Intellectual Skepticism, Operational Optimism: Overcoming Barriers to Integrating Local Ecological Knowledge in a Multi-scale Assessment in the Tsimshian Territory

Charles Menzies, Ph.D.
Assistant Professor of Anthropology
University of British Columbia
6303 NW Marine Drive,
Vancouver, BC, V6T 1Z1
CANADA

From before the time Raven stole the sun and shed light on the world below the Gitxaala people have lived in their territories along the north coast of British Columbia. Gitxaala laws (*Ayaawk*) and history (*Adaawk*) describe in precise detail the relationships of trust, honour, and respect that are appropriate for the well-being and continuance of the people and, as importantly, define the rights of ownership over land, sea, and resources within the territory. However, since the arrival of the first *K'mksiwah* (European) in Gitxaala territory in the late 1700s new forms of resource extraction and expropriation have appeared which ignored, demeaned, and displaced the importance of the *Ayaawk* and *Adaawk* in managing the Territory of the Gitxaala. The new industries --forestry, fishing, and mining-- relied almost completely upon *K'mksiwah* science for the purposes of management and regulation.

One of the major failures of mainstream resource management has been a lack of attention to the long term implications of resource extraction practices. This has led to spectacular cases of resource depletion and habitat loss (see for example, Kuletz 1998; Rogers 1995). The local level ecological knowledge held by people like the Gitxaala, rooted in an intimate and long term involvement in local ecosystems, can be a crucial tool

and source of knowledge for long-term sustainability **and** immediate resource conservation. During the last two decades the value of traditional ecological knowledge (TEK), such as the *Ayaawk* and *Adaawk* of the Gitxaala, has been increasingly recognized as important (Batiste and Youngblood Henderson 2000; Griffith 1999; Sillitoe 1998).

TEK has a strong potential to contribute to more effective and sustainable approaches to forest management in particular and natural resource management in general (Oshernko 1988; Kuhn and Dueden 1996). A central strength (and weakness) to TEK is the fact that it is locally developed. Thus TEK can provide highly specific and detailed information crucial for the management of local ecosystems (Ruddle 1994; Neis et al 1999; Berkes 1999). It is important to recognize that this strength can also be a weakness in that locally developed knowledge is often difficult to translate beyond the immediate context. However, this should underscore the importance of documenting, recording, and analyzing TEK in detail in many separate locales. Ultimately, the value of TEK lies in the very fact that it is associated with a long history of resource use in a particular area and is therefore the cumulative and dynamic product of many generations of experience and practice (Berkes 1999). It is this aspect of TEK that is best able to provide alternatives to the dominant models of resource management which are in fact relatively new, externally formulated, and rarely site-specific in the way that TEK is.

Despite the growing awareness of the importance of TEK for natural resource management the current regulations and practices in many regimes still do not provide effective formal mechanisms for the integration of TEK into active management. Beyond limited mechanisms regarding consultative processes with First Nations, for example, regarding cultural heritage (culturally modified trees, burial sites, and former village or

camps sites) the knowledge inherent in the *Ayaawk* and *Adaawk* is still largely ignored by the dominant models of resource management.

Even so, it now seems passé to call for the inclusion of local, traditional, and/or indigenous knowledge to be included in resource and land management planning processes. Leading research scientists, government officials, local community leaders and resource managers all seem to be in agreement that science –as a social practice and as a knowledge system- needs to accommodate local knowledge systems. But, when it comes to how to accommodate, the agreement ends. The polarities of this debate stretch from those who see local knowledge as a data source through to those who would argue that science should be overturned by local knowledge systems. In this paper I am inclined to argue that while there are significant theoretical barriers to the accommodation of local knowledge, we can identify operational accommodations or solutions that can –at least provisionally- create ways to integrate local ecological knowledge within multi-scale assessments.

The theoretical barriers to integrating local ecological knowledge within global scientific assessments extend beyond simple matters of scale. The root barrier stems from epistemological differences that makes it difficult to translate the knowledge and wisdom of local resource users into abstract lines on maps or numbers in tables. A more pressing and problematic barrier stems from the institutional privileging of "science" over "folk", "local", or "traditional" knowledge. Combined with the lack of regard for research methods that attempt to learn from, rather than mine or dredge out ecological knowledge from local communities, these barriers to integration often reduce the

integration of local knowledge to the status of an afterthought or a token addition late in the process.

This paper draws upon two local knowledge research projects being conducted within the territories of the Tsimshian First Nation of north coastal British Columbia (Forests for the Future: Integrating Local Ecological Knowledge with Natural Resource Management www.ecoknow.ca; Cultural and Social Spatial Analysis, supported by the BC Coast Information Team www.citbc.org). Early on in our work setting up the Forests and Oceans for the Future project we found ourselves in a meeting held immediately adjacent to the inaugural North Coast Land Resource Management Planning meeting. From this first meeting we were pulled into work with the planning process that also included participation in the Coast Information Team research agenda. While these projects differ in terms of their methodology (the first is primarily interview based and the second involves mapping social and cultural values), taken together they offer important commentary on how to overcome the barriers to integrating local ecological knowledge within global assessments. Ultimately we argue that science –and the society within which it is encapsulated- has to learn how to accommodate itself to local knowledge. While we do not promise the final answer, we do suggest that our experience is part of the answer to effecting such a change.

Before considering in greater detail the core concern of this paper I will describe the local context within which the two research projects took place. Following this is a discussion of the key barriers as identified through the two projects and then the operational solutions that we developed.

Local Context

Locating the research projects and our operational solutions for integrating local knowledge within the local context is critical in terms of establishing a basis of comparison for others working in different regions. For our solutions to have more than a particular or idiosyncratic application one needs to understand the context within which we worked and how this may have shaped our outcomes. The region's residents include decedents of the regions indigenous inhabitants –Tsimshian Nation- and non-aboriginal Canadians, many of whom are recent immigrants to Canada.

The north west coast of British Columbia is most likely known globally–if it is know at all- through the majestic art of the indigenous inhabitants, the rich salmon rivers, and rare temperate rainforest. Recent Environmental NGO campaigns have tried to name the region the Great Bear Rainforest. These groups have orchestrated global campaigns against industrial logging firms with the ostensible aim of 'saving' the white variant of the Black Bear [smalgyax name] or Spirit Bear. Underlying this public image of the north west coast is a complex political economy in which multi-national NGOs, resource extraction firms, and large-scale research institutions compete for access to and the support of local communities.

The north coast of British Columbia –as defined here- stretches about xxx miles north to south and xxx miles east to west. Geographically the region encompasses deep sea fjords that cut into the mainland over a hundred miles, high coastal mountains and a low lying coastal archipelago that runs along the coast. The main town is the coastal community of Prince Rupert (pop ~16,000), established in 1911. A handful of small non-aboriginal and Tsimshian communities dot the coast from the southern most community of Kitaso (pop. ~500) to the village of Lax Kw'alaams (pop. ~1600). In relative terms

the region consists of x,xxx people of indigenous descent and x,xxx non-aboriginal people.

Prior to its incorporation within the Euro-America world system primarily lines of communication, trade, and social relations stretched coastwise south to what is now northern California, north to the Aleutian Islands, and eastward along key river systems several hundred miles inland. Captured in the local histories are tales of travelers whose origins are very likely from parts of Asia and inland from the south of the Americas. This pre-European history lays the basis upon which the central point of conflict and contention in the region is based – the existence of aboriginal rights and titles.

Project Descriptions and Methodologies

Two separate projects conducted over a period of two years are discussed. Both projects placed local knowledge at the core of their research methodologies. The first, Forests and Oceans for the Future (F/O), was a collaborative community/university research project conducted by the University of British Columbia and the Gitxaala of the Tsimshian First Nation. The second, the Cultural Spatial Analysis (CSA) of the Coast Information Team, was a multi-sector assessment primarily based upon GIS mapping techniques. Whereas the first project was an investigator lead collaborative project, the CSA was driven by local planning processes and the identified need to have independent, and reliable data and analysis that was uncontaminated by the agendas of government, industry, and ENGOs.

Descriptions

Forests and Oceans for the Future: The central objective of this project has been to conduct research and extension activities designed to facilitate the incorporation

of core community values (aboriginal and non-aboriginal) in local sustainable forest management. This project incorporated three central components: applied research into local ecological knowledge, policy development and evaluation focused on achieving the meaningful participation of all peoples and organizations reliant upon the common forest resources, and extension activities designed to facilitate mutual respect, effective communication, and knowledge sharing between First Nations and other natural resources stakeholders.

Cultural Spatial Analysis: The Coast Information Team and its research agenda emerged in response to concerns regarding the need for unbiased, objective sources of data for use in the development of local planning processes in British Columbia. The CIT was designed to provide assistance and recommendations to planning tables on ecosystem based management, resource analysis, community transition and diversification, and other topics as requested by the table membership. The CIT was funded by the Rainforest Solutions Project (comprised of several environmental organizations), the provincial government of BC, and industry (Canfor, Norske Canada, Western Forest Products, and Weyerhaeuser). The stated aim of the CIT was to bring together the best available scientific, traditional and local knowledge, environmental expertise and community experience to develop information and analyses to support the development and implementation of ecosystem based management on the Central and North Coasts and Haida Gwaii/Queen Charlotte Islands. As one component of this process the Cultural Spatial Analysis was designed to identify priority areas for maintenance of cultural values. The research design (see below) incorporated the understanding that these values may differ from one cultural group to another.

Methodology

The methodological approaches of these two projects share a concern with local knowledge, but from somewhat divergent perspectives. The Forests and Oceans project was designed to emphasize local understandings and to take direction from local processes and protocols. The CSA was designed as a 'classic' discover lead research project in which a systematic approach to data collection was developed that was aimed at 'revealing' key community values and then ascribing degrees of importance and priorities as revealed to the outside researcher. Both approaches relied upon close collaboration with community-based researchers. however, the Forests and Oceans project was a partnership with the local while the CSA employed local people as an 'efficient way to capture local knowledge.' As will be discussed below in the section under barriers these issues in perspective and approach are important to consider if one is serious a bout accommodating local knowledge systems.

Forests and Oceans for the Future: The development of the research protocol for Forests for the Future is dealt with elsewhere (see Lewis, Menzies this volume). Below I outline the structure of the TEK research in Gitxaala territory, and the way in which the methodology contributed to the successful development of multiple research products.

1. Identification and contact of participants: During consultations with the band council, hereditary leaders and Elders, the research team was directed to commence interviews with house leaders and Elders. Territories and resources are owned by particular lineages or houses (wilps). The hereditary leaders of these wilps are the

stewards who care for, and can speak about, the territories. The Elders of the community are also looked to for leadership and wisdom regarding traditional practices and structures of governance.

Community experts were also suggested as potential research participants- individuals or families who are highly involved in resource harvesting and processing. Specific people are often associated with specific resources; one man is an avid duck hunter, a few young men provide the community with seal and sea lion meat, one woman dries a considerable amount of seaweed. While all community members have valuable contributions to make to the research, within Gitxaala, particular individuals and families are considered to be especially knowledgeable about specific resources and/or practices. The community researcher and translator contacted potential research participants and arranged the interviews. Interviews were primarily conducted in the home of the participants, although some of the younger participants preferred to meet at the band council offices.

2. Informal Methods: Resource use-focused interviews were the primary method used in the TEK research component of the Forests for the Future project. The key aspects of these interviews are discussed below (differentiation, scale, frameworks, participation, translation). However, it is important to emphasize that these interviews were complemented and supplemented with other research methods.

The university researchers participated in community events, including feasts, treaty and community meetings, bingo, basketball, and a traditional foods cooking contest. Attendance at these events established a presence in the community which contributed to research participants' comfort and familiarity with the team. Participation

in community events also provided another forum for learning about the context of resource use and a greater understanding of community issues and relationships.

The local knowledge research coordinator had the opportunity to accompany a few community members while they were harvesting traditional foods. A half-day was spent on a boat trolling for spring salmon, and an evening was spent hunting for octopus. These activities allowed the opportunity for asking questions in context, and a "hands-on" learning experience.

3. TEK Interviews: Five key issues are discussed regarding the TEK interviews for the Forests for the Future research.

(i) Differentiation: The TEK research essentially involved two rounds of interviews over the course of the two years of the project. The first year of research focused on the experiences and knowledge of Elders, hereditary leaders, and active harvesters. During the second year, interviews were conducted with younger members of the community in an effort to understand the changing context and experience of resource harvesting in Gitxaala territory.

Traditional knowledge is not homogeneous even within a small community. People in different positions, of different ages, know different things about the environment. Personal characteristics and their relation to the community and to outside forces shapes their TEK. Researchers have identified the following ways in which TEK is differentiated within a community. (See Neis et al 1999, Grenier 1998, Sillitoe 1998, Tsuji 1996 and Nazarea 1998).

TEK Differentiation

Personal Attributes	*Status Attributes*
Age	Education
Gender	Occupation
Clan/Class etc.	Involvement in commercial harvest
Level of curiosity	Income level
Observation skills	Social status
Ability to travel	Roles and responsibilities in community
Area of resource use	Technology and strategy of resource use
Place of residence	Degree of autonomy/control of resources

The Forest for the Future project focused on age, gender, and resource harvesting experience as key determinants of difference in TEK. In an effort to understand the breadth of Gitxaala knowledge and its change over time, age and gender ratios were balanced regarding interview participants. The following chart identifies the key characteristics of participants.

Total of 53 individuals for 68 interviews

Women under 50 years	Men under 50 years
10	**15**
2 interviewed 2 times	3 interviewed 3 times 1 interviewed 2 times
Women over 50 years	Men over 50 years
13	**15**
	1 interviewed 2 times 1 interviewed 3 times 1 interviewed 4 times

The particular experiences these individuals was also recorded in order to contextualize their TEK. The "evaluation" of TEK data is crucial to its appropriate analysis and implementation (see Johannes 1993, Lui 1995, Kuhn and Duerden 1996). Information regarding the scope of each participant's resource use experience was documented by asking questions regarding their work history, their residence patterns, the frequency of harvesting activities, access to boats and equipment, rights to territories.

(ii) Scale: The first round of research involved two scales of interviews with key participants such as leaders, Elders and active harvesters. The initial interviews were designed to identify key resources, seasonal patterns, and areas of activity. Open-ended questions about harvesting activities allowed Elders and hereditary leaders to catalogue species, discuss harvesting and processing methods, and to establish the seasonal and geographical structure of Gitxaala subsistence.

The secondary interviews were more directed and structured. Questions were drawn from the initial transcripts. Participants were asked to elaborate on topics they had mentioned in the first interview, or were asked about issues or species that other participants had talked about.

As all of the interview transcripts were reviewed by participants, this allowed them to clarify, expand, and edit the information.

(iii) Frameworks: Although the interviews were highly participant-directed and semi-structured, two general frameworks were utilized to provide an implicit structure to each round of interviews.

The primary interviews were structured by an activity-based framework. This framework provided information regarding general resource harvesting and processing

patterns relevant to all three research streams, as well as providing the basic level data required to develop more detailed questions:

Foods from terrestrial resources
Foods from aquatic resources
Building materials, clothes, ropes etc. from terrestrial resources
Building materials, clothes, ropes etc. from aquatic resources

The secondary interviews were structured by a resource-based framework which provided detailed information regarding species used in Gitxaala territory. This framework was used to generate a catalogue of species and to develop an educational field guide for the curriculum stream.

Name of Species English	**Sm'algyx**
Location	
Found near	
Indicator species	
Time of year	
Method(s) of harvest	
Who harvests	
Method(s) of preservation	
Who processes	
Method(s) of cooking	
Eaten with	
Ceremonial uses	
Trade uses	
Commercial/Industrial uses	
Medicinal uses	
Stories about this species	
Ecological relationships with other species	

(iv) Interview participation: Most interviews were with individuals, some with married couples, and a few involved up to four members of a family. There are benefits to both individual and group interviews. The individual interviews allowed for more detailed questioning and providing information regarding life history and resource use history. Talking to couples often highlighted the gendered perspectives on resource use and provides complementary data regarding harvesting and processing. Talking to multi-generational groups allowed the researchers to explore generation differences. Often the children reminded their parents of stories that they had related at other times. The younger family members tended to direct the questions towards questions they were interested in, primarily regarding changes over time and Sm'algyx words and concepts.

(v) Translation: Translation was necessary for most participants over 70 years of age. It was more frequent that questions had to be translated than answers, however, some participants found it difficult to describe certain concepts, activities or resources in English. Even younger participants who responded primarily in English, used Sm'algyx words to refer to most of the species. Sam Lewis, the community researcher translated responses immediately during the interview, and collaboratively transcribed some of the longer Sm'algyx passages later for greater precision.

Cultural Spatial Analysis: The CSA was one of three analysis conducted by the CIT. The others were a socio-economic and an ecological analysis. Given the nature of cultural data some overlap between the CSA and the other analysis were anticipated. The CIT's underlying intention was to integrate these three types of assessment through a

'conversation of maps' in which the values inscribed on each could be overlaid to identify potential conflicts.

Community researchers were hired to conduct local level research. The region was divided into three sub-areas (Central Coast, North Coast, Haida Gwaii/Queen Charlotte Islands). I was responsible for organizing the north coast component. Initially this was to include First Nations and non-aboriginal communities. However, the combination of timetable, local context, and political concerns of the research methodology on the part of First Nations contained the CSA to non-aboriginal communities. It is important to point out that the overall buy-in by First Nations was very limited and raises concerns about the CSA's overall methodology and process of implementation (more on this in the section on barriers).

The research team members for the north coast non-aboriginal communities (Oona River, Prince Rupert) combined university and community-based researchers recruited in a parallel fashion to the research teams working in Gitxaala on the Forests for the Future research project. The research protocols for the subregions of the project differed in several significant ways. In both cases the general types of 'values' were derived –for the most part- from a post hoc examination of respondents' maps and answers to our questions. However, the Central Coast protocol lumped these values into a restricted sequences of values (sustenance, heritage, recreation, natural features, and other) that closely mirrored the CIT's initial perception of the most 'likely' category of values that would be found. For our part on the north coast we generated an extensive sequence of 'values' that emerged directly from the experiences and practices of the

individuals we interviewed. A further difference stems from the types of people interviewed and the way in which these interviews were conducted.

On the north coast we identified resource uses and knowledge holders with practical experience on the land. Each interviewee was presented their own map to record important sites and values on. This resulted in our having multiple entries for single places with different ascribed values. Central Coast respondents were more likely to be selected from the ranks of community leaders than they were on the north coast were direct experience and ongoing practice were key selection criteria for our respondents. In interviews with central coast respondents the principal investigator (Robert Lee, U.Wash.) did not gather frequency data on individual places or features. If a site or value was mentioned once it was deemed equivalent to other sites mentioned multiple times. Whereas, for the north coast data we highlighted the importance of frequency and the ways in which members of different communities and sub-communities generated different sets and assemblages of culturally important places and values.[1]

The cultural spatial analysis was implemented separately for information obtained from First Nation communities and non-aboriginal communities. In both cases, the process of mapping values was conducted by individuals selected collaboratively by the CIT and representatives of local communities. The overall purpose was to elicit community values of land and water by representing these cultural values on maps that

[1] These differences in data collection, respondent selection, and data analysis highlight some of the critical difficulties involved in bridging epistemologies for the purpose of multi-scale analyses. Based upon our long-term research relationship with Gitxaala (both professional and personal as a member of the community) aspects of the fast track research program of the CIT were not appropriate for working with a First Nation.

could then be compared with economic and ecological values. Valued attributes of places were referred to as "cultural features" or as "features." The geographic areas with which these features are associated were delineated on maps. These delineations were referred to as "places" when talking about how community residents felt about them and as "polygons" when represented spatially in the data sets. Information of cultural features would provide regional planning tables and other decision makers with knowledge needed to examine compatibilities, conflicts, and trade-offs in implementing sustainable development of the region, now and into the future. A "conversation of maps" would enable implementation of ecosystem-based management by providing a level playing field on which cultural values can be considered along with ecological and economic values.

Community values were identified and mapped according to the following procedures:

1. Identify and map sites of cultural or social value to the First Nation or local group concerned, specifying the cultural or social practice or practices associated with the site or other cultural or social significance of the site.
2. Indicate the persistence of the cultural or social practice or practices associated with the site (since when or how long has the site been used for the practice?).
3. If possible, indicate participation rates in the cultural or social practice or practices associated with the site (how many people or what proportion of the group [all, most, some, few] participate in the practice? how many people or what proportion of the group participated at one or more specified points in the past?).

4. Indicate the condition of the site (e.g., intact, minor damage or degradation, moderate damage or degradation, major damage or degradation, destroyed) and the nature of any damage or degradation.
5. Indicate the degree to which the site is at risk of damage, degradation, or destruction (e.g., high, moderate, low) and the likely source of risk.

On the basis of the above information, the CSA:

1. Identified sites or groups of sites (megasites) in terms of irreplaceability and vulnerability.
2. Analyzed conflicts and compatibilities among the values concerned.
3. Assembled the sites or groups of sites into portfolios that will secure the full range of cultural and social values (especially those that are most important or most vulnerable) with the minimum of conflict.

Discussion

There are points in time when the trajectories of independent events coincide in serendipitous and potentially productive ways. Our opening research workshop, mentioned briefly in the introduction, was one such moment in time. In the room immediately adjoining our session was gathered key representatives of provincial and regional municipal governments, First Nations, forest and mining industry, labour unions, tourism operators, and ecologists. They were meeting to inaugurate the north coast land resource management planning process (NC-LRMP)- the task of which was to find consensus on which pieces of the north coast should be 'preserved' and on which should 'development' be allowed. Thus, as our presenters discussed the possibilities of linking

local knowledge to resource management and planning the politicians in the next room were issuing statements as to the desirability of so doing.

As the NC-LRMP developed our research was increasingly called upon and our participation was invited into several of the discussions that emerged, particularly those related to the issue of local ecological knowledge: what is it, how can it be understood, how can we study it, and –most importantly for the NC-LRMP- how might it be incorporated into the ongoing planning process. Calling upon on our work was in part in response to the emergence of a core debate amongst the NC-LRMP table members regarding the relevance of local knowledge in counter distinction to the quality and efficacy of applied sciences. An undercurrent to this debate manifest itself in an emerging set of tacit and tactical alliances between 'locals' on the one side (small business loggers, first nations, local tour operators and locally-based ecologists) and 'outsiders' on the other side (transnational environmental NGOs, large tour operators, large resources industry processors and their organized labour).

The local/outsider – local knowledge/science debates resonate well with the core issues raised in the chapters of this volume. From the more pessimistic view (see, especially Nadasdy) to the optimistic (McGoodwin) the presenters at our meeting attempted to highlight the particular ways in which locality can be constructed and deployed in the act of regulating, managing, and –ultimately- sustaining natural resources that we all agree are required for the sustenance of our human communities. Here the presenters attempted to explicate the difficulties of realpolitik. How does one deploy the wisdom of a Nisga'a hereditary leader? In what way is the ecological knowledge of salmon held by Sto:lo fishers constrained and enabled by the history of federal fisheries

regulations? In what ways can we teach that values the situated knoweldges of indigenous knowledge holders? In what ways are indigenous peoples and other wild harvesters developing new knoweldges in the contest of traditional methodologies? These questions, as presented, discussed, and debated in this volume speak directly to the ways in which many of our contemporary opportunities to deploy TEK are shaped and, very often constrained, by historical processes. Thus the 'local' side of the NC-LRMP divide can be understood as a product of the region's history of resource development and, ironically, the very social factors they were in fact arguing against. That is, the non-indigenous coastal communities and the contemporary work and residential opportunities of the indigenous communities- were to a large extent the by-product of a century of industrial resource extractive capitalism.

Elsewhere I have documented the historical development of industry and it's implications for indigenous peoples along BC's north coast (see, Menzies and Butler forthcoming, 2001; Menzies 1996, 1994). Suffice to say that this process has been one in which the customary economies of the chiefly societies have been transformed and that the ecological and economic implications of indigenous engagement on and across these lands and waterways has been altered. Furthermore, the non-indigenous communities that have emerged and disappeared over the course of the past century and a half are also the result of the same processes of industrialization of the landscape. From Oceans Falls, to Swanson's Bay, Port Essington and Annyox, former bustling resource extraction hubs have all but been erased from the landscape and the social memory. Towns that remain, such as Prince Rupert, Bella Coola, Queen Charlotte City, do so with the economic dynamic that spawned them in retreat. This is the context in which the NC-LRMP

participants found themselves debating locality –who is, who is not local- and the validity of local knowledge versus science. Locked within a history of resource development, colonial expropriation of indigenous lands, and environmental practices that have prioritized profit making over sustainability, the NC-LRMP discussions-even as participants attempt to try new approaches- appeared unable to break free from the dead weight of history and in making their decisions drew upon the lessons and expectations of the past.

Perhaps, as Gerald Sider has passionately argued in a discussion of the collapse of Newfoundland fishing outports and struggles over autonomy and economic self-reliance among Lumbee Indian communities of North Carolina, one must consciously act against one's experience (2003a, 2003b, 1997). That is, the lessons of the past, the historical movements and processes that brought small-scale loggers, First Nations Leaders, post-modern eco-warriors, old-time industrialists and their corporate minded trade unionists and a host of other players together in one room need to be turned against and set aside. And, perhaps, this will be the only way that local ecological knowledge can be placed at the center of natural resource planning.

To a certain extent the LRMP process was itself an attempt to do just this – overturn the historical biases and limitations that have accumulated. While the results are still to be realized in their entirety, the likelihood of actually changing how things are done in BC's forests is not very hopeful. The emerging documents, despite fine introductory words and important nods to local ecological knowledge, still place the accumulation of profit through resource extraction at the center of the plan. The questions remains, can TEK/LEK based approaches actually be realized within the

context of over arching processes that maintain accumulation at the center of most forms of societal planning. There are those, such as Raymond Rogers, for example who argue that sustainability is not possible as long as the profit motive remains the driving force of our society (199x –Oceans are emptying).

In the face of this intellectual skepticism I do manage to maintain what I refer to as an operational optimism. That is, in spite of everything that might suggest problems and difficulties with TEK and in implementing or deploying it, I can recognize the clear value in actually listening to the people closest to the resource, the people who live there, work there, and know 'there' in an intimate and profound fashion. It is very likely that those who begin from a position of 'epistemological skepticism' will be able to point to errors of logical, fuzzy thinking, or contrary examples. I share with these fellow travelers a similar skepticism, yet, I also draw upon many years living and working with First Nations and non-Indigenous wild plant and animal harvesters –fishermen, hunters, berry pickers, bark strippers, etc.

My operational optimism emerges out of my experience working on the deck of a fishboat, listening to Elders and community members from Gitxaala and neighbouring communities, and observing the many times that my colleagues in the natural sciences simply 'get it all wrong.' While this sort of 'experience' can be problematized and critiqued, it should not be overlooked or set aside. By drawing upon experiences working with people who's lives depend upon harvesting wild plants and animals we are confident in saying that, despite all of the difficulties, the knowledge held by these people does indeed have something useful for us to learn, something worth understanding.

The many Tsimshian and north coast community members who participated in the workshop and other aspects of the Forests for the Future project share with us this optimistic view. Together we look forward to a future in which local communities once again locate themselves as a part, not a part from, the environment within which we must live. We look toward a world in which human sustainability is understood as occurring in concert with environmental sustainability and the reigning instrumentalist understanding of the environment as natural resources is no longer a paramount value.