

Comanaging communication crises and opportunities between Northern Secwepemc First Nations and the province of British Columbia

G. Greskiw and J.L. Innes

Abstract: The Northern Secwepemc First Nations of central British Columbia are facing serious communication challenges in relation to the comanagement of natural resources in their traditional territories. For First Nations' managers, communication by speaking and listening and by sharing stories continues to be important for maintaining traditional ecological knowledge and culture. However, in the dominant discourse currently used by management authorities, emphasis is placed on communication products represented in reading and writing, often in electronic format. This dichotomy is leading to communication crises, with traditional ecological knowledge being required to fit within a rigid technology of literacy. The hypothesis that the Northern Secwepemc First Nations are leading transformation initiatives toward sustainable management in their territories and that shared knowledge and responsibility emerges from new growth opportunities in crisis situations has been tested using the case study survey method for inquiry. Results indicate there is potential for transformation towards forest comanagement in Northern Secwepemc territories in times of crises; however, certain conditions such as adequate staffing, funding, and training must first exist at the site level of management for both provincial and Aboriginal managers, to make the best use of emergent opportunities for collaboration.

Résumé : Les Premières nations Northern Secwepemc dans le centre de la Colombie-Britannique font face à de sérieux défis de communication reliés à la cogestion des ressources naturelles dans leurs territoires ancestraux. Pour les gestionnaires des Premières nations, il est encore important de communiquer en parlant, en écoutant et en partageant des légendes pour conserver la culture et les connaissances écologiques traditionnelles. Cependant, dans le discours dominant couramment utilisé par ceux qui régissent l'aménagement, l'emphase est mis sur les produits de communication qui font appel à la lecture et à l'écriture, souvent sous la forme de documents électroniques. Cette dichotomie entraîne des problèmes de communication lorsque les connaissances écologiques traditionnelles doivent s'adapter à une technologie rigide fondée sur la lecture et l'écriture. L'hypothèse voulant que les Premières nations Northern Secwepemc soient en train d'évoluer vers l'aménagement durable dans leurs territoires et que le partage des connaissances et des responsabilités émerge à travers de nouvelles occasions de croissance, engendrées par des situations de crise, a été testée à l'aide de la méthode des cas comme outil d'enquête. Les résultats indiquent qu'une évolution vers la cogestion de la forêt dans les territoires des Northern Secwepemc pourrait survenir en période de crise. Cependant, certaines conditions, telles des effectifs, des fonds et un entraînement adéquats, doivent d'abord être remplies à l'échelon des gestionnaires sur le terrain, tant pour les gestionnaires provinciaux qu'aborigènes, afin de profiter au maximum des occasions de collaboration qui se présentent.

[Traduit par la Rédaction]

Introduction

Recent cases alleging provincial government neglect of comanagement responsibilities currently lie before the British Columbia Supreme Court. There are frequent incidences of natural resource use conflicts among resource licensees, First Nations, and the province. Although the law (*Delgamuukw 1997*, cited in Thom 2001a, 2001b) now requires a duty to consult to minimize infringement on Aboriginal rights and title, basic cross-cultural communication problems are neglected at the field level, and this can exacerbate crises and restrict opportunities for improving relations with

First Nations. For example, in a British Columbia Supreme Court decision (*Haida vs. Weyerhaeuser and the Province of BC*) it was found that proper consultation was not conducted with the Haida prior to making a forest license transfer. Subsequent Supreme Court decisions with regard to rights and title issues of the Taku First Nation (Skeena) and the Hy-ay-aht First Nation of the central coast also found that proper consultation and accommodation was not made prior to logging in traditional territories. Negotiation at the field level cannot always prevent expensive litigation over Aboriginal title and rights issues, but case studies examined in this research suggest that there is more that could be done to build field-level capacity for improving communication to find opportunities for negotiation in times of crisis.

The Northern Secwepemc First Nations have Aboriginal title and rights to natural resources within their traditional territories. This is in accordance with sec. 35.1 of the *Constitution Act of 1982*, as interpreted by the various court cases leading to the *Delgamuukw* decision of the Supreme

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Court of Canada in 1997. In the treaty process of the Northern Secwepemc te Qelmuw (NStQ), the method of realizing their Aboriginal rights and title is being sought through comanaging natural resources between their communities, the province, and its licensees and the Crown. Though they are not specific about a process of comanagement, “a fair sharing” of management responsibilities and benefits from natural resources has been proposed by the Northern Secwepemc Treaty Society to address their outstanding claim to Aboriginal title in all of their traditional territories. However, little is presently known about how the province and First Nations can communicate effectively in such a way that acceptable forms of comanagement can actually be achieved at a practical level.

Comanagement of Aboriginal title and rights itself is problematic in British Columbia for two reasons. First, as First Nations have not ceded title and rights to their traditional territories many First Nations have chosen to assert sovereignty rather than being co-opted into short-sighted “collaborative” processes imposed by colonizing governments. Second, comanagement is sometimes dismissed as unworkable (Foucault 1980; Nadasdy 1999) as Aboriginal knowledge of lands and resources is so fundamentally different to the science and technical knowledge utilized by the dominant authorities. Nevertheless, the approach taken in this research (and the bias of this research) is that a fair sharing of management responsibilities is possible at the community and site level where participants are committed to practicing disciplines of continuous learning and adaptive management. Although this research refers to “Comanaging crises and opportunities between the Northern Secwepemc and the Province of British Columbia”, it will be quickly found in reviewing the case studies that the current process of comanaging in NStQ territory is still far from being fair or sustainable. Perfect comanagement is an unattainable goal. Nevertheless, goals can be negotiated to provide direction towards shared visions (Friedmann 1981; Ostrom 1990; Pinkerton 1992, 1999; Michel et al. 2002). This research proposes evolving a method of comanagement by working toward a vision rather like what Davidson-Hunt and Berkes (2003) refer to as “the ideal humans in ecosystem concept”. Fair and sustainable natural resources management is also a vision actively sought by the NStQ.

Comanagement has been defined as “the sharing of power and responsibility between the government and local resource users” (Berkes et al. 1991, p.12). Comanagement is also understood as

A situation in which two or more social actors negotiate, define, and guarantee amongst themselves a fair sharing of the management functions, entitlements, and responsibilities for a given territory, area, or set of natural resources [Borrini-Feyerabend 1996, p. 8].

A precise definition of comanagement is not advanced either at the beginning of this research nor at its conclusion. Developing a classification of various evolving “species” of comanagement across management scales may be worthwhile, but it was not one of the priorities of the NStQ for this project and a comprehensive comparison of comanagement definitions or communication protocols is not attempted here. Carlsson and Berkes (2005) warn that most definitions of comanagement do not fully capture the com-

plexity, variation, and dynamic nature of contemporary systems of governance. They list several problems with the current understanding of comanagement:

There are a number of complexities rarely accounted for in the conventional conceptualizations of comanagement: (1) complexities of the State, (2) complexities of the community, (3) complexities of the dynamic and iterative nature of the system, (4) complexities of the conditions available to support the system, (5) complexities of comanagement as a governance system, (6) complexities as a process of adaptive learning and problem solving, (7) complexities of the ecosystem that provides the resources that are being managed [Carlsson and Berkes 2005, p. 67].

Because of this complexity, comanagement presupposes that parties have to some extent agreed on an arrangement. However, in practice the actual comanagement arrangement is not predetermined and thus evolves and is a process rather than a fixed state (Holling 1978; Carlsson and Berkes 2005; Gunderson et al. 1995). It is likely because of the complexities of comanagement as described above that there is yet no agreement for a definition of comanagement in the Northern Secwepemc traditional territory.

Because history seems to be proving comanagement to be an evolutionary process, then there is a need to develop capacity and institutions that can handle evolving comanagement arrangements (Carlsson and Berkes 2005). Over the last decade, the scope of comanagement studies has expanded along with social developments to include concepts of trust building, institution building, and social learning. It is these more recent initiatives that are of particular interest to this research. The case study information indicates that it was the presence or absence of these trust building and communication initiatives that most influences how communication *crises* can become *opportunities* for continual learning and adaptation. Table 1 provides a summary of crises and opportunities examined in this research, and indicates ways that crises have provided opportunities for trust building, institution building, and social learning owing to NStQ leadership initiatives.

The inter-related problems of power sharing and communication are integral to the problem of working toward the goal of fair comanagement (Nadasdy 2003). We have made the assumption that legally empowered decision making must ultimately occur by a consensus of the participants in the learning organization charged with the comanagement responsibility. Therefore, as participants in the learning organization share equal powers, then problems of power sharing need not be separate from problems of communication. It is the problem of communication and not power sharing that this research focuses upon. In particular, with respect to communication, we examine the problem of the separation between literacy and orality. The case studies indicate that a fundamental cause of crisis in comanaging is in the poor balance afforded between literacy and orality in the communication process (Fig. 1). Communication by speaking and listening and by sharing stories continues to be the most important method for maintaining traditional ecological knowledge and culture within First Nations’ communities. This contrasts with industry and government, where communica-

Table 1. Northern Secwepemc te Qelmucw (NStQ) case studies: potential opportunities from comanaging crisis.

Case study	Type of crisis	Crisis point	Opportunity
NStQ treaty vision	Leadership from three party negotiation process	Scheduled deadline for community acceptance of treaty agreement in principle	Three parties as a team can accept paradigm to practice disciplines and shared vision of a learning organization; cross-scale acceptance and support for team capacity for local decision making
T'exelc – Spokin Lake forest management plan	Community cultural–spiritual and resource use needs confront limit of current provincial forest legislation	Road construction into especially sensitive area halted by community action (information picket and road block)	Planners and community can seek legislative authority, funding, and training for learning group to implement area-based forest management with the task of adaptive management for preservation of Aboriginal value in the area; The Spokin Lake continuous learning process can become a model for capacity building for managing Aboriginal values across management scales
T'sqescen caribou management crisis	Increased resource user pressures in sensitive caribou habitat; because of a power imbalance, multistakeholder planning processes have not included proper Aboriginal participation.	Eastern mountain caribou in danger of extinction (red-listed by Federal Government)	Urgency of the plight of the caribou can provide catalyst for closer attention to traditional ecological knowledge and to factors at the site level of planning
Xgat'tem – Stswecem'c – Demdomeen Society wildlife management	Key role for Aboriginal societies in provincial wildlife management at site level is slow to gain acceptance by the province	Community information did not inform of a change to hunting regulations, despite assurances from the province that it would	Demdomeen Society used this misfortune as an opportunity to collaborate with provincial wildlife officials to set up information pickets at key locations to inform recreational hunters of the errors and omissions in the regulations; a relationship of reciprocation and respect can begin that can grow by fortifying the relationship with funding, training, and legislative capacity for long-term learning
Likely–Xat'sull (LXCF) community forest	Operation of joint venture forest management Business partnership between a First Nation and a village because of shared interest in locally driven sustainable?–community economic development	At an initial business meeting fears are expressed as the communities confront the issue of trust and their lack of experience in working together (nevertheless communities do persevere with the crisis or opportunity)	The LXCF community forest tenure continues to serve both communities as a joint venture learning organization; the board of directors can assist in building community forest capacity and alliances across management scales and jurisdictions

tion by reading and writing is the dominant method of institution building.

Linguistics asserts the primacy of orality in all languages (Ong 1982). We are often preoccupied with written text and analysis (as we are at this moment), and we typically ignore the oral component in language (Heyer 1988). The need to practise the simple understanding that language requires sound and sense for meaning can help make our spoken and written words more effective and efficient (Freire and Macedo 1987; Smith 2001). But this can be done effectively only in the context of utterance in real contexts. Access to a diverse, relevant, and spontaneous information source is gained through group participation in oral communication. The importance of talking and listening in conducting forestry extension and demonstration must be taught and emphasized in practice to find relevance and purpose, for ourselves and others, in reading and writing text informa-

tion. Luhmann (1984) described three essential elements of communication: *information*, *utterance*, and *understanding*. From a general systems perspective utterance for people links materially through sound and vibration to living components in communication networks and aids understanding of information. Understanding is reflected in evidence of a systems' adaptive capability and ultimately its survival. Social–ecological and crisis management methods are beginning to explain how human systems integrate with natural systems. Trust building and social learning requires utterance (in Luhmann's terminology) so that when new information is provided then understanding can be achieved. Communication crises between First Nations and government bureaucracies occur when traditional ecological knowledge is required to fit within a rigid technology of literacy (Nadasdy 1999).

In this paper, five case studies involving communications

crises between First Nations' communities, industry, and government are examined to discover ways in which cross-cultural communication between provincial land managers and the keepers of Aboriginal knowledge of the NStQ could be improved for the benefit of the whole of Secwepmeculcw, British Columbia, and Canada. We examined the hypothesis that the NStQ are leading transformation initiatives toward sustainable management in their territories and that shared knowledge emerges from new growth opportunities in crisis situations.

Methods

A case study approach (Yin 1994) was adopted to examine natural resources comanagement in the traditional territories of the NStQ. We examined whether the NStQ's use of traditional ecological knowledge empowers their leadership in transformation initiatives toward sustainable management in their territories. Community contact persons provided direction in finding acceptable terms of reference for the project, the interviewees, and the cases for study.

Interviews were based on questions derived from the current provincial forest-planning framework in British Columbia, the communities' vision for comanagement, from criteria from Davidson-Hunt and Berkes (2003) and from the research on common property resource management by Ostrom (1990) and Pinkerton (1992). The analysis used in this research was tailored to the grounded theory method for data analysis (Glaser 1998). For grounded theory to work effectively, the participants themselves, as the best authority on the subject, must develop their own concept of the problem. The researchers need to neutralize their own bias and the bias of any other research that they have read within the conception of the research problem. Glaser (1978, 1998) suggests that stating the problem at the outset of the research limits the self-organizing quality of the research and can prevent a concept of "what is really going on" to emerge. Also, he warns that if the researcher has done a literature review prior to doing the survey, then this knowledge should merely be used "as data" for an emerging statement of the problem and not to force the data into an "authoritative" problem concept. If done properly, conceptual empowerment for participants can be realized as "a substantive conceptual theory that explains how the participants in the substantive area continually resolve their main concern" (Glaser 1998, p. 55). As the "secretary for the participants" and a "custodian of the process", the researcher must practise a level of humility uncommon in academic contexts. Researchers must be able to suspend their judgment about the nature of the research problem so that the problem and the theory are allowed to emerge naturally from the interview discussions. Nevertheless, as mentioned earlier, a preconception that comanagement can be implemented fairly through a cross-scale, coevolutionary consensus process has influenced the initial growth of this emerging grounded theory.

The research began by interviewing natural resource workers, elders, government liaison officials, and industry managers who are currently involved in what First Nations' natural resource workers identified as comanagement crises in four Aboriginal communities. The research was not designed to divide communities for separate quantitative analysis by case study nor was it designed to separate First Nations and non-First Nations participants in case study processes. Stratifying the groups to try to find between-group differences would achieve much more complexity and would require many more interviews and analyses and therefore was not attempted. The research interest here is in determining the success and barriers of the NStQ in transformation towards sustainable forest management in their territories.

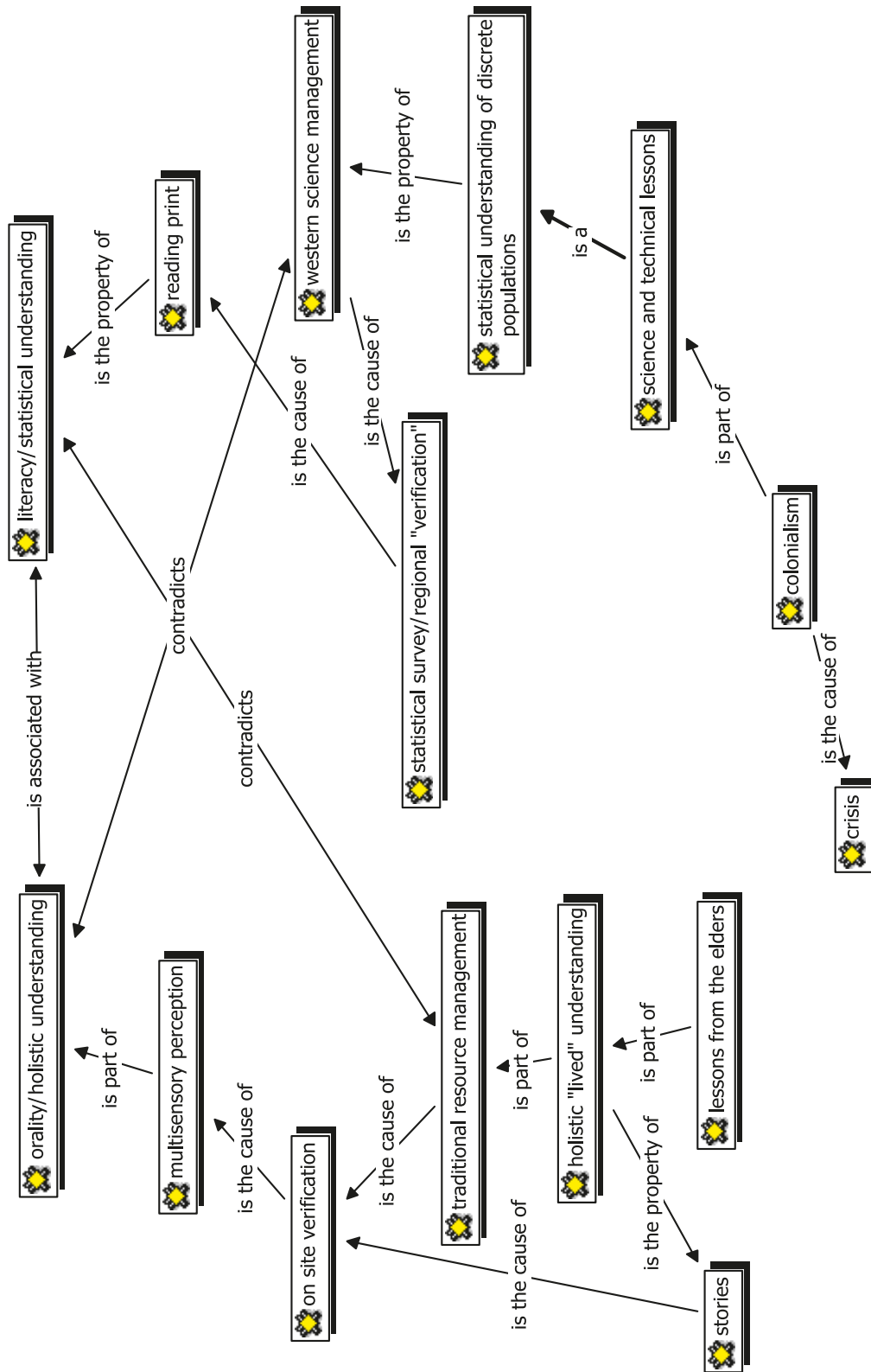
The research hypothesis applies to the Northern Secwepemc as a collective of four communities, including their provincial and licensee liaison people. Essentially, the research hypothesis applies to the NStQ as leaders of social learning organizations. The learning organizations are only beginning and are not yet the responsive and resilient institutions that are needed. For example, interview data in this study indicated that provincial managers were not proactive in times of crisis. However, we hope that subsequent research will find provincial managers more responsive to opportunities for leading in field-level sustainable management initiatives. Even though some participants in the learning organizations are not yet aware that a comanagement learning process is occurring, traditional knowledge keepers with long-term experience are patient and know differently.

This research did not seek to find the component roles of its communities or to highlight various differences in approach of case study participants. The communities share boundaries and treaty interests as a collective called the NStQ,² although the distinct communities of T'exelc, Tsq'escen', Xat'sull-Cm'etemc, and Xgat'tem-Stswecem'c have historically governed and continue to govern themselves as autonomous groups. A fifth case study was conducted to develop a broader sense of perspective by interviewing participants involved with treaty negotiations and the long-term development of comanagement in the traditional territories of the NStQ.

Initial focus group meetings, following a community news article describing the research project, were held with the communities at Dog Creek (Xgat'tem-Stswecem'c) and Canim Lake (Tsq'escen'). These meetings were exclusively attended by NStQ community members for the purpose of providing acceptable initial terms of reference for the researchers to begin the project. Initial meetings were also conducted with four employees of the NStQ treaty team (two First Nations and two non-First Nations) at Williams Lake in July 2004. Again this preliminary meeting was to learn more of the NStQ comanagement research interests and to gain insight into an acceptable NStQ research protocol. Six interviews were conducted in September 2004 to help orient the project and to test the question set. The six

² Northern Secwepemc te Qelmuw means "people of the Northern Secwepemc". Traditional lands of the Northern Secwepemc First Nations comprise about 56 000 km² located in south-central British Columbia. Practice pronouncing the communities' names in your "mind's ear". It is a good idea to start from somewhere so that when you read the symbol in this text you can verbalize an associated sound: T'exelc sounds like "tla-helk". Tsq'escen' sounds like "ts-kes-ken". The two communities of Xat'sull and Cm'etemc sound like "hats-ulth" and "meh-temc". The two communities of Xgat'tem and Stswecem'c sound like "hat-tlem" and "stwai-kem".

Fig. 1. Regional versus local and literate versus oral manifests communication crises.

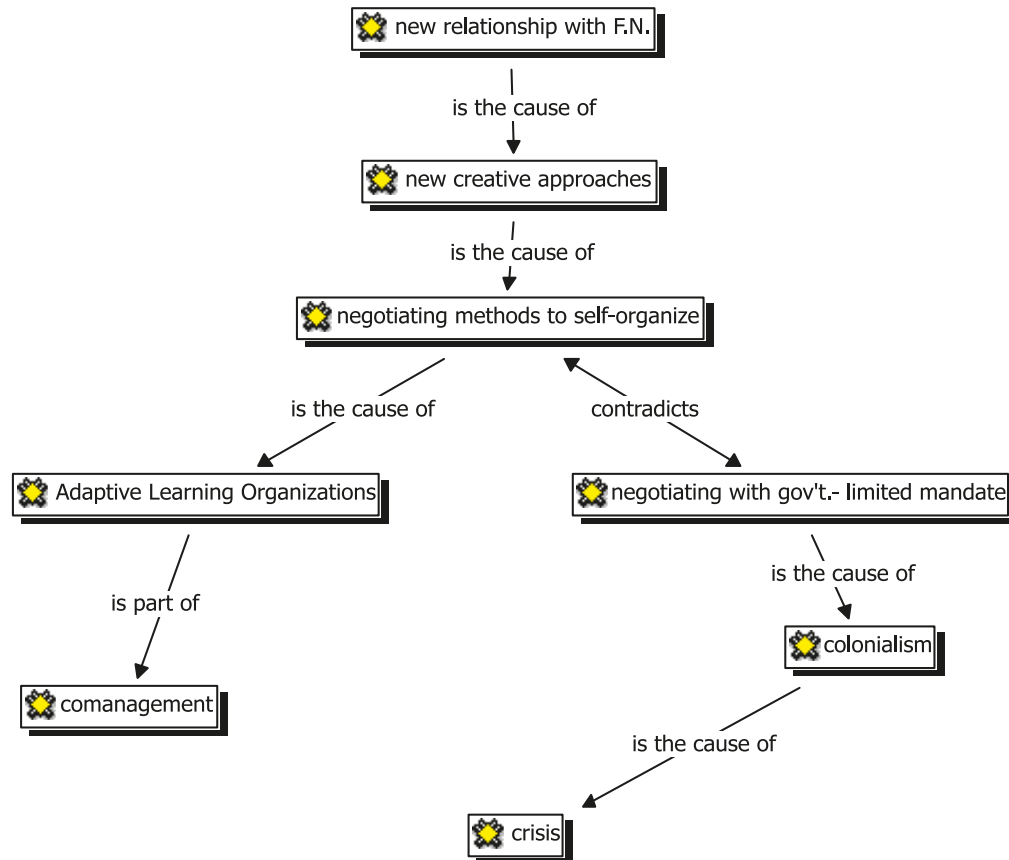


September (2004) interviews were conducted with two treaty team staff members, one regional tourism industry advocate, one NStQ educator, one NStQ elder, one regional provincial politician, and one regional provincial planning director.

Notes from the September interviews were coded (substantive coding) and from the focus group sessions and in-

terviews it was apparent that two theoretical codes had unexpectedly emerged to assist in further grounded theory construction. We found that to address the issue of how to transform comanaging in the NStQ traditional territory, the project had to inquire not only about long-term comanagement visions but also about the current comanagement crises

Fig. 2. Comanaging for new relationships (Northern Secwepemc to Qelmuw).



that were of grave concern in the communities. A survey to look only at long-term comanagement prospects without examining what natural resources workers regard as short-term crises in comanagement would not be grounded in what is actually going on, as positive or negative developments in the short-term crises have significant effects on long-term visions.

During the winter of 2004, the research process was re-configured as four case studies of comanagement crises and a fifth case study of long-term regional comanaging opportunities. A new set of questions to guide interviews on the subject of comanagement crises was prepared and First Nations' community contact persons, one in each of the communities, were asked to decide on the most important comanagement crisis in their community. As the research strategy was still being formulated and case study interviews had not yet begun, there was no methodological problem in increasing the number of case studies to be examined. The questions provided guidance for the interviews. A mix of questions from two question sets were used for all interviewees. One set of questions explored the theme of long-term comanagement goals and the other set explored short-term comanagement crises. Questioning was free-flowing, drawing from both question sets when feasible. An interview priority was to structure dialogue as a conversation rather than as simply an interrogation based on question lists. In some cases, substantive coding reflected new and rich categories of concept. This occurred when elders and others

introduced relevant new ideas and questions that provided new categories for interpreting interview data.

The community contacts were also asked for direction on who should be interviewed, with the aim being to interview 8–10 experts in each community. One or two elders, two First Nations' natural resource workers, two government liaison officials, and one or two industry managers were interviewed for each case study. Thirty-three case study interviews were completed between May and July 2005. Interviews were tape recorded and also recorded digitally as a back up in case of a malfunction of recording.

Prior to recording interviews, an informed consent form was signed by each interview participant and an explanation of the research project plan and confidentiality measures was given. Audio information from the CDs was transcribed into Word format. The interview data analysis software ATLAS.ti (version 5; ATLAS.ti GmbH, Berlin, Germany) was used to store interview data for analysis. Transcribed interviews were imported as primary documents into one hermeneutical unit for qualitative data analysis using the ATLAS.ti functions.

ATLAS.ti was used for maintaining the data, coding quotations (substantive coding in the terminology of Glaser (1998)), and maintaining memos for codes. The network-mapping feature of ATLAS.ti helped to develop aggregated codes and display the logic relations between these abstract codes (theoretical codes in Glaser's terminology). The theoretical codes became the foundation for the grounded theory

building that ultimately generated the results of this study. Graphic illustrations of how concept categories and their properties were generated from coded text data were developed using the network feature of ATLAS.ti. The networks (theoretical codes) were stored for further continual comparison and subsequent grounded theory building and analysis. Following Creswell (1998), the grounded theory method used here followed systematic steps: “generating categories of information (open coding), selection of one of the categories and positioning it within a theoretical model (axial coding), and explicating a story from the interconnection of these categories (selective coding).” The substantive categories from data and the theoretical ideas about what fits together are allowed to emerge from interview discussions and become more refined from constant comparison of interview data (Glaser 1998).

These studies will not be generalized to all Aboriginal communities. While there may be broader lessons to be learned from the case studies, they are representative only of resource managers, educators, and resource users within the NStQ territory. In this qualitative study, interpretations have been checked for accuracy by participants, however, results are subject to other interpretations. Figures 1–3 show how theoretical models can be displayed in Atlas.ti as networks of codes. These can also be referred to as “spider’s webs”, although a more optimistic metaphor, given the topic of this study, could be “dream catchers”.

Results

There is considerable evidence from the 50 theoretical codes aggregating 933 interview statements that supports the hypothesis that the NStQ’s use of traditional ecological knowledge empowers their leadership in transformation initiatives toward sustainable management in their territories. Although it cannot be explained *how* this is done, there is evidence in the Atlas networks that shows that traditional practices of team building and informal human-to-human networking is being used effectively to lead in organizing local stewardship initiatives from the community level down to the province. The most frequently noted substantive codes listed in Table 2 indicate that fundamental differences in management approach between First Nations and the province are causing communication crises that require a new vision to enhance cross-cultural communication so that committed teams steadily work through conflict and crises to find opportunities for innovation and growth. The case studies found that the NStQ are leading by example in initiating trust building, social learning, and institution building process that could result in evolving and improving the co-management process.

Comanagement visioning amongst the Northern Secwepemc te Qelmuw

The first case study, termed the “NStQ Comanagement visioning” was completed at the regional scale and was useful in orienting the overall research across scales from the community level to the regional level. Key provincial regional managers, as well as regional tourism advocates and treaty staff, were interviewed. Interviews included two NStQ treaty team staff, one NStQ educator, one NStQ elder,

and two provincial regional managers. The NStQ leadership initiative is expressed most clearly in Fig. 2. Here the NStQ treaty team are having much difficulty in encouraging the province to understand that a “command and control” approach to developing new initiatives and relationships has not been effective. Instead the NStQ believe that enabling people to self-organize to answer the questions and solve the problems that are of concern to them is the right approach. As a whole, the NStQ are leading transformation toward sustainability on a variety of common fronts. This first case study indicated that treaty and tribal council staff provide a leadership service both to the province and to their four communities by interpreting Aboriginal knowledge in their communities and trying to reconcile this with broader social objectives at the regional and provincial scale. Useful and informative though the regional case study inquiry is, perhaps the greatest variety and strength of evidence of NStQ leadership is found at the local level in the following four case studies of natural resources management crises and opportunities in the NStQ communities.

Spokin Lake and the T’exelc First Nation

The theoretical codes that most literally illustrate NStQ leadership were derived from the Spokin Lake case study. This case study inquired about leadership in a planning process that was to reconcile Aboriginal rights and forest licensee rights in an area of high heritage and cultural value to the T’exelc First Nation. In the case study interviews with industry, government, and First Nations, the interviewees included one T’exelc elder, two T’exelc natural resource workers, one non-T’exelc contract planner, one licensee, and two provincial foresters. The T’exelc natural resources workers were clear in their assessment of the consequence when the Province planners have authority only to inform, but not necessarily to respond to community concerns. They further confirmed that the NStQ are leaders in encouraging planning as adaptive learning rather than planning as simply following standard provincial procedures to “get logs to the mill-yard”. The network “Spokin: avoidance dance” (Fig. 3) illustrates the T’exelc natural resources workers’ conception of their situation in the planning process. T’exelc natural resources workers knew as well as provincial and licensee planners that the forest legislation only required that licensees provide information to the communities. Interpreting their planning mandate as consultation and avoiding learning of community interests in the area became the main concern of the provincial and licensee planners. At successive meetings that T’exelc hosted with regional planners it became clear that, although the licensees were practising due diligence according to the consultation requirements of the forest legislation, their main concern was to liquidate forest resources according to their original 5 year development plan and to delegate consultation or comanagement responsibilities to the province. As long as legislation does not require learning or successive adaptation in forest development plans to accommodate community interests, the planners avoided that learning. Although there was a potential for negotiation, there was no incentive, either political or economic, for the licensees and the province to discuss the issues of concern with

T'exelc. Five networks derived from the interviews together illustrate the T'exelc leadership in their territories.³

Mountain caribou and the Tsq'escen community

This case study was derived from interviews of natural resources managers, guides, and elders from the traditional territories of the Tsq'escen. The interviewees included one Tsq'escen natural resources worker, one Tsq'escen guide, one non-Tsq'escen guide, one Tsq'escen elder, and three provincial wildlife biologists. The Tsq'escen case study of the mountain caribou crisis indicated that Tsq'escen community involvement was not welcomed by caribou researchers. Consequently, it has been especially difficult for the NStQ to offer leadership. When federal funding was cut for an NStQ participant to attend the regional conferences to discuss a caribou recovery strategy, NStQ attention was necessarily directed to other priorities. For centuries, Tsq'escen guides have been leaders of hunting expeditions into caribou habitat and now the community has been marginalized by the caribou crisis. Representatives of snowmobile, forestry, and mining associations have much more power in access management decision making than those expressing conservation concerns. Nevertheless, there are community visions for leadership in the caribou crisis.

Demdomen and the Xgat'tem-Stswecem'c First Nation

This case study interviewed natural resources workers from the province and from the Xgat'tem-Stswecem'c First Nation. The interviewees included one Xgat'tem-Stswecem'c elder, three Xgat'tem-Stswecem'c-Demdomen Society directors, two non-Xgat'tem-Stswecem'c contract natural resources workers, and two provincial wildlife planners. Demdomen Society was formed by members of the Xgat'tem-Stswecem'c communities to assist the community to help resolve site-specific crises in recreational hunting management in their territories. The theme indicating that Demdomen Society is a catalyst for adaptive learning organizations is informed by five theoretical codes. The theory is grounded in substantive codes concerned with Demdomen's traditional ecological knowledge, its knowing in relation to others, its self knowledge, and its knowledge of the Xgat'tem-Stswecem'c community. The NStQ leadership hypothesis is well supported by the five networks that describe Demdomen's role as an "adaptive learning organization catalyst". Additionally, in another four networks, Demdomen and the NStQ are assisting in adaptively improving the effectiveness and efficiency of archaeological review processes; Demdomen and their community lead in an initiative to teach that wildlife administrative boundaries could better coincide with biogeoclimatic land classifications; and Demdomen and their community are leading the linking of people across territories and across management scales to resolve wildlife management conflicts. In the remaining networks of the Demdomen case study, there is evidence that Demdomen is playing a lead role in helping their community leaders and natural resources workers to find opportunity and to "put the brakes on" an escalating

communication crisis with provincial wildlife administrators (Table 1).

Likely-Xats'ull (LXCF) Community Forest

The Likely-Xats'ull Community Forest (LXCF) case study provided evidence that there is NStQ leadership in their joint venture with the village of Likely. The case study suggests that the LXCF, through intensive collaboration with many other interest groups, provides a similar leadership service in Xats'ull traditional territories as does the Demdomen Society in the Xgat'tem-Stswecem'c territory. LXCF is a catalyst for adaptive learning by leading in innovating small-scale forestry joint ventures between nonindigenous and indigenous communities. Interviewees included two Xats'ull LXCF board members, two Likely LXCF board members, one Xats'ull elder, two Xats'ull natural resources planners (additional to board members), and one Likely resident. In the networks there is evidence that the LXCF is leading in learning how to build cross-cultural trust through operating a joint venture business enterprise. There is evidence that LXCF are leading in learning how to value the intangible or potential values of a forest tenure shared by indigenous and nonindigenous residents, and there is evidence that the LXCF are leading in developing clear and acceptable local community forest policy language that can become a point of reference for cross-scale comparison with other community forest organizations in the province. There is also evidence indicating that the LXCF are playing a leading role in demonstrating at regional and provincial forestry fora the capacity for small communities to renew themselves by linking the sustained yield of the forest with small-scale sustainable forest economies.

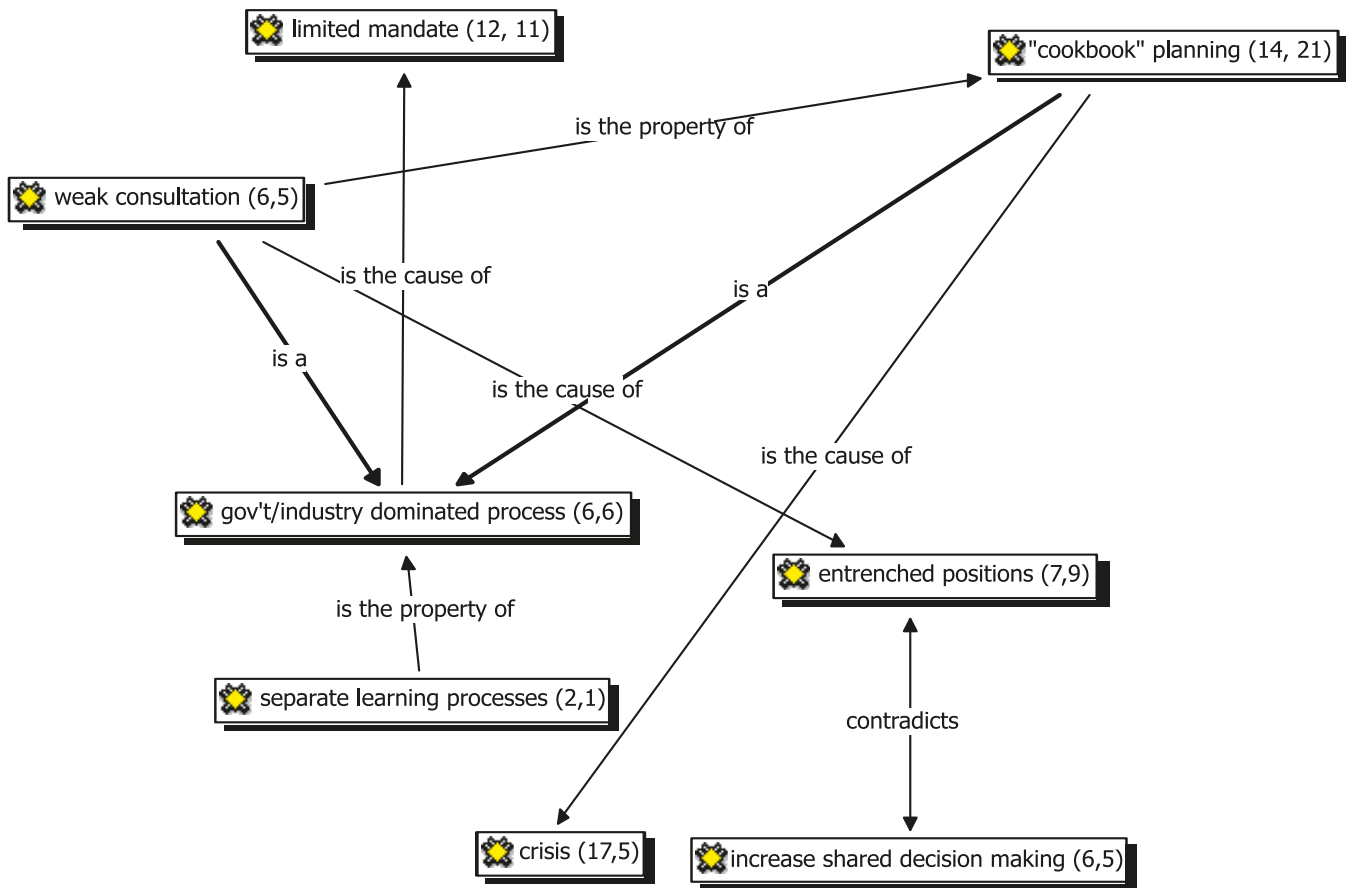
Adaptive growth in crises

The hypothesis of NStQ leadership informed the development of the grounded theory in this study. However, other hypotheses emerged with the grounded theory that can be supported with reference to the data. The first of these is the hypothesis that shared knowledge emerges from growth opportunities in crisis situations. One of the interview questions inquired about "what triggers change in planning processes", but there was no preconceived understanding of "a theory of growth in crisis" at the time of the interviews. Although the grounded theory emerged to address case studies of crisis in comanagement, at the outset there was no presumption of any organizing effects of crisis nor were these tested for. Nevertheless, from 933 substantive codes, the crisis code emerged as the fourth most important code in this study and the crisis as new understanding code emerged as the sixth most important code in terms of frequency of times expressed by interviewees (see Table 2). A theory of NStQ leadership in organizing comanagement was anticipated, but a theory of comanaging opportunities from crises was not.

To understand how crisis emerged with the grounded theory, it is useful to link substantive codes in order of their descending frequency (Table 2). There is a pattern of relationship among the top 17 most frequent codes. This

³Only three networks are presented here to illustrate the format of the 50 Atlas.ti networks or theoretical codes that aggregate and map interview statements from the case studies. The full report is available from the author by request.

Fig. 3. The Spokin Lake forest planning crisis. The paired (x,y) numbers in the text boxes correspond to the number of times a particular code appeared in the 33 interviews and the number of links the code has to other codes, respectively.



sequence of statements seems to tell a story. If these codes could be put in sequence to tell the story the way it was told by the NStQ elders and natural resources workers, it would sound something like this:

We have a holistic lived understanding of our lands and resources. We know we must engage in sharing management with the province continuously from “start to finish”. Cross-cultural bridge building can only grow in such comprehensive and respectful shared planning initiatives. When our holistic lived understanding is not respected (or when new economic or environmental disturbances occur) in comanaging processes then planning crises happen. To grow from these crises we must acknowledge each other’s needs and work together to meet those needs. In this way we can develop a human-to-human bond and a team approach. When we work as a team, crises can be seen as opportunities for new understanding and can enhance information sharing and learning. To enhance information sharing and learning with NStQ communities, planners will need to listen carefully and seek first to understand before trying to be understood. Planners and policy makers will need to avoid their inclination

to do cookbook planning so that we will not have a conflict between holistic and linear ways of thinking and doing. To get started on the right path the province will need to show respect by recognizing that NStQ natural resources workers are short staffed and underfunded to properly represent their land and resources management interests in a comanaging process with the province. The province should foster cross-scale communications among their planners so that learning at the local level is transmitted in continuous dialogue with the provincial level. In this way we can improve our talking and listening skills and comanage with a shared mandate for decision making at the local level.

Discussion

The hypothesis of shared knowledge emerging from growth opportunities in crisis situations is reflected in the NStQ story above and is supported in organizational research literature. Senge (1990) has argued that organizational structures of many businesses may function well in step-by-step routine planning processes, but when they confront crises their co-operative resolve tends to disintegrate. Senge (1990) shows that learning organizations have the

Table 2. Common substantive codes (sorted by groundedness).

Code	Frequency
Holistic lived understanding	21
Sharing management “start to finish”	20
Cross-cultural bridge building	18
Crisis	17
Acknowledge each other’s needs	16
Develop human to human bond	16
Team approach	15
Crisis as new understanding	15
Increase information sharing	15
Learning with First Nations communities	14
Seek first to understand	14
Cookbook planning	14
Linear versus holistic thinking	14
Respect	13
First Nations short staffed	12
Talking and listening skills	12
Limited mandate	12
Diversity and conflict	11
Traditional resource management	10
Site knowledge no authority	10
Ability to communicate is there	10
Adaptive learning organizations	10
Avoidance dance is institutionalized	10
Demdomen trying to get everyone on “same page”	10

potential to emerge from crises with a renewed sense of purpose. Crisis events represent a chance for the organization to acquire new information, skills, insights, and capabilities. For example, the crises in each of the case studies may have resulted in the growth of learning organizations. The wisdom of the above story and the traditional knowledge of envisioning crises as strategic opportunities for adaptive management are summarized in Seeger et al. (2003) and in Table 3.

An impressive body of literature exists to advise organizations on the steps for avoiding crises. In contrast, the view outlined here and elsewhere (e.g., Gunderson and Holling 2002) suggests that crises are an inevitable part of the organizing process. As organizations seek to establish and protect their stability, they face the inevitable consequence of disruption, failure, wrongdoing, collapse, and disasters. The probability of these events occurring is increasing. This escalation suggests that crisis management will become an increasingly common function of modern management. In fact, crisis management is becoming the essential function of long-term organizational success (Seeger et al. 2003).

Organizational theorists and systems ecologists warn that, to enable sustainability in society, we must communicate to encourage institutions to self-organize in what is described by systems ecologists as the “back loop” of adaptive change and renewal (Holling and Meffe 1996; Gunderson and Holling 2002). Berkes et al. (2003) find that “some social-ecological systems build resilience through the experience of disturbance, [or crises in organizational theorists’ terminology] provided that there is memory in the system in the form of both ecological and social sources for reorganization”. They suggest that the social memory to make these

Table 3. Re-envisioning crisis (from Seeger et al. 2003).

From	To
Threat to stability	Opportunity for change
Restricted communication	Public dialogue
Control	Irrepressibly dynamic environment
Preserving power structures	Adapting to a dynamic system
Short-term profitability	Long-term social responsibility

adaptations is “actualized through community debate and decision-making processes into appropriate strategies for dealing with on-going change” [Berkes et al. 2003, p. 21]. Berkes et al. (2003) pose a number of challenges for the development of adaptive management institutions. These are also important topics for further research in developing co-management models. They ask

How do we design institutions and incentive structures that sustain and enhance sources of self-organization and resilience? How can we formulate patterns of emergence of social control and mechanisms dealing with environmental problems? How can we create policies to increase the speed of emergence and increase the efficiency of learning? [Berkes et al. 2003, p. 21]

Unfortunately, respectfully taking raw data offered by rural residents from stories about resource uses, quantifying these stories where this is useful, listening for related information, and then negotiating agreement for representing this information in written plans, is not in the repertoire of skills of most natural resource professionals (Nadasdy 1999). Natural resources comanagement with First Nations presents new challenges. Institutional and educational transformations must occur so that current comanaging processes are transformed. University, college, and high school curricula should adapt to serve the growing need for capable natural resources management communicators. Institutional arrangements for government to government consultation should be continually adaptive as capability for improving field level comanagement increases.

Conclusion

Effective communication and critical inquiry in comanaging from both indigenous and western perspectives can be useful to expose and address potential underlying historic or philosophical conflicts. When this is encouraged before planning begins, the differences can be openly discussed, so that dissent does not grow to plague and ultimately undermine negotiations. For example, Western societies are organized according to command and control authorities that are supposed to respect a predefined code of rights of self-directed individuals. On the other hand, indigenous societies have evolved recognition of and respect for the tacit rights and responsibilities of self-organizing members. The widespread use of a command and control conception of social order with roots in colonialism reinforces linear and mechanical ways of thinking. Management bureaucracies that exclude communities and other “ill-defined associations” are the logical result. Although these mechanically ordered, linear command and control bureaucracies are still favored in the communication process for organizing decision-making information, this research suggests that they

are now inappropriate and counterproductive for learning and developing agreements within and between communities.

As the need for site-level community involvement in resource use decision making grows, and as resource use demands continue to accelerate, the crises in natural resources management are likely to increase in severity. Until more effective methods for stewardship of natural resources are learned and as the complexity of effects of human intervention in nature increases, it is likely that the scale and frequency of natural resources organizational crises will also increase (Gunderson and Holling 2002; Seeger et al. 2003).

There is a new role for communication practitioners in public service organizations in British Columbia. Communication when understood to be public relations, issue management, community relations, and media relations, is only associated with postcrisis management and response. More recently, the role of communication in organizational crisis has expanded. Drawing from the perspective of models suggested by Weick (1979, 1988, 1995; Weick and Sutcliffe 2001) and Seeger et al. (2003), from concepts of the learning organizations and knowledge emergence suggested by Senge et al. (1994), Nonaka and Takeuchi (1995), and from the social-ecologists Gunderson and Holling (2002), scientists are now beginning to understand that communication relates to all aspects of organizational crisis.

A problem for institutions in adopting a crisis and social learning model for planning is that acknowledging unpredictability challenges the security of institutions in following simple linear planning models prescribed by central controlling authorities. The history and philosophy contributing to logical and positivist thinking is so pervasive in western culture that an unprecedented enthusiasm for adaptive learning will be necessary to transform British Columbia public service institutions towards broadly accepting a mandate for learning interactively with indigenous and rural communities. The model for team learning proposed by Senge et al. (1994) will be useful in this process. The NStQ case studies suggest that the wisdom of a team learning approach is not new. Comanaging the recent knowledge of organizational theorists with the ancient knowledge of indigenous peoples could assist in building learning organizations that can respond with resilience in adapting to change and crisis.

This paper has shown how self-organizing adaptive management learning organizations may be a good way to begin to design the type of institution and policy structures that are suggested by Berkes et al. (2003). Initiatives for trust building and social learning led by the NStQ are evolving new approaches to comanagement. There is a challenge for government and licensees to adapt communication policy and process so at least not to undermine field-level comanagement initiatives. There are many sites of hopeful change in self-organizing indigenous groups that are currently struggling for relevance in a future for sustainable forest stewardship in British Columbia. A subsequent project could respectfully inquire to develop a storyline for ideas from these multiple sites of change. How do self-organizing indigenous learning groups see themselves as accountable to the overall problem of forest management and how does the provincial forest administration currently see themselves as accountable to these learning groups? Although we may not

achieve comanagement just yet, perhaps a collective interest in these multiple sites of change may facilitate adaptive policy development and meaningful institutional change provincially, across management scales, and in relationships with First Nations.

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