Gouvernement du Québec
  Ministère des Ressources naturelles, de la Faune et des Parcs
- Government of Yukon Territory
  Energy, Mines and Resources

INDUSTRIES

- Abitibi-Consolidated Inc.
- Alberta-Pacific Forest Industries Inc.
- Bowater Inc.
- Canadian Forest Products Ltd.
- Daishowa-Marubeni International Ltd.
- J.D. Irving, Limited
- LP Canada Ltd.
- Millar Western Forest Products Ltd.
- Riverside Forest Products Limited
- Tembec Inc.
- Tolko Industries Ltd.
- Weyerhaeuser Company

ABORIGINAL GROUPS

- Gwich'in Renewable Resource Board
- Heart Lake First Nation
- Kaska Tribal Council
- Little Red River/Tall Cree Nation
- Moose Cree First Nation

NON-GOVERNMENTAL ORGANIZATIONS (NGOs)

- Ducks Unlimited Canada

INSTITUTION PARTNERS

- University of Alberta
  (Host Institution; also a Funding Partner)
- Concordia University
- Dalhousie University
- Lakehead University
- McGill University
- Memorial University of Newfoundland
- Royal Roads University
- Ryerson University
- Trent University
- University College of the Cariboo
- Université de Moncton
- Université de Montréal
- Université de Sherbrooke
- Université du Québec à Chicoutimi
- Université du Québec à Montréal
- Université du Québec à Rimouski
- Université du Québec à Trois-Rivières
- Université du Québec en Abitibi-Temiscamingue
- Université Laval
- University of British Columbia
- University of Calgary
- University of Guelph
- University of Lethbridge
- University of Manitoba
- University of New Brunswick
- University of Northern British Columbia
- University of Ottawa
- University of Regina
- University of Saskatchewan
- University of Toronto
- University of Victoria
- University of Waterloo
- University of Western Ontario
- University of Winnipeg
- Wilfrid Laurier University

AFFILIATES

- Canadian Institute of Forestry
- Forest Ecosystem Science Cooperative
- Forest Engineering Research Institute of Canada
- Lake Abitibi Model Forest
- Manitoba Model Forest
- National Aboriginal Forestry Association

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