Forestry management based on Local Values: an Example of Forest Co-management in British Columbia

Gail Fondahl, Beverly Leon and Sue Grainger

In 1999, the Tl'azt'en Nation, a First Nation in central British Columbia in Canada, and the University of Northern British Columbia (UNBC) together founded the John Prince Research Forest (JPRF). The Tl'azt'en Nation numbers approximately 1,500 persons, about half of whom live in four villages within the group's traditional territory. They speak an Athapaskan-family language, Dakelh (also known as Carrier). Their traditional territory covers some 6,500 square kilometers in north-central British Columbia. Historically hunters, gatherers and fishers, Tl'azt'enne continue to pursue their traditional activities on their land base, as well as work in the forest industry and other local activities. Unemployment is high, as Tl'azt'enne no longer control the resources on their traditional territory. They are pursuing treaty negotiations to regain their rights to this territory.

The University of Northern British Columbia was founded in 1990, and opened in 1994. From the beginning, it had wanted to establish a research forest to support the training of students in its Faculty of Natural Resources and Environmental Studies, and to provide a site for long-term research into sustainable forestry practices for its faculty and graduate students. In 1994, the British Columbia Ministry of Forests identified 13,000 ha of "unallocated Crown forest land" that it would be willing to allocate for this purpose. The land was within the traditional territory of the Tl'azt'en Nation. The university and the Tl'azt'en Nation entered into talks around cooperating on the management of this forest base. In 1999, the provincial Ministry of Forests allocated this land as a research forest to be co-managed by the University and the Tl'azt'en Nation.

Integrating traditional and scientific approaches to forest management

The John Prince Research Forest (JPRF) is a working forest as well as a research and education facility. Logging in the forest supports a variety of research and education programs benefiting the Tl'azt'en Nation and the University of Northern British Columbia, as well as supporting the operation of the facility. *Chuzghun Resources Corporation* (CRC), a non-profit company owned by the Tl'azt'en Nation and the university acts as the co-management board, with three board members appointed by the Tl'azt'en Nation and three appointed by the university. The co-management board has identified the focus of the forest's programs as "integrating traditional and current scientific approaches into resource management and research [to achieve] long-term sustainable and sound management" (JPRF Co-management Board 1999).

While timber sales support training, education and research initiatives, the forest land base is also an important area for families to pursue subsistence activities. Its land base includes traditional medicinal and food plant gathering sites, historic trails used by the Tl'azt'en, culturally modified trees and spiritual sites which still hold significance today. Three *Keyoh*, or family territories, comprise the majority of the Research Forest land base: Tl'azt'en extended families manage and steward the resources of their *Keyoh*, to ensure the well-being of the current and future generations. This system of local

governance and land tenure was somewhat eroded during the twentieth century, with the introduction of state institutions such as registered trap lines. Today, Tl'azt'enne continue to practice the *Keyoh* system, and are interested in reasserting its role in governance. The varied uses by Tl'azt'enne of the forest and their traditional governance system need to be taken into account in developing forest management practices for the John Prince Research Forest.

Collaborative research
Although the John Prince Research Forest (JPRF) has been set up to serve the needs of the two co-management partners, how does the *Chuzghun Resources Corporation* know what these needs are, or if management practices are achieving the goals of the partners? Over the past half decade since the establishment of the JPRF, the Tl'azt'en Nation and the University of Northern British Columbia have been carrying out a collaborative research program to learn how Tl'azt'en members and researchers define sustainable forest management, and to begin to develop measures that will allow the *Chuzghun Resources Corporation* to monitor the JPRF's success in meeting these definitions. The research also forms the basis for critical decisions on how to reinvest the monies earned from logging, and how to choose where to log and where to avoid logging. Local criteria and indicators of sustainable forest management have been identified in terms of both processes and outcomes of co-management (Sherry et al. 2005, Grainger et al. 2006).[1]

Tl'azt'en values of sustainable forest management
The table below summarizes some of the local criteria, indicators and values that Tl'azt'enne indicate are critical to *their* definition of sustainable forest management (a more complete listing and discussion is found in Sherry et al. 2005). It is interesting to note that the Tl'azt'en criteria and indicators in particular emphasize social and cultural outcomes, as well as economic and ecological outcomes, as critically important to their definition. Social and cultural dimensions of sustainability have received less attention from nationally and internationally generated criteria and indicators of sustainable forestry.

Table 1: Examples of Tl'azt'en Criteria, Indicators and Values for Sustainable Forest Management

Economic Sustainability		
Criteria	**Indicators**	**Critical Tl'azt'en Values**
Provide local economic opportunities	Community capacity	Provide education and training to promote local economic development
	Access to economic opportunity (in forestry)	Spread opportunities and benefits among small operators
Provide for subsistence land use	Opportunities for subsistence fishing	Continued availability of char, trout, salmon, sturgeon, suckerfish, whitefish
	Opportunities for subsistence hunting	Continued availability of bear, deer, caribou, wildfowl, moose, grouse, rabbits, mountain goat

	Opportunities for subsistence gathering	Continued availability of medicinal plants, materials plants and food plants
	Opportunities for subsistence trapping	Continued availability of rabbit, beaver, coyote, fisher, fox, lynx, marmot, mink, muskrat, otter, squirrel
Provide employment opportunities	Employment practices established	Priority hiring of Tl'azt'en Nation members, *Keyoh* holders
	Ensure equity of employment opportunities	Distribution of opportunities among families, small contractors
		Promotion of employment opportunities for women, youth, *Keyoh* holders
Ecological Sustainability		
Maintain forest ecosystem condition and function	Maintain ecosystem diversity	Protect and generate medicinal plants
		Use minimal impact harvesting techniques
		Maintain natural ecological processes and patterns (e.g. occurrence and severity of fire, insects, disease)
		Conserve forest land base
		Ecologically restore damaged or degraded sites
	Maintain biological diversity	Maintain viable populations and habitats of fish, ungulates, birds, small mammals, carnivores, fur-bearers
		Maintain viable populations and habitats of medicinal plants, food plants, material plants
		Protect rare ecological sites and special landscape features
		Protect threatened and endangered species
	Protect riparian areas	Protect wetlands, lakes, ponds, rivers, streams
	Protect water resources	Protect watersheds for human consumption, fish, and wildlife
Social and Cultural Sustainability		
Community health and well-being	Contribute to community development	Enhance community infrastructure (e.g. recreation, traditional learning centres)
	Relationship building	Provide community services
		Increase inter-generational connection
	Independence	Improve community cohesion
		Provide for long-term, secure access to lands and resources
	Cultural revitalization	Recognize and respect legal and customary rights
		Transmit traditional knowledge and cultural values

		Restore traditional forms of governance
		Transmit gender-specific knowledge
		Restore role of elders as teachers
		Increase observational/experiential learning opportunities
		Respect oral tradition

Note: This is a very partial list of local criteria, indicators and values identified through research, and is meant only to exemplify the diversity of such values.

From identifying local values to implementing informed practices

Forestry planning on the John Prince Research Forest (JPRF) takes into account many of Tl'azt'en values for sustainability. Tl'azt'en members whose *Keyoh* territories coincide with the JPRF land base have enjoyed priority employment rights and accessed funds from logging profits to improve their *Keyoh* infrastructure (e.g. for trapping cabin renovation, trail maintenance, etc). Their input is sought and incorporated into forest development planning and they have participated in wildlife enhancement programs on the JPRF. Tl'azt'enne (including *Keyoh* members) have received a variety of training and have been employed in the Research Forests in forestry operations, facility management and research and education programs. *Keyoh* members' concerns around resource sustainability have been developed into a community-based environmental monitoring program, in which they are paid participants. Research projects developed between the Tl'azt'en Nation and the University of Northern British Columbia include documenting and archiving traditional ecological knowledge of plants and place names, developing curriculum for outdoor culture camps based on traditional ecological knowledge, looking at the potential for diversifying economic activities in the forest (e.g. ecotourism) and developing methodologies for integrating First Nation's land values into forest management planning. The JPRF has collaborated with the Tl'azt'en Nation on a variety of projects, currently including: a labour market study, traditional campsite development and a wildlife monitoring program. JPRF revenues from logging have also been used to support outdoor culture camps, to provide bursaries for Tl'azt'en members pursuing post-secondary education, to support Tl'azt'en natural resource technical training and to assist community groups, such as a local youth hockey team.

Current research is also looking at how to measure success (or lack thereof) in meeting Tl'azt'en values of sustainable forest management. Co-management is a process: the Tl'azt'en Nation and the University of Northern British Columbia bring different strengths to their partnership, and their relationship in co-management continues to evolve and mature over time. To bring structure to the continuing development of the partnership and ensure that local definitions of sustainability are being met, the JPRF management are developing a system of criteria that will provide its Board of Directors with direction in meeting community expectations around sustainability issues and will provide a monitoring system that will track their progress in meeting the local values of its constituents.

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Gail Fondahl *is Chair of the Geography and Outdoor Recreation and Tourism Management Programs at the University of Northern British Columbia. She is Principle Investigator on the "Partnering for Sustainable Resource Management' Tl'azt'en-UNBC Community-University Research Alliance project, a position she also held on previous Tl'azt'en-UNBC research projects on local criteria and indicators of joint forest management.*

Beverly Leon *is the Tl'azt'en Community Research Coordinator on the "Partnering for Sustainable Resource Management' Tl'azt'en-UNBC Community-University Research Alliance project, and served as a research associate on previous Tl'azt'en-UNBC research projects on local criteria and indicators of joint forest management.*

Sue Grainger *is the forest manager of the John Prince Research Forest and adjunct faculty in the department of Ecosystem Science and Management at the University of Northern B.C.. She is a Co-Investigator on the "Partnership for Sustainable Resource* Management, Tl'azt'en-UNBC Community-University Research Alliance project".

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[1] See also http://cura.unbc.ca.